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ANNUAL REPORT

OF THE

COMMISSIONER OF PATENTS

FOR

THE YEAR 1868.

VOLUME II.

WASHINGTON.
GOVERNMENT PRINTING OFFICE.
1870.

IN THE HOUSE OF REPRESENTATIVES,
April 9, 1869.

Resolved by the House of Representatives, (the Senate concurring,) That there be printed thirty thousand extra copies of the next Report of the Commissioner of Patents, of which seventeen thousand shall be for the use of the House, eight thousand for the use of the Senate, and five thousand for the use of the Commissioner of Patents.

Attest:

EDW. McPHERSON, *Clerk.*

IN SENATE OF THE UNITED STATES,
December 9, 1869.

Resolved, That the Senate agree to the resolution of the House of Representatives relative to printing the Report of the Commissioner of Patents.

Attest:

GEO. C. GORHAM, *Secretary.*

Rec. May 24, 1906.

DESCRIPTIONS.

DESCRIPTIONS AND CLAIMS OF PATENTS

ISSUED IN THE YEAR 1868.

ILLUSTRATED WITH ENGRAVINGS.

VOLUME II.

77,433.—MOSES ADSIT, Forest, N. Y.—*Draught Attachment.*—May 5, 1868.—The doubletree pin is at the front side of the doubletree. The clevises are attached to bars sliding at the rear side of the doubletree and secured by a pin to the holding strap and tongue, so that when either horse walks ahead of the other the clevis to which it is attached is made to approach the fulcrum pin.

Claim.—The plates *b b*, sliding in grooves upon the top and bottom of the doubletree B in front of the band D, said plates *b* secured together at their ends and centers by the bolts *c e*, which slide in the slots *d f* of the doubletree, all constructed and arranged to operate as herein described for the purpose specified.

77,434.—D. E. AIKEN and A. A. AIKEN, Adrian, Mich.—*Splint Plane.*—May 5, 1868.—The thickness of the slat is regulated by the spring tongue at the end of the wedge, the tongue being adjusted by a set screw at the point. The plane is intended for making blind slats, each one pushing the preceding one out.

Claim.—The wedge C of the plane provided with a longitudinal groove in its under side, in which is secured one end of the spring E, whose free end is adjusted to regulate the thickness of the slat to be cut by the screw G passing through the wedge, all constructed, arranged, and operating as described for the purpose specified.

77,435.—C. ALBERT, Harrisville, Ohio.—*Sheep Holder.*—May 5, 1868.—The feet of the animal are secured to the toggles at the branching arms of the standards. The standards may be swaged to either side and set by a ratchet wheel and pawls.

Claim.—The adjustable standards E, arms F, in combination with the socket stays D and rollers C, in the manner as and for the purpose set forth.

77,436.—DAVID ALDRICH, New York, N. Y., assignor to PHELAN & COLLENDER, same place.—*Cue Trimmer.*—May 5, 1868.—The end of the cue is inserted in the hollow hand-piece, and the carriage which reciprocates at the end thereof carries the trimming knife, and is actuated by a spring lever.

Claim.—1. The hollow hand-piece and cue-holder, with its table or slide-holder, *b*, in combination with a reciprocating carriage, provided with a cutter, substantially as and for the purposes set forth.

2. The employment, in combination with the hollow cue-holder and hand-piece, of a reciprocatory cutter carriage and the driving lever D, the whole arranged to operate in the manner and for the purpose substantially as described.

3. The removable cutter *g*, in combination with the cutter carriage and table *b*, substantially as and for the purpose described.

77,437.—ALBERT F. ALLEN, Providence, R. I.—*Thimble Puller.*—May 5, 1868.—The expansible jaws are made to engage the thimble, the surrounding sleeve acts as a fulcrum against the end of the tube, and the mandrel and thimble are drawn forward by a nut screwing upon the mandrel and bearing against the sleeve.

Claim.—The combination of the expansible catches or jaws E E E, or their equivalent, the expanding wedge F, the sleeve M, and the screw mandrel H, and nut P, constructed substantially as described for the purpose set forth.

77,438.—OLIVER E. ALLEN, New York, N. Y.—*Car Spring.*—May 5, 1868.—The circumference of the cylindrical block of rubber is wound with yarn and the whole placed within an inverted cylindrical cup whose lower edge incloses and slides vertically upon a plunger upon which the block is placed.

Claim.—1. A spool for a car or other spring, composed of an India-rubber center, surrounded by woolen yarn or other exterior elastic covering, substantially as described.

2. A car spring, composed of vulcanized rubber, and wound around by woolen yarn or other exterior elastic covering, and placed and used in a metallic case or exterior, substantially as herein described.

77,439.—SOLOMON ANDERSON, West Burlington, N. Y.—*Saw.*—May 5, 1868.—The holes pass obliquely through the plate, forming cutting edges on both sides of the hole.

Claim.—The perforations *c'* in the saw plate A, having upper and lower cutting edges, *d e*, and used either with or without the cutting edges *f g* of the holes *b*, substantially as and for the purpose set forth.

77,440.—CHARLES BANGE, St. Louis, Mo.—*Clothes Drier.*—May 5, 1868.—The clothes being placed between the rack and the perforated side of the hanging cylinder are dried by the rotary motion of the latter.

Claim.—The fixed cylinder D, revolving perforated cylinder E, uprights 1, 2, 3, 4, &c., hoop *s*, chains *d d' d''*, and collar *c*, all in combination with the wheels H, K, *p b*, and F, and their respective shafts, when arranged in relation to each other and the framework of the machine, substantially as and for the purpose specified.

77,441.—ANDREW H. BIXLER, Carlisle, Pa.—*Open Ring.*—May 5, 1868.—Two open rings are pivoted together by an arm upon each, so that when they are turned into a parallel position a closed ring is formed.

Claim.—The elliptical parts A A and B B, joined by the hinge and pin C, and the trapezoid extension D, of the part A A, all constructed and combined in the manner and for the purpose herein set forth.

77,442.—J. D. BLAKE, Laconia, assignor to himself and J. A. SANBORN, Holderness, N. H.—*Soap Stand.*—May 5, 1868.—The stand is clamped upon the side of the tub by the depending lugs, and the soap dish is held upon the stand by the two fixed clips and the spring clip.

Claim.—The base plate A, provided with stationary clips B B, movable clip C, and clamp lugs *m m*, together composing a soap stand, substantially as herein specified.

77,443.—Ernst Bredt, New York, N. Y.—*Button.*—May 5, 1868; antedated April 25, 1868.—The button shell is formed of a woven material, stiffened and pressed between dies, so that an ornamental shape is given thereto.

Claim.—A button shell, formed of stiffened woven or fibrous material, pressed up to the required shape between dies, as specified, in combination with a base or shank, substantially as set forth.

77,444.—Willis S. Bronson, Hartford, Conn.—*Base Burning Stove.*—May 5, 1868.—The plate supporting the fire pot, and separating the ash pit from the combustion chamber, has air ports, with dampers, to limit the supply of air. The combustion chamber has a double top, through which air circulates. A circular series of flues extend from the combustion chamber to a circular chamber beneath the oven. A two-plated damper closes the feed openings to the reservoir in the plates at top and bottom of the circular flue chamber, and is drawn back when supplying fuel.

Claim.—1. The double ventilated top *c*, which covers the combustion chamber *b′*, and forms a support for the magazine or reservoir *d*, substantially as and for the purpose described.

2. In combination with the double ventilated plate *c*, and magazine *d*, the conducting tubes *f* and double movable damper, and dividing flue plates *g*, substantially as and for the purpose described.

3. The arrangement of the oven *k*, directly over and in combination with the double movable damper and dividing flue plates *g*, substantially as and for the purpose described.

4. The double movable damper and dividing flue plate *g* arranged in and forming the smoke and hot air flues *e e*, substantially as and for the purpose described.

77,445.—Willis S. Bronson, Hartford, Conn.—*Fire Grate.*—May 5, 1868.—An oscillating grate turns on the perforated pivot on a stationary cross bar. The grate has tubular upward projections through which the air passes to the fire, and which serve by the oscillation of the grate to stir the same.

Claim.—1. The hollow stationary hub *b c*, constructed and arranged upon the supporting bar *a*, substantially as and for the purpose described.

2. The grate *f*, as constructed, in combination with said supporting bar *a*, substantially as and for the purpose described.

77,446.—Darius C. Brown, Lowell, Mass.—*Harness Frame for Looms.*—May 5, 1868.—The object is to enable the harness frame, after the heddles have been supplied with warp, to be bent around the curved surface of the warp beam. For this purpose the end connection bars of the string bars are made of thin and elastic metal, or other material that may be bent to conform to the surface of the warp beam or roller.

Claim.—1. The improved harness or heddle frame, as made with elastic connection bars C C, substantially as and for the purpose specified.

2. The combination with the bars A B and brackets, and string bars supported in such brackets, of the elastic connection bars C C, substantially as herein shown and described.

77,447.—Frederick W. Brown, Philadelphia, Pa.—*Device for Soldering the Lids of Cans.*—May 5, 1868; antedated April 21, 1868.—The plano-convex block is attached by a chain to the sharp pointed lever, and is heated when used for attaching the can lids, and the stick of solder is passed around its periphery in contact with the junction between the lid and can. When removing the lid the heated block is placed upon the same, which is then raised by the lever.

Claim.—The combination, substantially as described, of the block A, instrument D, and chain C, for the purpose specified.

77,448.—Silas H. Brown, Troy, N. Y.—*Stop Valve.*—May 5, 1868.—A movable brace lever is hinged to, and operates in combination with the valve to shut the same, and keep it shut, until its opening movement commences, when the valve is relieved from the shutting pressure of the lever.

Claim.—1. In combination with a valve B, and its actuating stem D, a movable or sliding lever brace C, so attached to and operating with the valve that when said valve is closed said lever braces it tight on its seat, and when said valve is opened said lever moves with it, so as to leave an entirely unobstructed passage way within the pipe, in manner substantially as herein described, and for the purpose as set forth.

2. In combination with said valve B, its stem D, and sliding brace lever C, the grooves or shoulders E E of the valve chamber A, said grooves or shoulders being inclined relatively to the valve seat H, substantially as and for the purposes described,

3. The combination and arrangement of the valve B, its stem D, the sliding movable brace lever C, and the grooves or shoulders E E, when applied in manner substantially as described, and operating for the purposes as set forth.

77,449.—Theodore Bruno, Saginaw, Mich.—*Machine for Sawing Laths.*—May 5, 1868.—The fixed fence being used, a strip will be cut by each saw on the mandrel; but the depressible fence being used, a smaller number will be cut. The depressible fence, or guide, may be placed so low that the stuff will pass over it.

Claim.—The gauge M, working in the longitudinal slot in front of the guide L, and resting upon the spring N, operated by the lever O, whereby the number of strips to be cut from the board at one operation is regulated, as herein shown and described.

77,450.—Lewis Burger, Springfield, Ill., assignor to himself and Isaac L. Hamburger, Albany, N. Y.—*Door Directory.*—May 5, 1868.—Within the box, to be attached to the outside of a door, is a series of rollers with inscriptions displayed through holes, and indicating absence, destination, &c. Hands may indicate time of return. A slate is ready to receive orders, &c.

Claim.—1. A door directory, consisting of a box, with perforated dial plate A, and of various rollers, aprons, and hands, to indicate time and date of return, and other notes, substantially as herein shown and described, the rollers, aprons, or hands only being adjustable, by means of a suitable key, as described.

2. The combined cover and slate G, when the same is arranged on a door indicator, substantially as herein shown and described.

3. The letter box H, card holder I, and pencil holder J, when arranged in combination with the door indicator, all made and operating substantially as and for the purpose herein shown and described.

77,451.—Daniel Burns, Bay City, Mich.—*Combined Low Water Detector and Safety Valve.*—May 5, 1868.—The falling of the float acts through a lever upon the beam of the safety valve, to cause the raising of the latter when the water falls below a safe level.

Claim.—The arrangement of the within described box G, filled as specified, with the levers D I K, the valves A B, the weight T, and the crotched slide E, substantially as and for the purpose set forth.

77,452.—Victor H. Buschmann, Baltimore, Md.—*Rack for Billiard Cue.*—May 5, 1868; antedated April 25, 1868.—Each of the retaining buttons of the respective receptacles of a cue rack is operated by a weighted lever to open the receptacle, and is closed by the weight of the cue when inserted.

Claim.—So constructing a billiard cue receptacle that the weight of the cue, when placed therein, shall close it, and when the cue is withdrawn the receptacle will open, and remain open, for the return of the cue.

77,453.—George Cahill, New York, N. Y., assignor to Isaac G. Johnson, J. F. Hunter, and Peter P. Keller, same place.—*Machine for Tapping and Drilling.*—May 5, 1868.—The head of the spindle has sockets for taps or drills radiating from it in a vertical plane, and the object is to cause the partial rotation of the head to bring another tap into operation while the spindle is rotating. This is done pin by a forked lever, which first withdraws the stop and then causes the said rotary movement of the head.

Claim.—1. The combination of the collar C, friction band *c*, forked lever D, fingers *e e*, shoulder *a*, jointed arm E, or their respective equivalents, all constructed and arranged in the manner and for the purpose specified and set forth.

2. The system of levers G, cam H, and pin I, when constructed, combined, and applied to the forked spindle of a tapping machine, in the manner and for the purpose herein specified and set forth.

3. The forked lever D, movable collar C, slotted strap L, the lever arms K K, rods M M, arms N N, shaft O, disk P, all constructed and combined, and all applied to and used upon the forked spindle of a tapping machine, in the manner and for the purpose specified and set forth.

4. The improved tapping machine, consisting of the several parts hereinbefore specified, all constructed and arranged substantially as described.

77,454.—George Candee, Berlin Heights, Ohio. —*Feed Water Heater for Steam Generators.*—May 5, 1868.—The caloric current, after leaving the flues of the boiler, has a backward and forward course through a number of hexagonally-arranged cylindrical pipes surrounded by a water jacket, and connected by U-bends at their alternate ends. The feed water passes through the water jacket.

Claim.—Passing the feed water or air through successive chambers, (heated as described,) of a lower to a higher temperature, in the manner and for the purposes herein set forth and described.

77,455.—Charles P. Carter, Poughkeepsie, N. Y.—*Implement for Sharpening Watch Wood.*—May 5, 1868.—The angular knife is set in an angle-faced block, which is attached to the bench, and used for sharpening the splints of soft wood used by watchmakers.

Claim.—The block *a*, knife *b*, and screw *c*, when arranged and combined to operate substantially the same as shown and described.

77,456.—John B. Christian, Mount Carroll, and John Gunn, Salem Township, Ill.—*Railroad.*—May 5, 1868.—The railroad track has additional hollow rolled iron rails laid inside the usual rails, and the cars have one or more pairs of additional broad flanged wheels hanging immediately over the additional rails, and supporting the truck in case of accident.

Claim.—1. The construction and arrangement of a railroad track, composed of the hollow rolled iron rails A A, placed inside of the usual T-rails, substantially as and for the purposes set forth.

2. The construction and arrangement of railroad cars having two or more pairs of broad flanged wheels B B, substantially as and for the purpose specified.

3. The lever H H, in combination with the spiral springs O O, moving in the periphery of a circle, for the purpose substantially as set forth.

77,457.—John C. Clime, Philadelphia, Pa., assignor to himself and J. Moore Hendricks, same place.—*Bedstead Fastener.*—May 5, 1868.—The attaching bolts are screwed into the rail and traverse the tenon block which rests in a mortise of the post. The bolt passes through the post and is secured by a nut.

Claim.—The device, consisting of the bolt C and tenon block D, in one piece, and screw cap E, in combination with the rails and parts of a bedstead, for fastening said rails and parts together.

77,458.—Henry Collinson, Boston, assignor to himself and Samuel Vance, South Boston, and Samuel Vance, assignor to James O. Boyle, Boston, Mass.—*Grate Bar.*—May 5, 1868.—The air passages increase in diameter downward, and their bottoms slope outward and downward, both formations being intended to aid in discharge of ashes.

Claim.—1. A grate bar, as made, with its air passages extended entirely across it.

2. The arrangement of the transverse passages obliquely in the bar, in manner as specified.

3. The grate bar, as made, with air passages extending across it, and to increase in width from their upper to their lower parts, as specified.

77,459.—George Conron, New York, N. Y.—*Water Closet.*—May 5, 1868.—The valve is covered with vulcanized rubber, and is held to its seat by the weight of water. When raised, the contents of the pan are discharged by the lower pipe. Excess of water above is carried off by the inverted U pipe. This pipe is prevented from acting as a siphon by an air pipe in its vertex.

Claim.—The valve chamber E, pipe B, pipe D, pan I, overflow pipe C, and valve A, all constructed and operating together, substantially as shown and described, and for the purpose set forth.

77,460.—A. L. Converse, Springfield, Ill.—*Churn.*—May 5, 1868.—The churn has four vertical dashers turned by gear connection with a horizontal crank shaft.

Claim.—The outer gear wheels I, central gear wheels J K, beveled gear wheel L, plates G, bearings N, and shaft M, when arranged to operate upon the hinged rectangular central lid C, as herein shown and described.

77,461.—O. H. Cooke, Morrisville, Vt.—*Potato Washer.*—May 5, 1868.—Stepped in the perforated false bottom is a vertical shaft at whose lower end is a triangular cross bar.

Claim.—The combination of the perforated bottom B, with or without the metal ring around its periphery, with the sharp-edged float E, crank D, and wooden cross piece C, made and arranged and operating substantially as and for the purposes above set forth.

77,462.—Alpheus B. Corby, Binghamton, N. Y.—*Churn.*—May 5, 1868.—The pallets are in the form of pawls, which engage the cogs of the spur wheel turned by the spring, and which are pivoted to the "cam" upon the pendulum shaft. The pallets are raised from the wheel by the movement of the guide blocks. The motion of the pendulum may be used to cause the movement of a vertically reciprocating rotary or oscillating churn dasher.

Claim.—1. The escapement apparatus, consisting of the pallets *v v'*, cam F, shafts *g* G, and guides *m n*, when used for the purposes described,

2. The arrangement and combination of said escapement apparatus with the spur wheels W W', drum R, ratchet wheel *t*, pinion *i*, weight T, pendulum P, and frame A B C D, substantially as and for the purpose set forth.

77,463.—Lewis B. Covert, New York, N. Y. —*Extension Step Ladder.*—May 5, 1868.—Both legs of the step ladder are extensible. The lower portion of the steps are two-part. A frame is fitted to slide between the said steps, and the frame carries swinging steps that can be turned down flat and held by keys, or turned up edgeways to pass between the two-part steps.

Claim.—1. A step ladder, formed with the two-part steps *b*, extension pieces *c*, and their steps, substantially as specified.

2. The swinging steps *h*, supported by the castings *g*, in the manner specified, in combination with extension step ladder aforesaid.

3. The extension legs *l o*, in combination with the extension step ladder, provided with the swinging steps, as and for the purposes set forth.

77,464.—James P. Davis, Stiles, Wis.—*Mechanical Movement.*—May 5, 1868.—The adjustable friction bars have longitudinal reciprocation between the friction rollers, and are held between loosely-running pulleys that serve as guides. The movement of the piston is limited by a crank upon the fly-wheel shaft. The main shaft has a spur wheel engaging spur wheels upon the shafts of the friction pulleys, receiving motion from them alternately. The main shaft is connected by a belt with the fly-wheel shaft.

Claim.—1. The recessed friction pulleys D and racks *a*, operating substantially as shown and described, and for the purpose specified.

2. The gear wheels G G′ H, substantially as shown and described, in combination with the friction pulleys D D, as and for the purpose set forth.
3. The pulley I, belt *h*, and fly wheel, substantially as shown and described, in combination with the recessed friction pulleys D and cross head F, for the purpose of accomplishing the more perfect working of the parts, all as set forth.
4. The cross head F, cogs *n*, friction racks *a*, substantially as shown and described, in combination with the friction pulleys D, all as and for the purpose set forth.

77,465.—Edwin Dayton, Meriden, Conn.—*Cement Water Pipe.*—May 5, 1868.—In jointing the ends of compound pipe which is made of cement and thin metal, the ends have respectively an inside and outside bevel given to them, and one being inserted into the other the joint is covered with a collar of cement which may be cased in a metallic shell.
Claim.—1. The short pipe E, of tapering shape, fitting into the adjoining ends of the pipes A B, to form a water-tight joint, and coated upon the inner and outer sides equally with cement, as herein shown and described.
2. The packing ring or band *a*, applied to the pipe sections, substantially as and for the purpose described.

77,466. — Thomas H. Donohue, Washington, D. C. — *Chimney Cleaner.* — May 5, 1868. — The brushes are attached by toggles and collars to the shaft, and are expanded and contracted by slipping the movable collar on the stem. Each brush is attached to one member of the secondary toggle which connects the knee joints of the vertical toggles, which effect the expansion.
Claim. — 1. The combination of the fixed and sliding collars B C and their connecting arms *a b* with the bars or segments *c*, pivoted together and supported on the shaft A, for operation together, substantially as set forth.
2. In combination with the bars or segments *c*, connected and supported as described, the braces *d* and sliding collar E, all arranged and operating substantially as described.
3. In combination with the adjustable expanding frame, constructed substantially as described, the detachable brushes F or scrapers G, as and for the purposes set forth.

77,467.—Claude Ducreux, New York, N. Y.—*Wagon Brake.*—May 5, 1868.—Improvement on his patent, January 1, 1867. Collars are placed upon the hubs, whose friction thereon is adjustable by screws. The brake lever, when braking the wagon, is moved to engage a lug upon the collar and prevent its rotation with the wheel, thereby checking or stopping the rotation of the same.
Claim.—The adjustable rings C C on the hubs of the wagon wheels, when provided with lugs *b b*, in combination with the oscillating bar D, having lugs *d*, all arranged and operating substantially as herein shown and described.

77,468.—Milton Eckley, Olney, Ill.—*Machine for Cleaning Grain.* — May 5, 1868. — The grain is subjected to the action of the agitated riddle and the blast of air from the fan, and thence falls into the revolving screen, whose internal spiral flange delivers it at the end.
Claim.—1. The arrangement of the fans G, riddle K, and compound cylindrical screen D, substantially as described, for the purpose specified.
2. The construction and arrangement of the fans G, riddle K, spouts I J, compound cylindrical screen D, and shafts B F, substantially as described, for the purpose specified.

77,469. — Francis Ellershausen, Montreal, Canada East.—*Converting Cast Iron into Cast Steel and Malleable Iron.*—May 5, 1868.—The cast iron in a molten state is poured over surfaces containing oxygen and oxide of iron upon sheet iron plates.
Claim.—1. Converting cast or pig iron into cast steel or malleable iron, by bringing it in a liquid state in contact with hot or cold solid oxides, substantially as herein specified.
2. Bringing to an instantaneous uniform contact, at a sufficient heat, on a sufficiently large hot or cold surface of pure oxide, the carbon contained in molten cast iron, so as to cause a rapid, violent combustion of the carbon, substantially as described.

77,470. — John Ellis, New York, N. Y. —*Material for Purifying and Decoloring Petroleum.*—May 5, 1868.—The bones are calcined to a gray color and used as a filtering material. Navassa phosphate of lime, or other deposits containing phosphate of lime or phosphorus, may be kept at a red heat in contact with the air until sufficiently charred, and used in the same manner as the bone phosphate.
Claim.—1. The method of preparing bones, animal charcoal, Navassa phosphate of lime, and other phosphatic deposits, in the manner described in the foregoing specifications, as materials for filtering and bleaching petroleum and other fluids.
2. For the purpose of filtering and bleaching petroleum and all the fluids produced from it, including residuum and the heavier oil, after the lighter fluids have been separated from it, the use of pure phosphate of lime, and the commercial article, and also either and all, separately or combined, of the materials or substances which result from treating bones, animal charcoal, Navassa phosphate of lime, or other phosphatic deposits, in the manner described in the foregoing specifications.

77,471.—William B. Emery, Albany, N. Y.—*Machine for Threshing and Cleaning Grain.*—May 5, 1868.—The straw and grain pass from the threshing cylinder to an apron, and are then received upon an inclined elevator which raises and delivers them to a revolving beater. They then fall onto a slatted bed, and are then tossed by vibrating fingers before the final delivery off the end of the separator. The agitation of the separator and the shoe in different directions prevents extreme agitation of the machine itself. The adjustment of the bonnet by the outside lever directs the current of straw and grain issuing from the cylinder.
Claim.—1. Combining with a self cleaning threshing machine, (in which the shoe and the separator vibrate in opposite directions,) an endless straw elevator, having an apron between it and the threshing cylinder, arranged substantially as and for the purpose specified.
2. Deflecting the edge S of the apron upwards, substantially as and for the purpose specified.
3. The beater N, in combination with the elevator D and apron *b b*, substantially as specified, whether the shoe and the separator vibrate in opposite directions or in unison.
4. The lever Y of the bonnet, whereby the bonnet may be adjusted from the outside of the machine, substantially as and for the purpose specified.

77,472.—Isaac Fisher, St. Louis, Mo.—*Vise.*—May 5, 1868.—The vise has adjustment in a horizontal and in a vertical plane.
Claim.—The improved vise A, the same having two axes or centers of adjustment, arranged substantially as described.

77,473.—W. A. Flanders, Shelby, Ohio. —*Bee Hive.*—May 5, 1868. — The foundation for the comb is formed of wood or other material coated with wax, which is impressed to give a good face for attachment for the comb. The foundation is traversed by a pipe to give passage for the bees.
Claim.—The honey-comb foundation B, when provided with a passage, *x*, and constructed substantially as and for the purposes herein specified.

77,474.—Simeon B. Forbes, New Cumberland, W. Va.—*Double Shovel Cultivator.*—May 5, 1868.—The sole bar is pivoted to the standard, and its rear end is connected to the standard by an adjustable brace. The share is double winged, and the double mold board is removable.
Claim.—1. The combination of the sole D, double winged point E, and double mold board F, with each other, substantially as herein shown and described, and for the purpose set forth.
2. The combination of the adjustable brace G with the curved rear parts of the beam A and with th

sole D, substantially as herein shown and described, and for the purpose set forth.

77,475.—William H. Forker, Meadville, Pa.—*Paint Brush.* — May 5, 1868. — The bristles are first thrust through the ring and the cap placed on it. The handle is then thrust up through the middle of the mass of bristles and secured by the nut, which screws upon the screw-threaded ferrule and draws the spreading ferrule within the socket.

Claim.—The solid wooden handle A, of full length, with its conical ferrule F, which, in combination with the nut C, operating on the cap D from above, holds all the parts firmly together, when constructed as and for the purpose set forth.

77,476.—Matthew H. Foster and Hubert C. Hart, Unionville, Conn.—*Nut Making Machine.*—May 5, 1868.—The blank is cut from the bar by a plunger cutter, operated by a cam on the shaft. A sliding bed conveys the blank from the cutter to the punch and die, as the button on the bed traverses in the cam groove of the wheel above it. The formers move at right angles to each other. One is actuated by projections on the face of the wheel, and the other by a lever on the bed and projections on the periphery of the wheel. The formers, in connection with stationary bars, form four square sides. The descending slide passes the blank into the concave die and the punch drives a hole through it.

Claim.—1. Sliding bed B, having button G and pivoted lever I thereon, with cam wheel F, provided with studs *k k′*, all constructed and arranged substantially as described.

2. Arranging the cams *a b c d e s s′* so as to operate the cutter *n*, slide *m*, and punch *p*, substantially as set forth.

3. The improved nut machine, consisting of mechanism constructed, combined, and arranged substantially as herein set forth.

77,477.—James R. Gillett, Westfield, Mass.—*Whip.*—May 5, 1868.—The core of the whip is covered by metallic foil to prevent the moisture affecting it.

Claim.—Interposing a metallic lining, B, between the core A and covering C of a whip, substantially as and for the purpose herein shown and described.

77,478.—O. T. Gleason, Farmington, Me.—*Velocipede.*—May 5, 1868.—The supporting wheels are turned by friction wheels actuated by treadles. The machine lays its own track consisting of straight hinged sections.

Claim.—1. The combination of four traction wheels, each having a friction boss, A, with the friction driving wheels P, shaft J, double crank I I, and treadles H H, all substantially as shown and described, and for the purpose set forth.

2. The lever bearings L, rods N, and steering levers E, all constructed and operating together, substantially as shown and described, and for the purpose set forth.

77,479.—Lyman B. Goodhue, St. Louis, Mo.—*Furnace for Melting Glass.* — May 5, 1868. — The fixed pots extend from the furnace bottom (where they are perforated) either through the furnace top or through the shelf forming the bottom of the melting chamber into which the "batch" is placed. The material, as melted, runs down into the lower chamber through which the caloric current first passes from the furnace. Across the top of the lower chamber are stretched transverse, reverberatory arches to check the current, and deflect the heat upon the molten glass. The wall of the bottom and some distance up the sides is chambered to contain dry sand to prevent the escape of glass through any cracks forming in the fire clay.

Claim.—1. The shelf D of a furnace for melting glass, as shown and specified.

2. The combination of a furnace for melting glass with immovable pots, as specified.

3. The employment of reverberatory arches in a furnace for melting glass, arranged as specified.

4. The packing of a furnace for melting glass with sand, as specified.

5. A furnace for melting glass, when constructed substantially as shown and specified.

77,480.—John Gourlay, Escanaba, Mich.—*Portable Bath House.*—May 5, 1868.—The parts of the bath house are made detachable so that it can be moved from one apartment to another. The tank is suspended upon cords operated by a windlass, so that it can be lowered for filling and raised for a shower bath.

Claim.—The general combination and arrangement of the tank I, slides H H, pulleys K K, J, cord U, drum X, gate M, lever *n*, crank P, with house A B C D E F G, substantially as set forth.

77,481.—John Gracie and Robert H. Boyd, Pittsburg, Pa.—*Lamp Burner.*—May 5, 1868.—The lower end of the wick tube is covered by gauze or bent upward to prevent the descent of the wick below it and the burning out of the hydrocarbon to expose its lower end. The gas trap has small tubes which have a U bend, the ends communicating respectively with the globe and with the gas reservoir.

Claim.—1. A wick tube *m m′*, partially closed at its lower end by an indentation, *z*, or other equivalent device, substantially as and for the purposes above set forth.

2. An opening or openings leading from the globe or oil receptacle of a lamp to the inside of the burner, each opening being covered with wire gauze, finely-perforated plate, or provided with a gas trap, and arranged within the burner, substantially as and for the purposes described.

77,482.—Harry S. Griffiths, Brooklyn, N. Y. —*Suspension Ring.*—May 5, 1868.—The plate of the suspending ring has points which are forced through the card.

Claim.—The suspension ring for business cards, constructed and employed substantially as and for the purpose herein described.

77,483.—Edward H. Hart, New York, N. Y.—*Fur Cuff.*—May 5, 1868.—The overlapping portion is secured to the other end by an elastic band which elongates as the cuff is drawn over the hand, and the overlapping end is then fastened down to the band of the cuff by another elastic band and a catch.

Claim.—A fur cuff, provided with a connecting elastic band, E, in combination with the elastic fastening band F, the whole arranged substantially as shown and described.

77,484.—Isaac A. Hedges and Joseph M. Story, Cincinnati, Ohio, assignors to Lane & Bodley, same place.—*Machine for Sawing Laths.* —May 5, 1868.—The feed rolls are journaled in vertically adjustable rods. The belt which drives the feed rolls passes around an idler pulley turning upon an arbor fixed to a weighted lever.

Claim.—1. The pivoted weighted lever L′ and pulley I, in combination with the belt *e* and pulleys *f* upon the feed rolls, all arranged and operating as described, whereby the belt is tightened, and the feed rolls held in their bearings, as herein shown and described.

2. The journal boxes *j* for the shaft K, secured by pivots *k* in the holders *l*, having the vertical shafts *m*, which are adjusted higher or lower in the framing, as herein described, for the purpose specified.

77,485.—John I. Herrick, Milwaukee, Wis.—*Street Car.*—May 5, 1868; antedated April 28, 1868. —The wheels of the cars are mounted on runners when required. The runners are attached to the car bottom by swivel bolts and hooks, the latter engaging studs projecting from the inner sides of the runners.

Claim.—1. Runners D, constructed and connected substantially as and for the purposes set forth.

2. In combination with said runners, the attaching apparatus E, G, and H, and the hooks and supports, substantially as and for the purpose set forth.

3. Platform or bottom A, wheels B, and runners D, in combination substantially as and for the purpose set forth.

77,486. — Reuben Hoffheins, Dover, Pa. — *Reaping Machine.*—May 5, 1868; antedated April 22, 1868.—The cutting apparatus is hinged to a frame which is articulated on the axle. The rake axis and reel post are upon the shoe, and the rake and reel preserve their relation to the cutter and platform during vertical oscillations of the latter. A prolongation of the rake head passes through a pivoted bar which is oscillated by a crank on the driving wheel axle. The rake is thereby swept along the platform, lifted, carried forward in an elevated position, and then dropped to its work again.

Claim.—1. A "forward cut" harvesting machine which has its finger beam or cutting apparatus hinged to a frame, which articulates on the axle of the driving wheels, without materially affecting the position of the draught frame and tongue, and to which finger beam is attached a platform carrying a circularly-moving sweep rake, said harvesting machine also having a device for adjusting the cutting apparatus, and a seat for the driver, such seat being in such relation to the adjusting device that the driver can raise and lower the cutting apparatus, platform, and rake while the machine is in operation, and while he is seated, substantially as set forth.

2. The combination of a forward cut hinged cutting apparatus, a frame articulating on the main axle, a quadrant platform, a sweep rake, and a reel moving in harmony with the platform and cutting apparatus, a driver's seat on the draught frame, and a device for raising and lowering the cutting apparatus, platform, rake, and reel while the machine is in motion, and while the driver is seated, substantially as set forth.

3. A circularly-moving sweep rake, a hinged platform of quadrant form, and a hinged finger beam, all connected together and moving in harmony with one another, as the platform and finger beam are caused to rise and fall by the undulations of the ground, in combination with a draught frame of a "forward cut" harvester, which has two supporting wheels applied on a single axle, and which also has a frame and tongue hinged so as to articulate independently of the frame to which the finger beam is hinged, and which articulates on the said axle, substantially as set forth.

77,487.—**Francis M. Howard** and **Daniel W. Avery**, St. Paul, Ind.—*Ditching and Grading Machine.*—May 5, 1868.—The share is attached to the lower ends of the slotted, vertically adjustable side plates, and delivers the earth onto the endless carrier, which is driven by gearing from the ground wheels and delivers the dirt above the level of the ditch.

Claim.—1. The adjustable slotted guides *m*, in combination with the plow or cutter *e*, substantially as and for the purposes set forth.

2. In combination with the above, and with the toothed wheel *g′* and shaft G, the jaws *a*, riveted to the belt B and the pivoted carrier beam *b*, all constructed, arranged, and operating as and for the purposes set forth.

77,488.—**Frank E. Howe**, New York, N. Y., and **Lindsay I. Howe**, Boston, Mass.—*Combined Coal Hopper and Platform Scale.*—May 5, 1868.—The weighing hopper is supported by a weighing apparatus, and it has an opening bottom to discharge the contents.

Claim.—The arrangement of the hopper F, in the frame E, supported upon the scale platform D, when such hopper is adapted to discharge the coal into the hopper I, passing directly through the scale platform D, as herein shown and described.

77,489.—**Jarvis Howe**, Milford, Mass.—*Boot Form.*—May 5, 1868.—The wooden "leg" and "foot" parts of the tree are made in separate pieces, with the grain running longitudinally, and attached together by a bent piece of metal. The direction of the crimping screw is changed, by changing that of the socket into which it screws, by drawing it out slightly and changing the lug upon it to another notch in the plate. The socket is drawn inward by a spiral spring.

Claim.—1. As an article of manufacture, a boot form, having a metal edge, substantially as and for the purpose specified.

2. The combination of the parts A, B, and C, substantially as and for the purpose specified.

3. The thimble, when combined with a plate, having lugs and the notches, substantially as and for the purpose specified.

4. As articles of manufacture, the parts A and B, when constructed and arranged for use on the part C, each substantially as described.

5. The arrangement of the piece D in the chamber, substantially as shown.

6. A boot form, the leg and foot parts of which are separate pieces, united together by a third piece, substantially as described and for the purpose specified.

77,490.—**Sidney S. Hurlbut**, Cordova, Ill.—*Grain Separator.*—May 5, 1868.—The grain passes over a number of sieves in one shoe, and is divided into three qualities, of which the good grain passes to one place and the refuse to another, while the mixture of the two is elevated and discharged into the hopper to be passed through again.

Claim.—1. The combination of the screening shoe, constructed and operating substantially as described, with an elevator, which leads back into the hopper, and with a cleaned grain discharge passage, substantially as described, and for the purpose set forth.

2. The employment of an elevator which will return that portion of the wheat which escapes from the screens in an unclean state back to the hopper to be re-screened, substantially as specified.

3. The combination of the screens L, *p*, and *r′*, the short screens *s t*, the cut-off T, and the gauge V, with means for conveying the clean wheat out of the machine, and also for conducting back to the first screen L the wheat which is mixed with foreign substances, substantially as described.

77,491.—**Joel C. Jackson**, Rochester, N. Y., and **Frederick J. Jackson**, Danbury, Conn.—*Bedstead Fastening.*—May 5, 1868.—The rail has downturned pins which enter inclined mortises in the post. The pins have screw-threaded ends which pass longitudinally into the rails.

Claim.—The bedstead fastening, formed of the inclined hooks *c*, with their threaded shanks *c′*, screwed into the ends of the rail, as set forth, and entering corresponding holes in the posts, as specified.

***77,492.**—**Jasper S. Jewett**, Ottawa, Ill.—*Fence Gate.*—May 5, 1868.—The uprights and rails are pivoted together, and the top bars are counterpoised and pivoted to the posts, and connected to a series of levers operated by cords over the center of the road, so that the gates can be swung upward and backward by drawing one of the cords.

Claim.—1. The two gates C C, the rods I I, the levers J J, the levers M M, the hollow casting L, the ropes O O, and the ropes O′ O′, when combined with each other in a double fence gate, and constructed substantially as and for the purpose described in the foregoing specification.

2. The catches Q Q, the ropes or chains S, the tumblers H H, the springs R R, and the springs U U, when combined with each other in a double fence gate, and constructed substantially as and for the purpose described in the foregoing specification.

77,493.—**Albert H. Johnson**, Hartford, Conn.—*Bosom Pad.*—May 5, 1868.—The pads are supported on brass springs which are stepped in concavo-convex metallic plates, and serve to form an air space between the pad and the person.

Claim.—In combination with an inflated elastic bosom pad, the supporting springs *a a*, arranged as herein shown and described, and for the purposes specified.

77,494.—**Martha Jones**, Amelia County, Va.—*Corn Husker, Sheller, &c.*—May 5, 1868.—The corn is passed through a tube, which is cut away on one side, to allow the rotary serrated disk to act upon the corn. A rotary blower at the lower end of the tube carries off the chaff.

Claim.—1. A machine, so constructed as to be capable of husking the ears of maize or Indian corn, and, at the same operation, cutting up the husks, for the purposes set forth.

2. A machine, so constructed as to be capable of husking and shelling the ears of maize or Indian

corn, and, at the same operation, cutting up the husks, for the purposes set forth.

3. A machine, so constructed as to be capable of husking and cutting up the husks of maize or Indian corn, and, at the same operation, separating the cut husks from the ears, for the purposes set forth.

4. A machine, so constructed as to be capable of husking, shelling, and cutting up the husks of maize or Indian corn, and, at the same operation, separating the cut husks from the corn, for the purposes set forth.

5. The knives *c c*, arranged spirally on the wheel, in combination with the projections *b b*, substantially as described.

6. The knives *c c*, in combination with the projections *b b* for tearing and giving a rotary motion to the ear, and the projections *d d* for shelling the corn, substantially as described.

7. The knives *c c*, arranged spirally on the wheel, in combination with the projections *b b* and separator, substantially as described.

8. The knives *c c*, in combination with the projections *b b*, for husking, and projections *d d* for shelling, and separator, substantially as described.

9. The knives *c c*, arranged spirally and attached separately to the face of the wheel, as and for the purposes set forth.

10. The wheel B, provided with the projections *b b* and *d d*, and spirally-arranged knives, in combination with the spout *s* and separator, substantially as described.

77,495.—Samuel U. King, Windsor, Vermont. —*Wood-Turning Lathe.*—May 5, 1868.—The centralisers are forced inward by the centrifugal action of the weights upon the levers, so that a stick being forced between the ends of the centralizers they will centralise upon it in relation to the cutters, which, as the stick is driven through, will round the same.

Claim.—The combination of the centralizers, their levers and centrifugal weights, with one or more cutters, and a wheel having tubular journals, or the equivalents thereof, the whole being arranged substantially in manner and so as to operate as and for the purpose hereinbefore described.

77,496.—Hack Krafft, Mulberry, Pa.—*Horse Hay Fork.*—May 5, 1868.—The rectangular frame is made to embrace the bale, and its pivoted ends turned up beneath the same. The pivoted ends are operated by connection to a single hand lever, which has an engaging catch, and the latter is freed by a cord to discharge the bale.

Claim.—1. The centrally arranged vibrating cross head C′, transverse connecting rods *m m*. rocking links *d d*, vertically sliding pivoted legs *c c*. and the forks *b b*, in combination with the frame A A′, the whole arranged and operated in the manner shown and described.

2. The latch lever D and pin *g* applied to the frame A A′, in combination with a lever C C′ connected to vibrating points *b b*, substantially as described.

77,497.—Jacob Lagowitz, Newark, N. J.—*Traveling Bag.*—May 5, 1868.—The links to which the handles are hung have arms which lap past the lower jaw when the links are raised and hold the bag shut. The springs tend to hold the links in this position.

Claim.—1. An automatic device for closing traveling bags, consisting of the links or rings *a a*, to which the ends of the chain or strap handle B are secured, and which carry the arms *b b* that fit over the sides of the bag, substantially as herein shown and described.

2. The above, in combination with the spring *c*, made as set forth.

77,498.—Samuel Leather, Dalton, England.—*Loom for Weaving Garments.*—May 5, 1868.—The loom is for weaving double cloth, which is connected at certain parts, forming a series of under garments, which are cut apart subsequently. To accomplish this, cams are applied to the loom to operate on the stitching leaves of the heddles.

Claim.—1. The combination of the sliding cams H, shaft *b*, gear G′, and worm wheel G, with the needles *d*, and guide rods *c c*, for weaving the necessary pattern, substantially as herein shown and described.

2. In combination with the above, the shaft *a*, screw worm G, and pinion G′, substantially as and for the purpose herein shown and described.

77,499.—J. D. and I. W. Legg, Long Eddy, N. Y.—*Curtain Fixture.*—May 5, 1868.—The roller is journaled in plates, suspended on cords, which are coiled around spring pulleys. The roller is drawn downward by a cord, which is coiled around one end of the roller and coils up the shade as the roller is drawn down.

Claim.—1. Connecting the roller B, through the medium of tapes *c c*, to springs C C, secured to the upper part of the window frame, in connection with the hooks *l l* and loops *m m*, or other suitable fastening for securing or holding the lower end of the shade, and the cord D on the pulley *h* of the roller, all being arranged to operate substantially as and for the purpose set forth.

2. The clamp E, when used in connection with the cord D of the shade roller B, connected to the springs C C, substantially as and for the purpose specified.

77,500.—Charles Mahan, Grand Island, Cal. —*Farm Wagon.*—May 5, 1868.—The four hounds and the sway bar are placed before the fore axle, and by removing the hind wheels and reach, a stiff tongue may be applied, and the fore wheels used to support a cart body. The sides and ends of the wagon body are removable, being held in position by spring catches at their upper sides, when in place.

Claim.—1. The frame, consisting of the cross pieces J J′ and central rail K, as arranged, in combination with the box I, axletree D, wheels C, and reach H, in the manner and for the purpose substantially as set forth.

2. The sliding hook A′, when constructed in the manner and for the purpose specified.

3. The box A, when the sides of said box are provided with cleats C′, notches *b*, and spring catches *c*, in the manner and for the purpose set forth.

77,501.—Joseph T. Martin, New York, N. Y. —*Grapple for Sunken Vessels.*—May 5, 1868.—The grapple levers are adjustable longitudinally and vertically upon the beam, and are arranged so that the upward draught upon them causes their ends to bite into the side of the vessel.

Claim.—A marine grapple, consisting of a solid beam, A, to which the levers C, carrying the grappling jaws B, are pivoted, when said bars are adjustable toward or away from each other, on the beam A, and also up and down adjustable on the same, substantially as and for the purpose herein shown and described.

77,502.—Charles A. Maxfield, New York, N. Y.—*Machine for Forming Pasteboard Boxes.*—May 5, 1868; antedated April 23, 1868.—A series of folders are combined with a "former" in such manner that the sheet of material is folded against and wrapped around the former, the parts acting successively as the plunger is forced into a die containing these folders, and carries the paper or other material with it, delivering the same in the form of a folded box or box envelope.

Claim.—The former *c*, in combination with the folders 2 3 4 5, substantially as specified, so that the folding of a box or box envelope is effected by driving the previously cut sheet of material through between said folders, as set forth.

77,503.—James McCarthy, New York, N. Y. —*Extension Pipe Coupling.*—May 5, 1868.—The coupling pieces are extended by means of their screw connection, so as to unite the ends of pipes at a greater or less distance apart.

Claim.—1. An extension pipe coupling, made by connecting the tubular pieces A and B, substantially in the manner set forth.

2. The above in combination with the jam-nut C, made as herein shown and described.

77,504.—O. P. McDonald, Carbondale, Ill.—*Attachment for Pendulum Clocks.*—May 5, 1868.—By the unequal expansion and contraction of the rods, incident to changes in temperature, the effective suspension point of the pendulum is made to move up and down to compensate for changes in the length of the pendulum rod.

Claim.—The combination of the rods A B, of different metals, having unequal expansibility, with the pendulum rod of a clock, substantially as and for the purpose specified.

77,505.—David McFarland, Worcester, Mass. —*Railroad Truck.*—May 5, 1868.—The portion of the axle between the wheels is covered by a cylindrical case.

Claim.—1. The combination, with the axle or journal of a set of car wheels, of an axle protector or guard, substantially as and for the purposes set forth.

2. The combination, with the axle of a set of car wheels, of a tubular protector, for the purposes set forth.

3. The combination, with the axle of a set of car wheels, of a guard piece, E, or its equivalent, on each side of the journal or axle, for the purpose of preventing the deflection of the axle, in case of it breaking.

4. The combination, with the axle B and wheels A A, of the tube D, clamping pieces E E, and cross supporting pieces F F, substantially as and for the purposes set forth.

5. The combination, with the truck and wheels, of a wheel protector, shield, or cover H, substantially as and for the purposes set forth.

77,506.—William C. McGill, Cincinnati, Ohio. —*Blacking Brush.*—May 5, 1868.—Box clamps are attached to the usual place of the dauber brush, and to the tops of the standards forming the clamp a rotary brush is journaled, which transfers the blacking from the box to the boot.

Claim.—1. In combination with the spreading brush, the cover, made and operating substantially as and for the purpose herein described.

2. The spring standards D D′, serving the double purpose of journaling the said brush, and of holding while permitting the adjustment of the blacking box, operating substantially as herein shown and described, and for the purpose set forth.

77,507.—Shannon McGuffin, Rising Sun, Ind. —*Coffee and Tea Pot.*—May 5, 1868.—The strainer swings from the end of a rod and is brought in conjunction, when required, with the entrance to the spout, so as to arrest solid matters and grounds.

Claim.—Providing a coffee or tea pot, A. with a swinging and adjustable strainer, substantially as and for the purpose herein specified.

77,508.—Adam McMullen and John H. Rock, Sterling, Ill.—*Harness.*—May 5, 1868.—The breast collar is supported as usual from the withers and at its rear ends receives the tug straps. Other forward attachments are made to the breast straps which are connected to the neck yoke or tongue.

Claim.—The tugs B D, brace C, straps H and F, and collar A, when the various parts are connected together and operating in the manner as herein set forth.

77,509.—Robert McMurray, Brooklyn, N. Y. —*Sand Screen.*—May 5, 1868.—The longitudinal wires rest as usual upon transverse bearing wires and are retained laterally by wires looped over each in turn and fastened to the sides of the frame.

Claim.—The combination, with the frame and straight vertical rods, of cross wires, formed with equidistant eyes or loops, through which the vertical rods pass, and by which they are retained laterally, all substantially as and for the purposes described.

77,510.—Edward Mercier, Springfield, Mass., assignor to himself and Henry W. Bailey, same place.—*Railroad Switch.*—May 5, 1868.—The ends of the rails forming the switch track are placed about two inches laterally from the ends of the rails of the main track. One end of each switch rail is placed in the chair, and it is bent near the middle. To the inside of the switch rails are bolted the safety pieces, which have an incline, and a part operating as a splice rail, and forming a continuation in a straight line of one side of the bent switch rail. The rails thus arranged are held by the switch bars and operated by the usual machinery. Long, stationary guides are made of common rail and arranged inside the switch rails and safety pieces. The said guides are somewhat longer, and about ¼ of an inch higher than the switch rails. Inside the guides, at one end, are flat plates on which the flanges of the wheels run.

Claim.—1. The combination of the fixed guides *f f′* with the sliding safety pieces or inclines *a a′*, substantially in the manner described, and for the purpose specified.

2. The supporting plates *e e′*, arranged and combined with the fixed guides *f f′* and sliding inclines or safety pieces *a a′*, substantially as described, and for the purpose specified.

77,511.—Jay C. Merrell, Medina, N. Y.—*Wash Boiler.*—May 5, 1868.—In the lower part of the boiler is a horizontal longitudinal tube whose ends are closed by slides when the boiler is used in the ordinary way upon the stove. When otherwise used a grate and fire are placed in the tube and an additional section of tubing is attached at the end, a chimney leading from the auxiliary tube.

Claim.—The boiler A, provided with the tube B and slides C, and having the auxiliary tube D and grate F arranged for use in connection therewith, for the purpose of adapting the boiler to use either with or independent of the stove, substantially as described.

77,512.—Albert H. Mershon, Philadelphia, Pa.—*Damper for Hot Air Furnace.*—May 5, 1868.—Improvement on his patent, May 29, 1866. To the chain which is attached to the furnace draught door is attached another chain which passes over two pulleys and is connected to a door opening into a flue communicating with the furnace flue. The former flue also communicates, through an opening closed at will by a damper, with the ash chamber. The arrangement is such that when the furnace draught door is opened the flue door is closed, and *vice versa.*

Claim.—The chain B, pulleys D D, door F, horizontal flue I, and damper M, when combined and constructed substantially as and for the purposes herein described.

77,513.—Henry F. Metzler, New York, N. Y., assignor to himself and William F. Youngs, Brooklyn, N. Y.—*Spring Horse.*—May 5, 1868.—Improvement on his invention patented February 21, 1865. The child is mounted on the oscillating seat and the foot rest adjustable as stirrups for the feet. The spring is connected to the screw rod by a yoke and tends to preserve the perpendicularity of the seat, returning it to the vertical when oscillated in either direction.

Claim.—1. The adjustable foot rest, vibrating with the horse, substantially as described.

2. The cross bars *j* and *j′*, to secure the ends of the spiral spring, and as a means of attaching the same to the screw *i*, and bracket E, substantially as described.

77,514.—Charles M. Miles and George W. Remsen, Lincoln, Del.—*Lamp Burner.*—May 5, 1868.—The turret between the cap and the body of the burner has an opening through which a match may be entered. A slide closes it, moving in a cam track which opposes accidental disengagement. The reservoir may be filled through the larger holes of the supporting ring below the dead air chamber, while air is admitted to the reservoir through the smaller holes.

Claim.—1. The chamber H and annular slide I, having openings *f*, and outlets *d*, when said outlets *d* are protected by guard *e*, all constructed and arranged to operate in the manner and for the purpose set forth.

2. The combination, in a lamp burner, of the perforated turret D, provided with slide F, dead air chamber A, perforated chamber H, and annular slide I, when said chamber H is provided with outlets *d*, which are protected by a guard, *e*, all constructed, arranged, and operating as described, for the purpose specified.

3. The lamp burner, constructed as described, and

consisting of the cap E, wick tube B, perforated turret D, having slot *b*, perforated annular slide F I, having pins *a*, dead air chamber A, perforated chamber H *f*, having outlets *d*, guard *e*, and ring G, all constructed and arranged to operate as set forth.

77,515.—G. L. Miller, Pontiac, Mich.—*Trace Hook.*—May 5, 1868.—The tang is screwed into the end of the whiffletree and the hook is flat and broad so as to require a certain presentation of the loop of the cock eye in hitching. The loop then draws upon the neck of the hook.

Claim.—The herein described trace hook, when constructed in the manner as set forth, as a new article of manufacture.

77,516.—Sarah P. P. Miller, Beaver, Pa.—*Basket.*—May 5, 1868.—The braids or strands are sewed together and the basket stuffed to the required shape while receiving its outer coat of varnish.

Claim.—As a new article of manufacture, a cloth basket, made of strips of cloth braided or twisted together, and coated with varnish or sizing inside and out, to preserve the form and render it waterproof, substantially as described.

77,517.—Albert Moore and A. D. Howes, South Adams, Mass.—*Steam Globe Valve.*—May 5, 1868.—The pipes below communicate by ports with the chamber above, and the openings of the ports are valve seats for the poppet valves which are attached to a yoke above and are actuated by a screw stem.

Claim.—1. The shell, formed of the parts A A′, with the valve chamber B′, substantially as described.

2. The block D and the valves C C, in combination with the shell and valve stem B, when arranged substantially as shown and described.

77,518.—Joel Moulton, Boston, Mass.—*Manufacture of Elastic Rolls.*—May 5, 1868.—Improvement on his patent, No. 75,292, Mar. 10, 1866.—The strips of rubber and webbing are lapped over a strand of wire, which is then coiled on the mandrel, turning outward the edges of the covering strips.

Claim.—1. As a means of more securely fixing the body of an elastic roll to its shafts, the employment therewith of a metallic wire or string.

2. The mode, herein described, of applying the strands of fibrous material to a sheet, or between two sheets, of vulcanized rubber, essentially in manner and for the purpose as set forth.

77,519.—Edwin A. Parker, Horseheads, N. Y.—*Coal Stove.*—May 5, 1868.—Below the fire box of the stove and within the enlarged base are a series of channels which carry air to the fire chamber and the room respectively. The caloric current is carried from the upper part of the stove to the base, where they follow a circuitous course in contact with the plates of the chamber where air is warmed before entering the apartment.

Claim.—1. The arrangement of the annular chamber E around the tubular downward extension C of the fire box, said chamber communicating with the fire box, and with the atmosphere in the room, so that a supply of fresh air, entering it, may be caused to enter the fire box, and also the room, substantially as herein shown and described.

2. The chamber H, arranged in the bottom of the stove base B, and close above the floor, and communicating with the draught chamber E, as set forth, so that it will serve to distribute fresh warm air around the base of the stove, close above the floor, as specified.

3. The chambers E and H, when arranged as set forth, in combination with the chamber I, through which the products of combustion can be made to pass, so that thereby the fresh air passing through the chambers E and H will be warmed, substantially as herein shown and described.

4. The damper *k*, connecting the chambers E and I, for the purpose of allowing the introduction of fresh air from the draught chamber E to the smoke pipe J, substantially as herein shown and described, for the purpose of checking the draught.

5. The S-shaped partition L in the chamber I, in combination with the partition *a*, horizontal partition *f*, pipes K K, and smoke pipe J, as herein described, for the purpose specified.

77,520.—J. R. Perry and D. W. Perry, Wilkesbarre, Pa.—*Railroad Car Truck.*—May 5, 1868.—Each wheel has an axle with two bearings, in adjustable boxes. The outer box is pivoted and the inner one slides within a limited range so as to allow the wheel to play a little in turning curves. Rollers above the sliding box assist the motion.

Claim.—The combination of the sliding and pivoted boxes C D, upon each side of the wheels, friction rollers *e*, connecting bar E, attached to the axles upon each side of the car, and the oscillating bar F, as herein described for the purpose specified.

77,521.—William H. Pfrimmer, Lanesville, Ind.—*Measuring and Registering Grain.*—May 5, 1868.—The slide below the hopper is drawn back and held by a catch. When the measure is filled it depresses that end of the lever platform, disengaging the slide catch and closing the hopper slide. The rising end of the platform actuates a pawl and train of gearing which has the usual register consisting of dials and fingers.

Claim.—The tilting platform A, in combination with the scale beam E, the hopper B, and the recording apparatus of the dials, the whole constructed, arranged, and operating substantially as and for the purpose herein described.

77,522.—Frederick A. Potter, North Providence, assignor to Fales, Jenks, and Sons, Smithfield, R. I.—*Tool Holder.*—May 5, 1868.—The tool is made of a cylindrical bar of steel and is placed in an inclined socket at the end of the tool holder. The tool has a series of rounded notches in one side to receive the side of a tapering pin which is driven transversely and horizontally through the holder.

Claim.—The arrangement of the holder A, the tool bar B, and the holding pin *b*, with reference to each other, substantially as described for the purposes specified.

77,523.—D. R. Prindle, East Bethany, N. Y.—*Field Roller.*—May 5, 1868.—The roller is made in two sections and the axis is jointed at mid-length, playing vertically in a slot which prevents movement in the direction of draught independently of the frame. The outer journal sockets flare inward to allow the accommodating movement of the axis.

Claim.—1. The jointed axis or pivot *a b*, for two or more sections A B of a roller substantially as and for the purpose herein specified.

2. The vertically oblong or upright bearing *d*, between the sections of the roller, substantially as set forth.

3. The combination of the jointed axis or pivot, and the vertically slotted or oblong bearing, so as to produce a roller which will adapt itself up and down to the unevenness of the ground, but will be rigid in a horizontal direction, substantially as herein specified.

77,524.—Jo. Ramsey, Milford, Texas.—*Harvester.*—May 5, 1868.—The team is hitched to a tongue running backward from the frame and supported upon a wheel upon a pivoted post which may be turned by a horizontal lever. The cutter-bar is reciprocated by a lever whose lozenge-shaped head is actuated by the pins upon the peripheries of two disks which are fast upon the axle. The fingers have a round turn at the end forming a rounded eye to prevent clogging.

Claim.—1. The pin wheel J J, constructed of two light disks, with pins *i i* in their periphery, and with an endless bracing or staying wire *j*, passed diagonally from one disk to the other around the pins *i i*, in combination with the device G *h*, which drives the sickle of a harvester such as described, all substantially as described.

2. The guard fingers *g*, constructed as shown in Figs. 5 and 6, with a narrow, straight slot terminating in an elliptical or circular eye, for the purpose set forth.

77,525.—Amos Rank, Salem, Ohio.—*Harvester.*—May 5, 1868.—The hinged finger-bar is adjusted at different heights from the ground by a chain which is attached to the shoe and passes over a sheave to a grooved segment attached to a lever. The device is set by a ratchet and pawl.

Claim.—In combination with a vibrating lifting-lever K, and its pawl O, the construction of the ratchet plate J, with spaces *v* between the teeth *p* thereof, substantially as described.

77,526.—Amos Rank, Salem, Ohio.—*Harvester.*—May 5, 1868.—An angular arm is pivoted to the reel post, and carries a grooved wheel, which, by means of a spring is pressed against the actuating chain of the reel to keep the same under proper tension during the movement of the post caused by inequalities of the ground. The reel post is adjustably attached to the inner grain divider so that the fore end of the divider may be adjusted higher according to the character of the grain.

Claim.—1. The combination, in a belt tightener, of the angular lever *m*, spring *l*, and the grooved wheel *k*, substantially as and for the purpose described.

2. Applying the inside divider P to a bracket T, upon the reel post H, and making this divider adjustable, substantially as described.

77,527.—Oliver H. Reed, Washington, D. C.—*Guide Gauge for Printing Presses.*—May 5, 1868.—The plate is inserted into the feed board of a "Hoe" press or attached by a screw to the guide bar of a "Gordon" press. A pin is hinged to this plate and may be folded down to make a smooth feed board, or may be raised into effective position.

Claim.—The use of a folding pin or side guide for paper upon a printing press, substantially as set forth.

77,528.—John Reiber and John Schrader, Bridgeport, Ill., assignors to themselves and W. M. Lewis, same place.—*King-Bolt for Carriages.*—May 5, 1868.—The clip embraces the axle and has a socket which receives the jointed bolt on which the head block turns. A brace from beneath the axle is connected by a joint to the coupling bar so as to allow it to vibrate with the axle.

Claim.—1. The jointed bolt *d*, in combination with the clip B and head block *d*, substantially as and for the purpose shown and described.

2. The brace D, having joint *b*, in combination with the clip B, jointed king-bolt *d*, axle A, and coupling E, all substantially as and for the purpose shown and described.

77,529.—Frederick Richardson, New Bedford, Mass.—*Boot Heel.*—May 5, 1868.—The center or wearing portion has flanges on each side to hold the filling and may be reversed when one side is worn.

Claim.—The reversible plate *c*, formed substantially as described, in combination with the flange *a* and the filling *d*, and applied to a boot or shoe heel, as set forth and specified.

77,530.—J. H. Richardson, Chicago, Ill.—*Screw-Cutting Machine.*—May 5, 1868.—Combined with the cams of a die head is a slotted collar in which operates a stop by means of which the dies may be set to cut screws of different sizes and to open and shut uniformly by reversing the motion of the drive pulley. A friction band passes over the die head for checking its motion while the cams open the dies and loosen the screw.

Claim.—The combination of neck I, face plate C, cams *m n*, pulley F, friction band G, collar H, treadle Y, dies W, and die head D E U, the whole being constructed and arranged to operate substantially as herein specified.

77,531.—A. Q. Ross, Cleves, Ohio.—*Carriage Step Screen.*—May 5, 1868.—The step screen is fastened to the bottom of the carriage by means of hinges just behind the step. When the door is closed the screen remains close against the bottom of the carriage and when the door is opened the screen falls down.

Claim.—The carriage step screen B, operated by means of bars and spring, or cord and pulleys, or by other equivalent manner, by means of the carriage door, substantially as and for the purposes above set forth.

77,532.—Frank J. Roth, Schenectady, N. Y.—*Piston Packing.*—May 5, 1868; antedated April 22, 1868.—The body of the piston consists of a spider, follower and inner ring, the sectional packing rings slipping on the latter and being held by a dowel pin and expanded by a spring and wedge against the inside of the cylinder. The side rings are fitted loosely over the inner ring and are forced by the steam against the face of the sectional ring.

Claim.—The side rings E E and packing rings D D, when combined substantially in the manner set forth.

77,533.—Frank J. Roth, Schenectady, N. Y.—*Piston Packing.*—May 5, 1868; antedated April 22, 1868.—The steam acts upon the cut ends of the packing ring and expands it to the inner surface of the cylinder, without entering the interior of the piston or under the packing rings. The hooks of the ring engage depressions in the break joints which are held in the rabbet of the central ring.

Claim.—The central ring *c*, break joints *f f*, and packing ring *d*, when combined, substantially in the manner herein set forth and described.

77,534.—Frank J. Roth, Schenectady, N. Y.—*Stuffing Box Packing.*—May 5, 1868; antedated April 22, 1868.—Steam is admitted to the rear end of the follower to pack the piston rod, driving the conical annulus upon the packing rings. Dirt or collected grease is blown out through a pipe provided with a cock.

Claim.—The employment of cock *g*, or its equivalent, when used in connection with stuffing box *a*, substantially as herein set forth and described.

77,535.—Casper Rubbles, Lowville, N. Y.—*Planter and Cultivator.*—May 5, 1868.—The flat, triangular, pointed shares are attached to the frame by jointed rods at their rears; in front they are suspended by chains which pass over rollers by which they are lifted when the lever is oscillated toward the rear. Cams on the wheels come in contact with the slide bar to reciprocate it transversely of the path of the machine to operate the seed-dropping slides in the tubes below the seed hoppers.

Claim.—1. The V-shaped shares H, applied to the machine through the medium of the rods or bars *c c*, which are connected by joints *d* to the rear bar of the frame A, and connected at their front ends by chains I to wheels or pulleys F on shaft E, substantially as shown and described.

2. The tubes K, provided with the slides *g g'*, attached to the levers L, which are connected to the reciprocating rod M, operated through the medium of the spring N, and the projections *i* on wheel O, substantially as set forth.

77,536.—Mark Safford, Boston, Mass.—*Soap Holder.*—May 5, 1868.—The soap dish is clamped to a ledge or the edge of a board by means of a projection and a spring which form jaws.

Claim.—The combination, with the soap dish, and one or more projections or legs *e e* thereon, of a bolt or clamp, and spring for actuating the same, arranged and operating in connecting with the said legs, substantially in the manner and for the purposes shown and set forth.

77,537.—Charles Saffray, M. D., New York, N. Y.—*Cement.*—May 5, 1868; antedated April 25, 1868.—Composed of boiled linseed oil, 1 gal.; and strained onion juice, ½ lb.; boiled 3 hours, and mixed with boiled linseed oil, 9 galls.; river sand, 47 lbs.; oxide of calcium, 2 lbs.; oxide of iron, 1 lb.; protoxide of lead, 4 lbs.; and oil prepared as aforesaid, ½ gall., are mixed as a mortar and applied.

Claim.—The preparation of oil, as above described, for making cements, and an improved cement made of the above-named materials, bound together by the chemical action upon them of the oil so prepared, said cement to be applied to the uses specified.

77,538.—Oliver Salgee, New York, N. Y.—*Pump Piston.*—May 5, 1868; antedated April 25, 1868.—The forked link has segments which bear in sockets on the upper part of the piston, and the valve plays on its seat between them. The packing is wound around in a recess of the piston.

Claim.—The forked link k, in combination with the ring piston m, that is formed with sockets, receiving the joints l of said link k, and with the valve o, applied between the forked link, as and for the purposes set forth.

77,539.—H. Schevenell and S. S. Rembert, near Memphis, Tenn.—*Instrument for Treating Piles.*—May 5, 1868.—Vertical strips of copper are imbedded in the zinc cone and the moisture of the parts induces an electric action, adapted to allay inflammation.

Claim.—The electrode A B, composed of different metals a a b, substantially as shown and described, for the purpose set forth.

77,540.—Ebenezer Seaver, Boston, Mass.—*Clothes Pin.*—May 5, 1868.—The pin has two jaws with beveled surfaces where the lips meet and with an interior space narrowing toward the hinge.

Claim.—The beveled contact surfaces of the parts A and B, as shown at Fig. 2, in combination with the teeth C C′, as and for the purpose specified.

77,541.—John Sheldon, Chicago, Ill.—*Derrick.*—May 5, 1868.—Designed for field use in stacking hay, &c. It is a light frame for erection, and is collapsed together for transportation or storage. The standard supports the arm and its brace, and is itself stayed by struts which are anchored by clevises and stakes.

Claim.—The general combination and arrangement of standard A, arm D, braces C and M, with brace S, substantially as and for the purpose set forth.

77,542.—Gerard Sickels, Boston, Mass.—*Water Meter.*—May 5, 1868.—The valve piston works vertically and is actuated by shifting the bearing of a prop attached to the under side of that piston. As the foot of the prop is moved to the center of its track, the piston is elevated; and after the said foot passes the center, the pressure of the water on the piston will force the foot of the post to the opposite end of the track, thus inclining it in the opposite direction and causing the upper end of the prop to push the valve in the opposite direction. The prop extends down into the cylinder so that it is operated by direct action of the bar connecting the pistons.

Claim.—1. Effecting the entire motion of the valve by shifting the bearings of the foot of the prop o, attached to the under side of the valve piston, substantially as set forth.

2. Extending the prop of the valve piston down into the cylinder, so that it can be operated upon by the direct motion of the cylinder piston.

3. The combination of the valve piston k, the movable prop o, and the connecting bar d, substantially as and for the purpose described.

77,543.—William S. Simpson, Berea, Ohio.—*Mop Wringer and Brush.*—May 5, 1868.—The implement has a scrubbing brush at the end and in the frame has a pair of wringing rollers between which the mop cloth is passed as occasion requires.

Claim.—The combination of the frame A, having arms g, brush B, rollers D F, levers f, adjustable spring bolt h i, and mop cloth J, all constructed and arranged as described, for the purpose specified.

77,544.—H. D. Smalley, New Baltimore, Ohio.—*Portable Fence.*—May 5, 1868.—The lower edges of the panels rest in the notched sills and they are laterally stayed by the brace whose notches abut against the upper panel on one side of the fence and against the next panel on the opposite side of the fence.

Claim.—The peculiar arrangement and combination of the panel A^2 D^2 with projecting rails D^2, the panels A D with projecting rail D, and the braces F with notches d and e, the several parts being arranged in the manner and for the purpose specified.

77,545.—Josephus Sonnedecker, Cincinnati, Ohio.—*Advertising Frame.*—May 5, 1868; antedated April 28, 1868.—The frame is hinged on one side and has lock catches upon the opening side; several glazed frames display advertisements.

Claim.—The frame or cage A B, having grooved panels for the reception of advertising cards, and being adapted to be secured to each other and to a lamp or other post, substantially as set forth.

77,546.—John Stackhouse, West Pittsburg, Pa.—*Polishing Machine.*—May 5, 1868.—The roll to be polished and straightened is passed between the rollers, which have similar rotation from a common motive wheel. After passing endways between the rollers the object drops into a receiving trough between the shafts communicating motion from the wheels to the rollers.

Claim.—1. The guide H for introducing the metal to be polished in a line parallel to the axial lines of the rollers C C′, the guides I I for holding said metal longitudinally between said rollers, and the guide m for receiving the polished metal in the line of its passage from between the rolls, as herein described, for the purpose specified.

2. The guides H, I, and m, in combination with the polishing rolls C C′ and head blocks A A′, substantially as described, for the purpose specified.

77,547.—P. H. Starke, Richmond, Va.—*Plow.*—May 5, 1868.—The plow has a double beam, the rear of each fork being connected to the back of the standard to which the share and mold board are bolted. A handle is attached to each portion of the beam.

Claim.—1. The double beams, Nos. 6 and 7, attached to the standard, as described, for the saving of power and prevention of choking.

2. The standard or frame pieces, No. 5, having no vertical connection with the beams, to which the other parts are attached, as described.

3. The point, No. 4, indented with a succession of points, in place of a share, each of its cutting parts presented nearly square to the front to prevent the plow from being wedged or pressed so hard against the land as to wear the land side, and cause considerable loss of power thereby.

77,548.—John and Jacob Stock, New York, N. Y.—*Barber's Chair.*—May 5, 1868.—The upper part of the back is hinged and is vertically adjustable by a rack and stop. A head rest is hinged to a bracket and is adjustable both in inclination and height.

Claim.—The movable back D, hinged to the stationary back B of a barber's chair, arranged with suitable mechanism to fix this movable back D in any desired position, in the manner and for the purpose substantially as set forth.

77,549.—David Stuart and Lewis Bridge, Philadelphia, Pa., assignors to Stuart, Peterson, & Co., same place.—*Base Burning Stove.*—May 5, 1868.—Air is introduced into the stove at various parts, and after circulating and heating is discharged into an upper chamber, from which it is distributed to any points desired.

Claim.—1. The chamber F, between the fire pot and casing G, when the said chamber has, in front, openings for the admission of cold air, and communicates at the rear with openings for the passage of another current of cold air, all substantially as and for the purpose herein set forth.

2. The above in combination with the air chamber K at the rear of the fire chamber.

3. The plates J and H, between which is a passage, forming a communication between the lower crescent-shaped chamber K and upper chamber Q, as described.

4. The air opening q, communicating with the space between the plates J and H, as set forth.

5. The crescent-shaped air chamber Q, open in front for the passage of the products of combustion from within the space inclosed by the inner casing of the said chamber round to the rear of the same, as set forth.

6. Openings for admitting cold air at three different points to the within-described chambers or their equivalents, in which the air is heated, and by which

the heated air is delivered in one volume to a receiving chamber, T.

7. The coal reservoir S, suspended within but at a distance from the chamber Q, as set forth.

77,550.—Charles H. Thurston, Marlboro, N. H.—*Attaching Knobs to Screws.*—May 5, 1868.—The two-ended gimlet screw is screwed into the knob, and secured therein by a pin which is driven into the knob beside the screw and follows a groove plowed through the thread.

Claim.—The construction of the attaching screws in a wooden knob, by the formation of a slotted screw and key, causing it to remain in place, substantially as herein shown and described.

77,551.—Joseph F. Umpleby, Albany, N. Y.—*Needle Book.*—May 5, 1868.—The sewing machine needles of various sizes are placed in different compartments of the book. A cushion and shield keep the needles in place. A gauge determines their sizes. Numbers and characters indicate their sizes and the appropriate threads for each.

Claim.—1. The needle book A A′, constructed with cushion K *e f*, and with gauge plate *g*, substantially as and for the purpose described.

2. The gauge plate *g h*, applied to the needle book, as described.

3. Providing a needle book, constructed as shown and described, with the oil stone *c*, which is arranged to bear against the cushion when the book is closed, as set forth.

77,552.—John H. Vickers, Norwich, Conn., assignor to Norwich Lock Company.—*Combined Knob Latch and Lock.*—May 5, 1868; antedated April 22, 1868.—Designed to be used as a latch lock or to fasten securely when required. The latch lever, as in the "Tyler" lock, patented August 16, 1865, is lowered out of contact with the bolt or raised to engage therewith, according to the requirements as stated above. Tumblers and a fence are so arranged as to oppose the motion of the latch lever in attempting to free the bolt, unless, by the introduction of the proper key, the tumblers are brought to the proper position by the key.

Claim.—The employment of one or more tumblers M, in combination with the latch lever D in the Tyler lock, and adapted to operate relatively to the key N and stop A′, or their equivalents, substantially as and for the purpose herein specified.

77,553.—Daniel F. Wallace, Ripley, Ohio—*Hemp Brake.*—May 5, 1868.—The beating bar is rounded on its working edge and attached by arms to the shaft, the intervening space being occupied by a board which forms it into a wing which is effective in blowing away the shives. The hemp is fed up to the beater by a spring board which moves in slots in the frame of the machine.

Claim.—The beating wings C, in combination with the rest D, operating in the inclined slots *i*, and provided with the springs E, when arranged substantially as described and shown.

77,554.—Charles E. Wareham, Port Washington, Wis.—*Rotary Scrubbing Machine.*—May 5, 1868; antedated April 23, 1868.—The box is mounted on wheels whose axle communicates a rotary motion to the circular brush through the intervention of the bevel gearing. A chamber in the box trickles water or suds in front of the brush.

Claim.—The arrangement of the box A, mounted on wheels B B, in combination with the bevel gear *c c′*, for operating a rotary brush or mop, substantially as and for the purposes herein described.

77,555.—John Weidig, Philadelphia, Pa., assignor to William W. Lyman, West Meriden, Conn.—*Fruit Jar.*—May 5, 1868.—The lid has a rim which is depressed upon a packing ring on the lip of the jar. The cover has inclines upon its upper surface, which, being rotated against the under side of the yoke, press the lid firmly on its seat.

Claim.—The combination of the stopper B, elevations and depressions *d d*, recess *k*, rim *c*, clamp *e*, fulcrum or centre *h*, packing and seat *b b′*, notched ring *g*, substantially as and for the purpose described.

77,556.—Marcus M. Wells, Hartwick, N.Y.—*Grain Rake.*—May 5, 1868.—The tines are run beneath the swath, and when sufficient grain has been received the implement is turned up on its curved frame and the bent lever turned over the gavel and held down by the stirrup. The gavel is then bound.

Claim.—The jointed lever D, in combination with the curved tines A, cross bars C B, connection G, and handle E, as described.

77,557.—John A. Wheeler, Freeborn, Minn.—*Windmill.*—May 5, 1868.—The sectional sails are hung in the frame of the wind wheel, supplementary arms being used in addition to the usual radial arms, to serve as supports for the sails and permit them to be pivoted at right angles to the radial arms and facilitate the adjustment.

Claim.—1. The false arms I I, secured by means of adjustable eye-bolts N N to the band rods G H, so that the sectional sails J J can be pivoted between the radial arms F F and the false arms I I, all arranged substantially as herein shown and described.

2. The rods K, eyes *c*, and lugs *b*, in combination with the sectional sails J J, false arms I I, eye-bolts N N, band rods G H, and radial arms F, all arranged and operating substantially as herein shown and described.

77,558.—Nathan Whitten, Etna, Me.—*Car Coupling.*—May 5, 1868.—When the draw-head is forced back as the cars come in collision in making up the train, the draw bar acts upon a lever to thrust forward a plunger which drives out the link into coupling position.

Claim.—The combined lever F, bar F′, and sweep E, secured to the draught bar B, to the car floor, and to the plunger rod D, for the purpose of giving a forward rectilinear and increased motion to the plunger C D when the draught bar is forced backward, all for the purposes and in the manner as shown and described.

77,559.—Leonard Worcester and Joseph S. Brown, Lowell, Mass.—*Fruit Jar.*—May 5, 1868.—The rubber disk is secured by a perforated top or ring so that the pressure may be regulated within the can.

Claim.—The elastic cover A and the perforated disk or washer B, applied to the mouth or opening of a fruit or preserve jar, in the manner and for the purpose substantially as described.

77,560.—Abram Wright and George F. Wright, Clinton, Mass.—*Toy Safe with Puzzle Lock.*—May 5, 1868.—The toy resembles a safe, and requires peculiar changes of position to enable the bolt to be withdrawn. In the present case, the safe is to be upset to let the little bolt fall out of the door bolt, and then, by turning the safe on the hinge side, the door bolt itself retires and the door is free to open.

Claim.—The application of a puzzle lock, when constructed as herein shown and described, or any other mechanical device which will produce the same result, to miniature or toy safes, substantially as and for the purpose herein set forth.

77,561.—Rufus Wright, Brooklyn, N. Y.—*Cherry Stoner.*—May 5, 1868.—The cherries are fed from a spout to the pockets of the intermittingly revolving wheel, which is turned 90° as the lever rises. The descent of the lever carries the needles through the cherry, forcing out the stone, which is discharged below, the succulent flesh dropping from the hole at a subsequent part of the revolution of the wheel. The band prevents the passage of more than one cherry. The pendant limits the stroke of the lever.

Claim.—1. The intermittingly rotating feed wheel C, when operated by the lever B, or other device, which carries the stone-ejecting needles G, substantially as and for the purpose set forth.

2. The pendent projection or guard *c*, attached to the needle bar or lever B, in connection with the intermittingly rotating feed wheel C, for the purpose specified.

3. The yoke or band K, attached to the hopper I, in connection with the feed wheel C, arranged to

operate substantially as and for the purpose set forth.

4. The spiral plate D, ratchet E, pawl F, and lever B, or its equivalent, for operating the wheel C, all arranged substantially as and for the purpose specified.

77,562.—Peter C. Yost, Hamilton, Ill.—*Corn Harvester.*—May 5, 1868.—The knife is mounted on a cross beam on the sled, the stalks being guided to the knife by two bars. A cradle in the rear of the cutting apparatus catches the stalks. When the apron is full it is tilted up and emptied upon the sled.

Claim.—1. The form and configuration of the knife C, as applied to a carriage or sled for reaping, substantially as described.

2. The slotted adjustable beam B, carrying the knife C and hooks D *d*, substantially as and for the purposes described.

3. The apron E, to catch the corn or grass, as applied to a carriage or sled for reaping or mowing, substantially as described.

77,563.—Alonzo W. Adams, New York, N. Y.—*Construction of Meter Safe.*—May 5, 1868.—The door is recessed into the wall of the meter, and has a number of arrow-headed bolts which are engaged by spring catches, so that the door plate cannot be removed without violence; thus indicating any tampering with the meter.

Claim.—A safe, of cast or wrought metal, provided with an opening M, arranged as described, and a door or side, which, when closed, becomes permanently locked, by means of the devices hereinabove described, or their equivalents, so that the safe cannot be opened except by violence, the whole being adapted to enclose and protect a meter, as and for the purpose set forth.

77,564.—John Adams, Pontiac, Mich.—*Gate.*—May 5, 1868.—The slats are pivoted in the vertical bars so that the outer end of the gate may be raised to pass obstructions or make an opening for small stock; in this position the gate is held by oblique braces whose notches engage a pin on the top slat. When the gate is thrown wide open the braces are disconnected and the outer end drops to the ground.

Claim.—1. The bar *h*, when used in combination with a gate, for the purpose of automatically detaching the teeth of the brace D, and thereby dropping the front end of said gate, as herein fully set forth.

2. The combination of the bar K, provided with a catch or pin *x*, with the lever L, when both are arranged as and for the purpose specified.

3. The arrangement of the brace D, catch *g*, bars *h* and K, lever L, and a farm gate, the several parts being constructed and operating substantially as and for the purpose set forth.

77,565.—Charles P. Alsing, New York, N. Y.—*Asphalt Pavement.*—May 5, 1868.—Distilled coal tar, 20, and crude coal tar, 10 parts, are melted and the following added thereto: Portland cement, 10; granite crushed to coarse sand, 5; glass crushed to same coarseness, 5; gravel, 50 parts; the whole is well mixed. Upon three inches of coarse gravel is placed a melted mixture of distilled coal tar, 20, and crude coal tar, 10 parts, mingled intimately with gravel, 75 parts, and over this a layer of the composition first mentioned.

Claim.—An improved pavement, formed of the ingredients, and prepared and applied in substantially the proportions and manner herein described and set forth.

77,566.—Eugene Atwood, Mansfield, Conn.—*Spindle.*—May 5, 1868.—The low, outer position of the whirr avoids lateral strain upon the spindle by the tension of the band on the whirr and affords access for the introduction of a self-lubricating device to the bolster within the sleeve.

Claim.—The combination, with the spindle A proper, of the head or cap B, tube or sleeve C, and whirr D, made separate and distinct from each other, and fitted and secured together for joint operation, substantially as shown and described.

77,567.—Loring J. Baker, Machias, assignor to Samuel D. Leavitt, Archibald McNichol, and Frank Fowler, Portland, Me.—*Lamp Chimney Cleaner.*—May 5, 1868.—The washing pads are forced outward by sliding forward the sleeve upon the handle.

Claim.—The toggle-joint levers *b b b b*, operated by the sliding sleeve *c*, upon the rod or shaft *d*, substantially as and for the purpose as described.

77,568.—William W. Ball, Edinburg, Ind.—*Metal Hub.*—May 5, 1868.—Flanges are cast with the hub which lie upon each side of the spokes and are drawn thereto by rivets or bolts.

Claim.—The annular flanges B B, made tapering from the hub to their edges, and cast of one piece with the hub, in such a manner as to form springs that are contractible, and made to firmly secure the spokes by the bolts C, as specified.

77,569.—John S. Barden, Providence, R. I., assignor to Union Steam Valve Company, Mass.—*Slide Valve for Steam Engines.*—May 5, 1868.—The tapered valve is arranged so that its lower face will be at right angles with a line drawn from its center to the axial line of the cylinder. The upper parts are in a false top of sufficient depth only to contain a thin film of steam to equalise the pressure upon the two parts.

Claim.—1. The arrangement of the valve B, constructed as described, in respect to the three bearing surfaces, as and for the purpose set forth.

2. The passages *f*, so arranged as to connect and communicate between the recesses *e'* and the passages *a a*, as and for the purpose described.

77,570.—T. E. Batterson, Rochester, N. Y.—*Fruit Jar.*—May 5, 1868.—Loosely attached to the jar is a wire clamp capable of end motion so as to adapt it to the holding lugs if the cover be not placed centrally. The central coil allows a certain degree of spring.

Claim.—The combination with the cover B, of the wire clamp C, resting loosely in bearings *c*, so as to have a free turning and longitudinal movement, the whole arranged as described, and operating in the manner and for the purpose specified.

77,571.—Henry James Beckwith, Chicopee, Mass.—*Machine for Cleaning Feathers.*—May 5, 1868.—The feathers are placed in the space between the interior steam-heating cylinder and an inclosing wooden case. The metallic cylinder is surrounded by a coiled steam pipe which is perforated to allow mingling of the steam with the feathers. The whole is supported on tubular gudgeons through which the steam passes and upon which the device rotates.

Claim.—1. The new combination of the head pieces H I I secured on the flange *t t*, in connection with the box A B C D, and the slide valve *r*, and the steam pipe P S S S S, arranged to operate together substantially as described.

2. The use of the head piece L M N, combined with the branch tubes X X, and the "heater" E E, and the waste pipe O, arranged to operate together substantially as described.

77,572.—Eugene Beggs, San Francisco, Cal.—*Gas Governor.*—May 5, 1868.—A thin, metallic diaphragm is connected with a valve by a series of levers to cause a regular supply to the burners. By means of a weight upon one of the levers, operated by a rod passing through a stuffing box from the outside, the pressure is regulated for the greatest number of burners to be used, while the valve and diaphragm regulate the amount for any less number.

Claim.—1. In a gas governor, the metallic or other diaphragm B, and the levers G and I, together with the valve M, the whole constructed and operated substantially as and for the purpose herein described.

2. The regulating weight S, moving upon the lever G and the sliding rod T, operating substantially as and for the purpose herein described.

3. The equalizing lever *c*, with the weights *g*, for increasing the weights on the diaphragm, and to overcome friction when the valve is opening, substantially as described.

77,573.—John Blakey, Liverpool, and Howard Busby Fox, Oxton, England, assignors to themselves and JAMES TURNER HALL.—*Collar and Cuff.*—May 5, 1868.—The paper is slid into place between the outer border and inner lining of silk or other material.

Claim.—A frame or holder A, of leather, silk, or other similar flexible and durable material, when combined with an inclosed detachable leaf or slip of paper, calico, or other similar delicate material or fabric C, to form an article of wearing apparel, substantially as herein set forth.

77,574.—CHARLES D. BLINN, Port Huron, Mich.—*Flexible Harrow.*—May 5, 1868.—The bars are connected by links with rectangular rods which pass around the bars at one end and are linked together at the other. One end of the rear bar is connected to the next one by a rigid link.

Claim.—1. The double links C, when operated in connection with the bars A, in the position herein described.

2. The solid link D, in connection with the above-mentioned parts, when constructed and operating substantially as and for the purposes herein set forth.

77,575.—HENRY BOWERS, Albany, N. Y.—*Draft and Shaft Tug.*—May 5, 1868.—The shaft depends from the saddle piece and has a fixed and a movable jaw which are clasped upon the shaft and secured by a turn key.

Claim.—1. The shaft clasp B, substantially as shown and described.

2. The tug A, substantially as shown and for the purpose set forth.

3. The combination of shaft tug A with saddle F, breast collar G, and shaft C, substantially as and for the purpose set forth.

77,576.—JOHN BRADLEY, Baltimore, Md., assignor to DAVID L. BARTLETT and HORACE W. ROBBINS, same place.—*Boiler for Heating Purposes.*—May 5, 1868.—A number of cast metal chambers are placed together so as to allow a passage of air between each two of them over their faces. They have numerous transverse tubular openings allowing the passage of air from side to side. A portion of these sectional chambers are designed to form a fire chamber, with return flues through which the caloric current passes from rear to front and back again, and the remainder form a water back through which the flame and heated currents pass from front to rear and back again and finally to the smoke stack at the rear. The chambers contain water and are tightly clamped and steam-jointed together.

Claim.—1. Two or more sectional cast metal water or steam chambers, intersected by transverse air tubes or passages, and inclosing or encompassing a central fire space, in combination with two or more similar chambers, formed without such fire space, when all of said chambers are connected by continuous direct water and steam channels, and intersected by transverse smoke flues, and are also separated by intermediate air spaces, the whole being arranged and made to operate substantially in the manner and for the purpose herein set forth.

2. The formation and arrangement of continuous smoke and hot air flues, in and through a sectional heating boiler and radiator, by means of tubular openings in the several sections, fitting and connecting with each other, substantially in the manner and for the purpose herein set forth.

77,577.—WILLIAM BRAIDWOOD, Mount Vernon, N. Y.—*Printing Press.*—May 5, 1868.—The card drop projects upward from the rock shaft which has its bearing on the arms of the platen below the frisket shaft. On the right hand end of the rock shaft is a right-angled arm which extends both forward and backward, the forward portion being weighted to keep the card drop against the platen, and its rear portion having a horizontal pin projecting sideways and coming beneath the weighted tappet lever whose rear end is acted on by the cam formed on the periphery of the adjacent wheel. An additional inking roller is placed in contact with the usual roller to increase the inking surface.

Claim.—1. The arrangement and combination, with the card drop P, of the cam U, lever S, and weighted arm R, substantially as described.

2. The supplementary roller E, lying on roller D, and so arranged therewith that their peripheries on the side toward the roller frame F are in the same vertical tangential line, in combination with the vertically moving roller frame F, substantially as described and shown.

77,578.—CHARLES BREASTED, Chicago, Ill.—*Barrel Sifter.*—May 5, 1868.—The ashes are carried by the inclined chute to the upper part of the inclined sieve, and the cinders being thrown out, the ashes drop through into the vessel below.

Claim.—An ash sifter or screener, consisting of the box A, provided with the concave inclined slide C and laterally moving frame D, having the inclined screen E and mouth *b* attached, and protected by the cover *c*, all constructed and arranged to operate substantially as herein described.

77,579.—E. H. BUCKLAND, Springfield, Mass.—*Watch Case Spring.*—May 5, 1868.—The tongue which throws back the cap is placed upon one end of the spring and the catch stud near the other, a single spring thus lying more than half around the groove of the case and answering a double purpose.

Claim.—1. The spring A, formed of one piece, and reaching over half the circumference of the case, and forming both catch and throw-up at each end respectively, substantially as and for the purpose shown.

2. The stud E, with the catch *d* formed upon it, substantially as and for the purpose shown.

77,580.—E. H. BUCKLAND, Springfield, Mass.—*Spring for Watch Cases.*—May 5, 1868.—The catch is formed upon a curved piece which is placed between the rim of the case and the spring and is operated by the push pin. The device is intended for application to a common watch case.

Claim.—The independent catch D, formed upon the strip C, in combination with the spring B and push pin A, substantially as herein described.

77,581.—ESEK BUSSEY, Troy, N. Y.—*Oven.*—May 5, 1868.—Hinged shelves are placed in the supplementary ovens which may be folded up to the sides when the whole capacity of the oven is required for one article.

Claim.—1. In combination with an oven attached to stoves, hinging or pivoting therein a division or rack plate K, so that it may, when not used, be folded therein close to the oven side, in manner substantially as and for the purpose set forth.

2. In combination with a stove, a drum oven, having a slotted or open back or side, and arranged or placed directly beside and against the exterior wall or shell of the combustion or fire chamber of said stove, in manner substantially as and for the purpose herein set forth.

3. In combination with a drum oven, having an open back or side, and placed against the shell or plate of a stove, the employment therein of a series of slats or plates L L, arranged in manner substantially as and for the purposes herein described.

77,582.—WILLIAM CARR, Yellow Springs, Ohio.—*Burglar Trap.*—May 5, 1868.—The burglar falls between the trap doors, and his weight upon the hanging false bottom keeps them closed.

Claim.—1. A burglar trap, consisting of the chamber A, trap door or doors C C′, rods L L′, and suspended platform K, the whole being arranged to operate substantially as herein described and set forth.

2. The combination and arrangement, substantially as described, of the chambers A, *a a′*, partitions B B′, trap doors C C′, platform K, and rods L L′, together with the shafts D D′, and their accessories, E E′, *e e′*, F F′, *f f*, G G′, H H′, I I′, and J J′, for the object explained.

77,583.—SETH E. CLAPP, Cambridge, Mass., assignor to himself and JOHN J. RIDGEWAY.—*Biscuit Cutter.*—May 5, 1868.—The rotating cutter has three circular openings whose sides form knives. It may have concentric tubes which remove a central plug from each biscuit.

Claim.—As a new article of manufacture, the biscuit cutter, either with or without the center piece D D′ D″, substantially as described and for the purpose set forth.

77,584.—George Pemberton Clarke, New York, and Marmont B. Edson, Brooklyn, N. Y.—*Register for Steam Engines.*—May 5, 1868.—The chart printed to indicate time and pressure, by vertical and horizontal lines respectively, is stretched upon a cylinder rotated by the engine and a marker on a steam pressure gauge is made to indicate the pressure at all times during the twelve hours. A reverse movement of the engine makes a retrograde line on the chart. The failure to reach an hour line at the time indicated denotes too slow a speed of the engine.

Claim.—1. The semicircular recess G, in combination with the pins H H and roller F, substantially as and for the purpose set forth.

2. The construction and application of the spring pad P Q, in combination with the recess G, pins H H, and roller F, substantially as described.

3. The construction and application of the movable journal box L, for the purpose set forth.

4. The application of the square piston rod W, in combination with the pencil holder, for the purpose herein shown and described.

5. The application of the hour wheel I^2, in combination with the crooked lever I, substantially as herein described and set forth.

6. The production of the delineations on the charts O, Fig. 10, by the combined action of the motion of the engine and the direct pressure of the steam from the boiler, and the action of the clock movement, the conjoint action of these several agencies producing the desired result, substantially as and for the purpose set forth.

77,585.—Greville E. Clarke, Racine, Wis.—*Skein and Box for Axles.*—May 5, 1868.—The skein has a depression on its lower side to hold anti-friction metal and is held on the spindle of the axle by a bolt which lies in a groove in said spindle and is secured to a bracket beneath the axle.

Claim.—The skein B, having a recess on its under part filled with box metal, C, and provided with a groove, *x*, and tongue, and used in combination with the box D, as constructed, and the rod E connected through the axle, as specified, all constructed and used substantially as set forth.

77,586.—Joshua R. Clarke, Cohoes, N. Y.—*Waste Gate.*—May 5, 1868.—When the loose piston in the stationary cylinder is weighted by overflow water it descends and raises the cylinder suspended to the other end of the walking beam. This allows a discharge at that point which ceases as soon as the overflow no longer depresses the loose piston in the other cylinder.

Claim.—The water gate B, constructed substantially as described, in combination with and connected to a follower or piston, M, moving in an open cylinder or well, C, substantially as shown.

77,587.—Levi H. Colborn, Chicago, Ill.—*Bag Fastener.*—May 5, 1868.—The chain is drawn through the central hole in the plate until it is sufficiently tight and it is then slipped into the slot when a cross link rests in a cross notch.

Claim.—The combination, with the tie chain A, of the lock plate B, having a hole, D, and notch, E, with cross notch E′, all constructed substantially as and for the purpose herein set forth.

77,588.—James P. Collins, Troy, N. Y.—*Water Wheel.*—May 5, 1868.—The metallic surfaces are coated with vitreous enamel to prevent oxidation and friction.

Claim.—A water wheel, in whole or in part coated or enamelled with a silicious or vitreous substance, when having a metallic surface or surfaces, so as to prevent oxidation, and to reduce and lessen the friction of the water upon such parts or surfaces of such water wheel as and while the water is passing into and through such wheel, so as to give it rotating motion, for the purposes and in the manner substantially as herein contained, set forth and described.

77,589.—William F. Converse, Harrison, Ohio.—*Portable Fence.*—May 5, 1868.—The panels are held together by double-hooked bars and the connection made rigid by wedge-shaped keys inserted between the panels from the upper side. The wedges are barbed, or are headed at the small end to prevent displacement.

Claim.—1. The headed wedge-form key D, constructed and applied, substantially as and for the purpose set forth.

2. The paired hooks B B′, in the described combination with two contiguous panels.

77,590.—William H. Conway, Harrison, assignor to himself and J. H. J. Rutter, Baltimore, Md.—*Steering Apparatus.*—May 5, 1868.—The side rudders are hung beneath the guards upon each side and are let down by a chain to assist in turning the boat.

Claim.—A side rudder for steamboats, when hinged to the under side of the guards, in such a manner that when not in use it can be drawn up out of the water, substantially as and for the purpose set forth.

77,591.—John Corson, Washington, D. C.—*Collecting Gold, Silver, and other Metals from their Ores.*—May 5, 1868.—The rollers in the glass-bottomed, insulated tank are tired alternately by different metals, and the slime contains acid or salt so that an electric current may be established to aid in the collection of the ore. The amalgamator has a rotating cylinder through whose tubular journals a stream of water is passed. The contents of the amalgamator is then discharged into cisterns whose length runs east and west, and which have end plates connected by a wire outside the cisterns. After settling in the cisterns the mass may be returned to the amalgamator.

Claim.—1. The mode herein described of collecting gold, silver, and copper from their ores, by the action of independent currents of electricity, in crystalizing the metals in an insulated pan.

2. The amalgamating process, with mercury or any other suitable substance, in an insulated pan or barrel, or other amalgamator.

3. The mode herein described of forming and applying the battery in the pan, or any other, substantially equivalent.

4. The mode of the amalgamation of gold and silver with mercury in an insulated vessel, pan, barrel, or any other substantially equivalent.

5. The stationary battery in the cisterns, in the form described, or any other substantially equivalent.

6. Using, for the purposes herein named, the aforesaid machinery and appliances, or any other, substantially the same, in which the same principle is used or involved.

77,592.—Joseph C. Coult, San Francisco, Cal.—*Furnace and Condenser for Collecting Quicksilver.*—May 5, 1868.—Improvement on his former patents. The pans for working fine dust ores are placed in the air chambers. The divisions between the fire chamber and air chamber and between the latter and the vapor chamber are made of grating. The vapor passes through perforated plates within the condenser, the pipes being made of such metal as admits of coating with quicksilver.

Claim.—1. The arrangement of the pans *d′ d′ d′* in the ore chambers C C, instead of the vapor chamber D.

2. The arrangement of the grating *d d*, placed on the inside of the ore chambers C C, to be used with or without the water linings *f f*, as may be desired, as and for the purposes set forth.

3. The arrangement of making or lining the inside of the condensing opening or pipes H H H with copper, silver, or other material that can be coated with quicksilver, as and for the purposes set forth.

4. The arrangement of placing in any part of the condensing openings H H H, leading from the furnace to the final escape into the open air, a series of punched copper, silver, or plate made of other material, that will or can be coated with quicksilver, for the purpose of amalgamating the fumes of mercury thereto, and saving all that would otherwise escape, as and for the purposes set forth.

77,593. — SAMUEL F. COVINGTON, Cincinnati, Ohio.—*Register for Railroad Fare.*—May 5, 1868.—The perforated metallic check is inserted into the glass-topped case and retained by the pin projecting upward from the spring bottom and precluding the removal of the check without the key.

Claim.—1. In combination with the seat of a railroad car, a box, so constructed that it may receive check plates, showing the names of the station to and from which the passenger has paid his fare, and so arranged that the plates can only be withdrawn by unlocking the box, substantially as and for the purpose set forth.

2. The combination of the box B, false bottom D, glass plate F, pins G, and check plates H, substantially as set forth.

3. In combination with the arm A and box B, the lock plate C, arranged to operate substantially as and for the purpose set forth.

77,594. — FRANK E. DARROW, Bristol, Conn., assignor to the DARROW MANUFACTURING COMPANY, same place. — *Spittoon.* — May 5, 1868.—The hide is prepared according to a process patented to him May 1, 1866, and the pieces forming the cup and cover respectively are swaged to form.

Claim.—The use or employment of raw hide in the manufacture of spittoons.

77,595.—NATHAN DEWEY and GEORGE W. FOSDICK, Dowagiac, Mich.—*Water Wheel.*—May 5, 1868.—The direct impact of the water is received upon the angular buckets, and the water then falls upon the curved buckets, whose forward edges are flush with the top of the wheel and whose rear edges incline downwardly from the inner shell of the wheel to the lower edge of the outer shell.

Claim.—The wheel A, composed of the rims B C and their buckets D and G, the buckets D being curved and inclined from the upper portion of the inner rim to the lower portion of the outer rim, all constructed and operating substantially as specified.

77,596.—DAVID DICK, Corning, N. Y.—*Wood Turning Lathe.*—May 5, 1868.—The device relates to means for actuating the rock shaft and sliding bar of one of the lathe heads which act respectively to operate the two slides of the tools by which the bobbin is formed; also to the mechanism to release the finished spool and to feed the sticks to the lathe.

Claim.—1. The weighted lever D, provided with the slotted arm F, in which the end of the lever G works, said lever adapted to operate the curved arm H, as herein described, whereby the tool heads and spindle are operated simultaneously, as and for the purpose specified.

2. The weighted lever I, attached to the rock shaft C, and provided with the segment arm K fitting in the spindle B, all operating as described for the purpose specified.

77,597.—FREDERICK BERNARD DOERING, London, England.—*Rock Drilling Machine.*—May 5, 1868; patented in England January 7, 1867.—In combination with the ordinary cylinder in which the piston actuating the boring tool works, is a small distributing cylinder; and combined with the distributing cylinder is a valve cylinder, and two other cylinders, the piston rods of which are connected to pawls which act upon the ratchet wheels for effecting the rotary motion of the piston and tool, and the advance motion of the engine.

Claim.—1. The combination of the following elements or parts, viz: first, an ordinary cylinder, provided with a piston and piston rod, suitable for supporting a boring tool; second, a distributing cylinder, provided with ports and pistons, actuated from the rod of the ordinary cylinder, the combination being substantially as described.

2. The combination of the following elements or parts, viz: first, an ordinary cylinder, provided with a piston and rod suitable for supporting a boring tool; second, a distributing cylinder, provided with ports and pistons, actuated from the rod of the ordinary cylinder; third, a cylinder actuating a pawl, the combination being substantially as set forth.

3. The combination of the following elements or parts, viz: first, an ordinary cylinder, provided with a piston and piston rod suitable for supporting a boring tool; second, a distributing cylinder, provided with ports and pistons, actuated from the rod of the ordinary cylinder; third, a cylinder actuating a pawl, the combination being substantially as set forth.

4. The combination of these elements or parts, viz: first, an ordinary cylinder, provided with a piston and rod suitable for supporting a boring tool; second, a distributing cylinder, provided with ports and pistons, actuated from the rod of the ordinary cylinder; third, two cylinders, actuating each a pawl, the one to revolve the tool, the other to advance the boring tool toward its work, the combination being substantially as described.

77,598.—WILLIAM M. DOTY, New York, N. Y.—*Clothes Pin.*—May 5, 1868.—The spring hook holds the line against the stock.

Claim.—1. A clothes pin, composed of a stock, hook, and spring, combined, as herein specified, the hook having a play at right angles, or transverse to the stock, in the manner described.

2. The arrangement of the hook and stock, so that the former shall pass through the body of the stock or be supported upon the exterior of the same, as and for the purpose herein set forth.

77,599.—GEORGE A. EDWARDS, Centralia, Ill.—*Straw Cutter.*—May 5, 1868.—The feeding rake is connected by a cord to the head of the knife slide and is actuated thereby. The fore end of the box rests upon a spring and it has movement under pressure of the upper knife to bring the hay in contact with the V-shaped lower knife which is fixed to the frames.

Claim.—The arrangement of the pivoted box B upon the coil spring *h* and its shaft K, having rakes *r r*, that are operated by the lever *l* and cord *m*, and used in combination with the sliding head F, inclined knife I, and the angular knife C, on the frame A, all constructed and used as specified.

77,600.—LEVI D. FARWELL, Lancaster, and ARTEMUS W. GODDARD, Clinton, Mass.—*Fruit Parer.*—May 5, 1868; antedated April 25, 1868.—The cam strikes the foot when the rind is removed and raises the slide to automatically raise the fruit from the fork.

Claim.—The slide *a*, the lever *h*, and the foot *g* with cam *e*, or any other mechanical device, substantially as and for the purpose specified.

77,601.—JOHN E. FINLEY, Memphis, Tenn.—*Churn.*—May 5, 1868.—The vertical rotating churn-dasher has an inner rod attached to one dasher, and the other dasher is upon a sleeve having opposite rotation. The dasher's wings are spiral sectors.

Claim.—The combination of the flanged wheels H H, thimble G, key I, tube E, rod D, frame J, drive wheel A, and cog wheels B C, arranged and operated substantially as described.

77,602.—GEORGE P. FLOYD, Quincy, Mass.—*Railroad Track Cleaner.*—May 5, 1868.—The nozzles communicate by pipes with the steam drum, and throw a jet of steam upon the track to clear it of ice, snow, or small obstructions.

Claim.—The nozzles K, attached to the pipes D, when constructed and operating substantially as and for the purpose set forth.

77,603.—JOHN F. FORD, Boston, Mass.—*Window Safety Guard.*—May 5, 1868; antedated April 28, 1868.—Intended to be attached to the jambs of a window to prevent children from falling out. The side pieces have spurs which enter the jambs and sockets to receive the rounds, which have right and left-handed screws at their respective ends.

Claim.—1. As my invention, the window guard, as composed of the bars A B C D, arranged and connected by screws, and having spurs, substantially as described.

2. The combination and arrangement of the springs *d d* in the sockets of the middle projections of the bars A B, with such bars and their spurs, and the bars C D applied to the bars A B, substantially as specified.

77,604.—ROYAL CLARK GRANT, Middleport, Ohio.—*Nail Machine.*—May 5, 1868.—The cutting jaws rotate continuously, and the nail plate is fed by gravity. The cutters are arranged in concentric circles on the upper surface of the cylinder. The nail plate is held in a grooved bar which has a sliding motion upon radial arms above the cylinder, and is fed alternately to the cutters in the respective series, the cutters being inclined in opposite directions to cut the nails, heads and points, alternately. The nail blank is supported in a vertically sliding rest, a cam advances the header to operate on the nails of one series, and exterior inclines operate the header of the outer series. The nail clamp is operated by a toggle and a follower rod which is moved by traversing upon cams below.

Claim.—1. The horizontally rotating cylinder B, provided with a series of cutters and headers, in combination with clamp *h*, all constructed and arranged to operate substantially as described.

2. In combination with a series of cutters *a*, arranged as described, the laterally reciprocating plate holder *g*, arranged in such relation to the rotating cylinder as to present the nail plate alternately to the two circles of cutters, as set forth.

3. The combination of the clamp *h* and the sliding rest *d* with the headers *r* and *w*, when arranged to operate substantially as described.

77,605.—ELIJAH H. GRAY, Winchester, Ill.—*Clothes Line Hook.*—May 5, 1868.—The hook bar engages an eye in the post, and has a sheave for the cord to pass over, and a ratchet cam to hold the same.

Claim.—The hook A, provided with jaws *b b*, in combination with cam lever *d*, spring *g*, and pulley C, all arranged substantially as set forth.

77,606.—JONATHAN P. GROSVENOR, Lowell, Mass.—*Sawing Machine.*—May 5, 1868.—The saw shaft is journaled in a frame sliding between inclined guides secured to the main frame. A connecting rod is hinged near its center to the rocking rest frame, to adjust the said rest in either a vertical or inclined position, by a screw passing through a slot in the connecting rod and into the tail. The swinging rest, when wanted to hold the stuff, is swung upward on to the top of the table and adjusted to the desired angle.

Claim.—1. The frame A, carrying the saw arbor S, sliding in the inclined guide frame B, shaft C, screw *x*, and bevel gear C C, all constructed and arranged to operate in the manner substantially as described.

2. The employment of the connecting rod *a*, combined with the rocking rest *b*, and the tail *g* thereof, constructed and operating in the manner and for the purposes substantially as described.

3. The reversible rest *h*, combined with the pivoted bar *k*, projection *n*, notch *e*, slide table D, spring *m*, or its equivalent, all constructed and operating substantially as described.

77,607.—JOHN A. HAHN and CHARLES VOGLER, DeGraff, Ohio.—*Shoemaker's Bench.*—May 5, 1868.—One end of the bench has a sewing clamp operated by a cam, and the other end has a pegging clamp whose toe and heel rests are drawn together by a screw. A strap lies over the hollow.

Claim.—1. The clamp C, when constructed with the vertically adjustable jaw *c*, the vertically and laterally movable jaw *c′*, the spring *s*, and the combination of the cam lever D, rod E, and treadle F, for the purpose of operating it, the whole being constructed, arranged, and operating in the manner described.

2. The combination and arrangement, on a shoemaker's bench, of the clamp C, constructed and operating as above described, and the apparatus, consisting of the plate I, blocks M and N, screw O, strap *r*, and treadle T, all constructed and operating in the manner and for the purposes set forth.

77,608.—JOSEPH HALE, Somerville, and WILLIAM HALL, Brookline, Mass.—*Rein Shackle.*—May 5, 1868.—The eye is swiveled to a socket, into which the arm of the buckle ring is placed and held by the spring catch, which also acts the part of a tongue for the buckle.

Claim.—As a new article of manufacture, a rein shackle, made substantially as described, as and for the purposes set forth.

77,609.—ALONZO J. HALL, Derry, N. H.—*Water Wheel.*—May 5, 1868.—The water is conducted through the four arms of the inner reacting wheel, and is discharged against the buckets of the outer wheel, the jets of water from each arm impinging against two buckets at once. Each of the discharging apertures is governed by a pendulum regulator, which determines the area of water opening by the speed of rotation.

Claim.—1. The apertures *e* and circular groove in flange O, in combination with the chambers C and hub of the outer wheel B, when arranged to operate in the manner and for the purpose specified.

2. The valve B, in combination with the weight W and gate T, substantially as and for the purpose specified.

77,610.—EDWIN A. HALL, Sugar Branch, Ind.—*Floor Clamp.*—May 5, 1868.—The joist is gripped between two inclined legs of the clamp and the boards forced up by the cam, operated by the reversible lever. The lever projects over the joists when putting on the first few boards, and is afterward reversed to be operated from the floor.

Claim.—The arrangement of dog A B B′ *a*, eccentric cam C, and reversible lever E *e e′*, substantially as set forth.

77,611.—WALTER HASLAM, New Britain, Conn.—*Seaming Machine.*—May 5, 1868.—The cloth holding plate is attached to the table of the machine by brackets and a thumb-screw, so as to admit of easy attachment and removal. The loops are placed upon the points of the plate before it is set in the machine, so that with a number of plates a machine may be kept running more constantly than when the plate is irremovable from the table.

Claim.—The combination, with the brackets *e* and stop *g*, of the slotted plate *d*, provided with its loop-holding points, and a thumb-screw, for the ready tightening and releasing of the plate, substantially as and for the purpose set forth.

77,612.—SAMUEL B. HOPKINS and EDWARD H. ANDERSON, Easton, assignors to themselves and J. M. SATTERFIELD, Baltimore, Md.—*Vapor Burner.*—May 5, 1868.—Improvement on their patent, April 3, 1860.—Four holes are used instead of two holes and slit of the former burner. A transverse, concave plate is used in addition to the concave plate used in the previous case.

Claim.—The burner above described, having the central cone A pierced with four holes *a a a′ a′* at the points specified, when used in combination with a plate B, bent up at the ends, and having ears *c c* projecting upward from its sides, substantially as and for the purpose described.

77,613.—BENJAMIN HORN, Sergeantsville, N. J.—*Mileage Register.*—May 5, 1868.—Intended especially for ascertaining distances traveled in hired carriages. The registering machinery strikes a bell and pricks a mark in a paper at the end of every mile traveled. A pin on the hub actuates the train of machinery.

Claim.—1. The spring crank or pin B^1, carried on the hub B, and adapted to act on the wheel D, so as to yield when necessary and avoid fracture, substantially as and for the purpose herein specified.

2. The ringing mechanism P Q, arranged to operate in combination with mechanism for receiving motion from the wheel of a carriage, and thus indicating to the ear each mile or other unit of distance traveled, substantially as and for the purpose herein specified.

3. In combination with mechanism, substantially as herein described, for receiving motion from the rotation of the wheel of a carriage, the striker R, operated by such mechanism at uniform distances traveled, and arranged to mark on a surface uniformly traversed across its path, substantially as and for the purpose herein specified.

4. In a mileage register, having provision for striking a bell, or marking on a moving surface, by a blow, as described, so forming and arranging the elastic parts P R, or either of them, that, while allowing for

a reasonable amount of backing without derangement, fraudulent turning of the carriage wheel backward will break or permanently set one or both of the striking parts, substantially as and for the purpose herein specified.

77,614.—William W. Horton, Providence, R. I.—*Lamp Burner.*—May 5, 1868.—The chimney holder can be removed from the burner with the chimney which rests upon the studs.

Claim.—1. The chimney supporter D, consisting of the ring, with its studs *g* and perforations or air-holes, arranged as specified.

2. The combination, as well as the arrangement, of the guard E, the perforated annuli C and F, and the flange *k*, with the body A and wick tube of the burner.

77,615.—Theodore P. Howell and Charles P. Oliver, Newark, N. J.—*Frame for Stretching Hides and Leather.*—May 5, 1868.—Improvement on their patent, August 6, 1867. One end of an arm is pivoted to one of the outside upright posts, and its other end is pivoted to an arm which is pivoted to the main sliding bar. The device forms a toggle to specially stretch the shoulder part of the hide.

Claim.—The arms A and B, constructed, combined, and operating substantially as and for the purposes specified.

77,616.—Horace S. Hoxie, Adrian, Mich.—*Plow Colter.*—May 5, 1868.—The colter is attached by a shackle to the beam and has brace plates by which the share and mold board are attached. Bolts secure the parts together.

Claim.—1. In combination with the colter A, the braces *a*, *b*, and D, mold board B, tenon *h*, all constructed in the manner set forth and described.

2. The combination of the mold board B and colter A, when both are made in one piece, or welded together in the manner set forth and described.

77,617.—Leavitt Hunt, Weathersfield, Vt.—*Sulky Plow.*—May 5, 1868.—The plow beam is pivoted to a draw bar which is hinged to the axle and is vertically adjusted by a bent lever which is connected to the draw bar and the frame, and set by a rack bar and stud. The clevis is connected by chains vertically to the draw bar and horizontally to the doubletree.

Claim.—1. The hinged beam D, and the plow beam E, provided with and connected by the oval axle *e*, and the chain *i*, or its equivalent, substantially as described and set forth.

2. The combination of the iron lever *l* with the bar *k* and the beam D, substantially as and for the purposes set forth.

3. Providing the beam E and the pole C with the slots S and *d*, to act in conjunction, thereby giving the plow some longitudinal play, when the beam E is connected to the whiffletree or bolt *t*, by the chain F, or its equivalent, substantially as described and for the purposes specified.

77,618.—A. G. Hunter, Flint, Wales.—*Manufacture of Zinc.*—May 5, 1868.—The zinc ore, after suitable preliminary treatment, and mixture with carbon, is placed in a reverberatory furnace and kept from contact with all oxygen except that passing through the grate bars. The heated gases are condensed, and the metal runs into suitable recesses.

Claim.—The process of extracting zinc from its ores by the direct application of heat to the said ores, without the use of crucibles or retorts to contain the said ores, the heated gases and flame being, previously to their contact with the zinc, carefully deprived of free oxygen, and the subsequent condensation of the zinc vapor to the metallic state, all substantially as herein described.

77,619.—W. H. Jackson, Brooklyn, N. Y., and George Merrill, Newburyport, Mass., assignors to Merrimack Loom Company, Boston, Mass.—*Loom.*—May 5, 1868.—The weft thread is carried by a needle through the shed and is interlocked by a shuttle thread, returning to its normal position before the shed changes. The needle is passed through the under part of the shed near the reeds so as to preserve it from contact with the warps. The needle then receives a swinging movement that passes its end around a standing shuttle or bobbin, the needle returning through the shed near the point of weaving so that the lay has to move the weft thread but a short distance.

Claim.—1. The mechanism, substantially such as described, for operating a weft-carrying needle, so that its point shall pass through the wider part of the shed, and return near the point of weaving, substantially as and for the purpose set forth.

2. A loom having a weft-carrying needle, arranged and operated substantially as described, so as to pass its eye through the shed obliquely, or near the beater, when the latter is thrown back, then around a stationary bobbin, located at the opposite edge of the shed, and thence back through the shed to the place of starting, substantially as set forth.

3. The combination of the shuttle holder *y*, the reciprocating fingers 21 and 22, bobbin *x*, and the weft-carrying needle, when said parts are constructed and arranged for joint operation with the mechanism of a loom, substantially as is herein described.

77,620.—Melvin Jincks, Dansville, N. Y.—*Lamp Burner.*—May 5, 1868.—The cone has a series of holes through which the spring catches pass from the base to secure the cone to the said base plate. The chimney is held by three radially adjustable catches.

Claim.—1. The sliding springs or holders *b b*, for the purpose of adjusting the same to different sizes of chimneys, substantially as described.

2. In combination with the above, the burner A, cone B, spring clips *e e e*, and flange or knob *h*, when all are constructed and arranged substantially in the manner and for the purpose set forth.

77,621.—David A. Jones, Springfield Mass.—*Combined Tweezers, Watch Key, &c.*—May 5, 1868; antedated April 22, 1868.—A socket of the tweezers receives the instrument which has a watch key at one end and an ear spoon at the other. The instrument is reversible in the socket.

Claim.—The combination of the tweezers A A′, ear spoon *f*, and watch key *g*, arranged and constructed substantially as and for the purpose shown.

77,622.—P. W. King, Lowville, N. Y.—*Animal Trap.*—May 5, 1868.—The top has a tilting platform which gravitates to a horizontal position and is secured by a spring catch beneath. The catch is sprung by a bait hook attached to a lever above the top.

Claim.—The combination of the members C, E, F, G, H, and J, for the purposes intended.

77,623.—Jacob Klein, Williamsburg, N. Y.—*Permutation Lock.*—May 5, 1868.—The bolt has an irregularly-shaped opening which surrounds the shaft of the turning knob, and is moved out and in by an arm upon the shaft by turning the knob 90°. The bolt has at top a recess into which the forward end of the tumbler enters when the bolt is thrown back. The bolt can only occupy the position to enter the recess when the arm of the tumbler enters the recesses of the combination wheels which are properly disposed.

Claim.—1. The oscillating hinged ward *e e*, as constructed, in combination with the catch or arm *d*, operating with the disk E F and bolt D, by means of the acute angle lugs *f f′*, on the shaft of the knob B, substantially as herein described.

2. The double-acting spring P P, the brake keys *q q*, operating reversely against the ring plate M, for holding it in position, when set to a given number, as set forth.

77,624.—August Koch, Baltimore, Md.—*Cooler and Refrigerator.*—May 5, 1868.—The ice is placed in a perforated, removable tray and the water drops upon the upper part of the lid of a refrigerating chamber, and is carried to the annular water chamber surrounding the same. The air from the refrigerating chamber is allowed horizontal exit between the upper and lower portions of the lid.

Claim.—The combination of a detachable seive or perforated ice pan, L, with the upper part of a ventilated water cooler, A, and with a ventilated refrigerating box or vessel, E, placed centrally therein beneath said pan, and surrounded by a water space F, all substantially as and for the purpose herein set forth.

77,625.—E. F. Lacy and D. K. Woodbury, Danville, Ill.—*Hame.*—May 5, 1868.—On the outside of the hame is a strap which forms a guide for the upper extension piece of the hame when it is slipped up or down to adapt it to the size of the collar. It is fastened at its adjustment by a set screw.

Claim.—The adjustable metallic plate C, provided with L-shaped ears *x x*, which project beyond and under the stationary plate B, and work in vertical grooves in the wooden hames A, all constructed, arranged, and operating as set forth.

77,626.—James Lamb, Aurora, Ind.—*Shaft Coupling.*—May 5, 1868.—The clip is in two parts which are drawn together by a bolt which also expands the conical bushing into the socket of the thill iron to prevent rattling.

Claim.—The movable taper *d* and movable socket *e*, secured between the arms C C, and used in combination with the straight bolt E, thill F, and clips B B, substantially as set forth.

77,627.—Peter F. Lawshe, Rochester, Minn.—*Self Sealing Burial Case.*—May 5, 1868.—A groove in the upper surface of the flange of the lower section contains a rubber packing, upon which the flat, under surface of the flange of the upper section is imposed.

Claim.—1. A self-sealing burial case, constructed and arranged to operate substantially as described.

2. A metallic burial case, constructed substantially as herein described, and provided with the rubber packing, as and for the purpose set forth.

77,628.—Llewellyn D. Lothrop, Dover, N. H.—*Fishing Tackle.*—May 5, 1868.—The swivel is slotted for attachment of the cord to which the hook is secured. The knot of the cord is passed through the enlarged part of the slot and the cord is drawn down into the narrow part.

Claim.—The swivel, as made with the eye *c* and the slot *d* arranged in it, substantially as and for the purpose hereinbefore specified.

77,629.—Almon D. Manley, Washington, Mich., assignor to himself and Lewis H. Cantine.—*Hoisting and Transferring Pulley.*—May 5, 1868.—The carriage traverses on the track rope so as to transfer the load, when lifted, to the place where it is to be dumped. A collar on the hoisting rope strikes a projection and locks the lifting pulley, when the carriage commences to traverse. After moving the required distance a bar on the carriage strikes a stop on the track rope and releases the hoisting rope so that the load may be lowered.

Claim.—The arrangement of the block B, drum K, pulley R, and lever L, in combination with the car D, and its pulleys, levers N and *j*, sliding bar *g*, pulley P, and cords E C F, adjustable collar H, and weight *w*, the various parts boing constructed and operating substantially as set forth.

77,630.—David A. Manuel, Napa City, Cal.—*Side Hill Plow.*—May 5, 1868.—The share and mold board are respectively triangular pieces, hinged to the vertical axes on the sole plate, and capable of swinging round so as to occupy their station on either side of the beam, to form a right or left hand plow. One swings in front of the standard, and the other in the rear of it, and the parts are locked in either position by a draw bolt.

Claim.—1. Dividing the plow, between the share and mold board F and J, and hinging the two parts to the land side and standards, so that by swinging them to the right or left, and joining the two said parts, they will form a perfect plow, substantially as described.

2. Construction of the land side A, wider in front than at the heel, so that the line of draught will incline towards the land. substantially as described.

77,631.—William C. Marquis, Burgettstown, Pa.—*Rat Trap.*—May 5, 1868.—At the top of the spout is a hinged platform, whose axis is prolonged and bent downward outside, where it has an adjustable weight. A rat reaching at the bait and stepping upon the platform is precipitated down the spout into the water chamber below.

Claim.—The tilting platform F, when hung on a bent rod *g*, in combination with the pendulous weight *h* and spout C, the several parts being constructed and used as and for the purpose specified.

77,632.—Daniel S. Marvin, Watertown, N.Y.—*Knife and Fork Scourer.*—May 5, 1868.—The knives are placed in pairs back to back and the clamp brought down upon the handles. The blades are then cleaned by a transverse reciprocation of a cork block with brick dust as a polishing material.

Claim.—The combination of the adjustable slat C with the bars A and B, rods and coil springs *b b*, as and for the purposes set forth.

77,633.—Walter K. Marvin, New York, N. Y.—*Safety Door Key Guard.*—May 5, 1868.—A swinging plate is hinged to the door, beneath the lock, and when elevated a sliding piece is made to protrude through the bow of the key handle to prevent the key from being turned by an outsider.

Claim.—The combination of the plate A with a slide or tongue, mounted in or upon said plate, and a spring to hold said tongue in position, substantially in the manner described, the whole constituting a key-fastening device, hinged to the door or other part where the key is located, so as to operate in connection with the said key, substantially as and for the purposes shown and specified.

77,634.—Nathan F. Mathewson, Barrington, R. I.—*Mowing Machine.*—May 5, 1868.—The spring pawl moves longitudinally and engages a ratchet upon the side of a wheel turned by a lever, and whose peripheral groove is occupied by a chain connected to the finger bar to raise the same. The fore end of the shoe is turned up and passes around a bar of the V-shaped strap attached to the platform, and serves to support the finger bar in its movements. The pitman is connected to the wrist pin by an open-ended strap, through whose key slots a wedge-formed key is passed, and the outer ends of the strap are held by a bolt, by which the strap may be tightened upon the key to take up lost motion.

Claim.—1. The spring pawl 3, when combined and arranged with the pedal 5, the spring strap 6, the wedge key 4, and ratchet wheel 1, substantially as described and for the purposes specified.

2. The curved elongation of the shoe *m*, in combination with the strap *o*, for the purposes specified.

3. The rods *z z*, when used in connection with the wheel *x*, the rods W, the chucks *u*, and the gears E, for the purposes specified.

4. The double wedge key P, when performing the double office of journal box and key.

77,635.—S. T. McDougall, Brooklyn, N. Y.—*Gas Heater.*—May 5, 1868.—The case has a vertical partition dividing it into a boiling recess upon one side and into a recess containing ovens upon the other. The roasting oven has a burner at its top, which is perforated on the lower side, and casts the heat downward onto the contents of the oven. The waste heat circulates in the flues around the upper oven, which may otherwise be heated singly by two small burners.

Claim.—1. The ironing apparatus, constructed and operating substantially as shown, in combination with the case or cabinet A.

2. The auxiliary chamber R, combined with the ovens Q and S, when the same shall be constructed and combined substantially as shown, for the purposes set forth.

3. The air supply pipe O, in combination with the downward burner I, constructed and operating substantially as and for the purposes specified.

77,636.—Dustin F. Mellen, Manchester, N. H.—*Apparatus for Distilling Pine Wood.*—May 5, 1868.—The wood is placed in perforated cylinders which are mounted on trucks and contain about half a cord. Two of these cylinders are run upon a track into a cylinder heated by furnaces upon each side and by surrounding flues. Beneath the cylinder is the cylindrical pitch basin to receive the resin, pitch, and tar, and beneath the basin is a furnace to heat the same. The basin is cooled when desired by the passage of water through a surrounding water jacket. The turpentine or pyroligneous acid escapes into a condenser, from which it is drawn into a mixing chamber, to be mingled with deodorizers or other chemicals. The turpentine or pyroligneous acid, as the case may be, is drawn from the mixing cylinder and distilled.

Claim.—1. In combination with the cylindrical retort A and the furnaces B, the segmental flues b and b^1, with the upper and lower main flues B^2 and B^3, constructed and arranged substantially as and for the purpose set forth.

2. In combination with a retort for the destructive distillation of resinous wood the pitch basin C, with water space under the same for conveying a current of cold water to modify the heat of the pitch basin, substantially as described.

3. In combination with the cylindrical retort A and wood-holding perforated cylinders A', or their equivalents, the pitch basins C, located within the main cylinder A, substantially as described.

4. In combination with the retort A a water pipe or pipes, so arranged as to convey a current of water into and through said retort, to prevent the pitch from being vaporized therein.

5. In combination with the retort A and pitch tank C', or their equivalents, a cock or gate, or the equivalent thereof, between the retort and the pitch tank, for the purpose of closing the connection between them while the wood is being charred, substantially as and for the purpose set forth.

6. In combination with the still and furnace the annular fire chamber j', the annular flue L', with connecting flues l, constructed and arranged substantially as and for the purpose set forth.

7. In combination with the annular fire chamber j' the fire flues or tubes L, passing from the furnace, through the still, to said annular fire chamber, substantially as described.

8. In combination with the rotating agitator the cog wheel g and pinion g', or equivalent gearing, inclosed in the cylinder F, substantially as and for the purpose described.

77,637.—FRANK MILLER, Indianola, Ill.—*Bolt Cutter.*—May 5, 1868.—The lips on the respective jaws are brought together as the movable handle is oscillated. On the axis of the latter is a cam, which moves within a loop on the stock of the movable jaw, to cause the lip on the latter to approach to or recede from the other lip.

Claim.—The tool herein described, when its several parts are constructed and arranged substantially as and for the purposes set forth.

77,638.—G. L. MILLER, De Witt, N. Y.—*Window Curtain Fixture.*—May 5, 1868.—At the ends of the rollers are swivel rings which run upon guide rods at each side of the window when the blind is lowered from above so as to admit light from the upper portion of the window.

Claim.—The guide rods g and swivels f, in combination with the vertically adjustable roller A, as and for the purpose set forth.

77,639.—WILLIAM R. MILLS, Hartford, Mich.—*Mop Wringer.*—May 5, 1868.—The sleeve is secured to the mop staff, and carries two bevel wheels turned by a hand crank, and causing the rotation of a shaft which has an eye at the lower end through which the end of the mop is passed.

Claim.—The combination of the sleeve B, the crank and shaft C, the bevel gear wheels D and E, the hangers G, the head J, when arranged with the mop handle A, the head I, and the web H, when constructed and operating substantially as and for the purpose herein described.

77,640.—JAMES F. MORSE, Montgomery, Ill.—*Extension Ladder.*—May 5, 1868.—The upper section slides within the lower one, and is operated by cords passing around pulleys and taken up on a windlass at the top of the upper section.

Claim.—In combination with the members A B of the ladder, the arrangement of the pulleys E, cords m m, shaft D, and gearing F G, whereby the operator can raise and lower the upper member of the ladder when standing upon the same, substantially as specified and shown.

77,641.—SAMUEL K. MORSE, Commerce, Mich.—*Hay Raker and Loader.*—May 5, 1868.—The machine is to be trailed behind a wagon, raking up the hay in its route, elevating it by the teeth on the endless band and discharging it into the wagon. The belt frame is pivoted to the frame of the carriage and its inclination is adjusted by segmental, slotted bars and set screws.

Claim.—The slotted semicircular plates H H, and curved standards f f, by means of which the belt frame is adjusted to any desired elevation, as described.

77,642.—PETER MOUGEY, Marshallville, Ohio.—*Railway Cattle Guard.*—May 5, 1868.—The gate is attached to a shaft which is rotated by the weight of cattle approaching on the platform so as to erect the gate. Its normal position is flat and offers no obstruction to the passing train.

Claim.—The peculiar arrangement and combination of the platforms D D D, rock shaft F, with arms H H and I, connecting rod J, arm K, and gate L N, the several parts being arranged substantially in the manner and for the purpose herein specified.

77,643.—WILLIAM A. MUNN, Milwaukee, Wis.—*Blank for Bodies of Sheet Metal Tea and Coffee Pots.*—May 5, 1868.—The ornamental blanks for the sides of tea pots, &c., are cut and stamped as an article for sale to manufacturers of those articles, as the breasts, lids, bottoms, and handles have previously been.

Claim.—As a new article of manufacture, tin blanks to form the bodies of tea and coffee pots and similar articles, when stamped or pressed with fancy and ornamental designs, substantially as herein described.

77,644.—D. B. NELSON and MORGAN DYER, Elmira, N. Y.—*Scraper.*—May 5, 1868.—The bowl-shaped scraper has a removable point and is secured by curved braces to the beam. The downward, rear projection of the beam is also attached to the bowl. A lever above the beam assists in upsetting.

Claim.—The combination of the bowl A, movable point B, beam C, braces c c, and lever E, all arranged and operated as and for the purpose specified.

77,645.—DANIEL M. NIXON, Danville, Ill.—*Hame.*—May 5, 1868.—Studs project from the inside of the staple and the face of the sliding plate, and hold the loop of the hame tug at such height as may be desired. The tug may be shifted by sliding the plate and readjusting the loop.

Claim.—Constructing hames with a staple, D, and sliding plate F, having opposite projections E E', said parts being arranged to adjustably attach the trace, substantially as described.

77,646.—EDWARD NORTON, Boston, Mass.—*Machine for Grinding File Blanks.*—May 5, 1868.—The grindstones are journaled to pendulous hangers, and the weight of the stones tends to carry them away from the frame supporting the blanks. The stones are drawn inward toward the said frame by chains passing over pulleys and connected to a hand lever. The blanks are clamped in the frame in a vertical position, and have vertical and lateral reciprocation to bring all parts under action of the stone, without furrowing the same. The motion of the hangers, and consequent form given to the blanks, is regulated by a pattern upon the frame.

Claim.—1. The employment of a pendulous or oscillating hanger or stand, in combination with the axis of a grinding stone, arranged parallel to its own axis of oscillation, or equivalent device, substantially as described.

2. The arrangement of the oscillating grindstone stand or hanger, with an inclination from its sup-

porting and oscillation axis toward the work to be ground, so that the weight of the stone and hanger may be employed to effect all movements of the stone in the opposite direction, substantially as shown.

3. In combination with the inclined arrangement of frame for moving the stone in one direction, the arrangement of a weight, *c*, or spring, to move it in the opposite direction, substantially as set forth.

4. The frame *i*, or its equivalent, operating substantially as and for the purposes set forth.

5. The employment of the adjustable connecting rod *l*, in combination with the crank *m* and the carriage *k*, and operating substantially as and for the purpose set forth.

77,647.—James M. Osgood, Somerville, Mass.—*Machine for Casting Eyelets.*—May 5, 1868.—In the periphery of a rotating cylinder are recesses fitted with sliding tubes that surround fixed, cylindrical pins, thus forming circular spaces for the reception of the molten metal which is forced from the recesses above. The sliding tubes are reciprocated by cross bars and cam grooves. The heads are finished by a second cylinder, studded with headers, which are brought into correspondence with the projecting ends of the partly formed eyelets.

Claim.—1. Making eyelets from cast metal, by the means substantially as described.

2. The fixed pins or rods *d*, in combination with the sliding tubes *f*, as and for the purpose set forth.

3. The combination of the fixed pins or rods *d*, the sliding tubes *f*, and the cylinder B, as described.

4. The combination of the cross bars *c*, the sliding tubes *f*, and the cam plates or disks C C′, as and for the purpose specified.

5. The cylinder G, provided with the projections *y*, as and for the purpose set forth.

6. The chamber *i*, formed in the plate H, in combination with the cylinder B, as described.

7. A cast metal eyelet, constructed by the means substantially as above described.

77,648.—John H. Park, White House, N. J.—*Bag Holder.*—May 5, 1868; antedated April 24, 1868.—The levers are attached to a block which is adjusted to the required height upon a notched post. The spreader levers are placed inside the hem of the bag and are distended by springs.

Claim.—The metallic levers D D, pivoted as described, and forming a hoop at the forward end, when provided with rack bar *e*, and used in connection with the block B, with its springs *a a*, all constructed and operating in the manner and for the purposes set forth.

77,649.—Charles and Edmund Parker, Meriden, Conn., assignors to Charles Parker, same place.—*Coffee Mill.*—May 5, 1868.—The runner is supported at its upper end by the side pieces which extend up into the hopper which rests below the lugs. The side pieces have an open space directly from the hopper into the runner. The vertical part of the runner has ribs or teeth, and upon the inside of the side pieces are teeth cut across their face which act as breakers previous to grinding.

Claim.—1. Attaching the stationary grinding bed *a* on to the top board *b* by means of lugs *e*, in combination with the rim *d*, or a part thereof, the lugs entering above and the rim below the top *b*, or *vice versa*, substantially as set forth.

2. Forming a cracker within the hopper, by extending the side pieces or supports *g* up into the hopper, and so as to form open spaces directly from and within the hopper to the runner, between the said supports *g*, and when the said supports are inclined to the runner as described, and the under and inside of the supports *g* provided with teeth, so as to operate in the manner specified.

77,650.—John E. Parker, Meriden, Conn.—*Reversible Knob Latch.*—May 5, 1868.—Pressure on a knob disengages the face plate of the lock and allows it to be swung out so that the knob may be turned for a right or left hand door.

Claim.—Hinging the face plate to the lock case, so as to be turned therefrom, substantially in the manner and for the purpose herein set forth and described.

77,651.—George F. Perkins and S. F. Gibbs. Holyoke, Mass.—*Door Fastener.*—May 5, 1868; antedated April 28, 1868.—The toothed bar is inserted between the door and the jamb, the tooth penetrating the latter. The cap is screwed against the door to keep it from opening. The case, when not thus used, may contain matches.

Claim.—A combined adjustable door fastener and match safe, consisting of the case B, cover A, and bar C, the whole constructed and operating substantially as described.

77,652.—Hiram Preston, Orfordville, Wis.—*Gauge for Weather-Boarding.*—May 5, 1868.—The slide is adjusted on the stock to determine the width of board exposed to the weather. The tongue is slipped beneath the last nailed board and the claw at the lower end is driven in. The slide affords a rest for the board to be nailed on. The scribe piece is adjusted so as to make a mark on the end of the board by which to saw.

Claim.—1. The plate B, and screw *i*, as also the spring *h*, in combination with the bar A, substantially as described, and for the purposes set forth.

2. The scribe D, with the slotted arm *m* and pin *p*, constructed to operate in connection with the bar A, substantially as and for the purposes specified.

77,653.—George W. Pruyne, Mexico, N. Y.—*Channeling Tool.*—May 5, 1868.—The knife and its wedge block slip into a slot in the stock and are held in position by the threaded end of the tool shank, whose other end is driven into the handle.

Claim.—1. The slide B, so constructed as to serve the double purpose of holding the knife and forming a shoulder or guide for the tool, in connection with the part A, substantially as described and set forth.

2. The handle C, forming a set screw, and acting in combination with the part A and slide B, substantially as described, and for the purposes specified.

77,654.—James Raney, Newcastle, Pa., assignor to himself, Leander, and Bostic Raney.—*Elevating Flour, Feed, Grain, &c.*—May 5, 1868.—The meal from the stones passes into a chamber below, entering near the eye of the fan shaft, and the fan elevates it by a spout to an upper chamber where the flour settles, and whence the surplus air passes by a chute to the eye of the millstone.

Claim.—The arrangement of the fan F, spout G, and chamber H, with the spouts I, K, and D, as and for the purposes herein set forth.

77,655.—John S. Rankin, Detroit, Mich.—*Fall Leaf Table.*—May 5, 1868.—The leaf is hinged to a piece which slides beneath the top and has an inclined brace which retreats as its end is lifted from a catch pin in the lowering of the leaf.

Claim.—1. The slides C, in connection with the screws D, the plates H, the slots G, and the hinges F, and the spiral springs N, when operating substantially as and for the purposes described.

2. The combination of the above-named parts with the arm I, hinge J, guide K, pin L, spring M, leaf A, top B, and side rail E, when arranged and operating substantially as and for the purposes herein set forth.

77,656.—Charles F. Ravn, Milwaukee, Wis.—*Wagon Skein.*—May 5, 1868.—The spindle of the axletree has a tapering bolt inserted axially into its end and secured by a transverse pin. The cast-metal skein is retained by a nut screwing on to the end of the bolt, and the wheel is secured by a linchpin passing through a cap, and diametrically through the spindle and bolt.

Claim.—Skein B, center-iron D, bolt E, linchpin F, nut G, and cap H, in combination, substantially as and for the purpose described.

77,657.—James H. Reisinger, Vinton, Ohio.—*Animal Trap.*—May 5, 1868.—The track way through the trap has a hinged door at each side and a gravitating platform in the middle. The rat stepping on the latter depresses it and the doors close. Escaping to the next chamber the platform rises, lowers the doors, and the trap is set.

Claim.—The trap A, having the pivoted platform

B, of shape described, doors C C, blocks D, rods *d′*, bait hook E, arranged as described, passage way G, gates I I′, and rod J, the whole being constructed and operated substantially as described.

77,658.—CHRISTIAN RICH, Marshallsville, Ohio. —*Farm Gate.*—May 5, 1868.—The gate has a segment gear on its hinging post and is moved by a rack bar which is controlled by levers up and down the road. A bar above the rack bar operates the latch by depressing its rear end.

Claim.—The peculiar arrangement and combination of the gate G I H, gate post B, gate latch K, wheel R, latch plate D, sliding bar E, rack and pinion M N, levers F F, and lever posts A A, the several parts being arranged and combined in the manner and for the purposes specified.

77,659.—HARRISON ROWE, Marietta, Pa.—*Fagot for Railroad Rails.*—May 5, 1868.—The top and bottom plates are wider than the intermediate filling which consists of two pairs of old rails, cut to length, laid on their sides, their threads in contact, with two B-plates between the pairs and one on top and bottom of the filling and next to the exterior plates.

Claim.—The manner of making and applying my wider top and bottom plates, A E, in combination with the intermediate filling B C D, when made into a pile or fagot for being rolled into rails for railroads, substantially in the manner specified.

77,660.—DAVID SARVER and ROBERT COONS, Greensburg, Pa.—*Corn Harvester.*—May 5, 1868.—The machine cuts one row at a time, the knife coming in contact with the stalks while the revolving reel and the guide bar direct them when cut to the cradle where they form a gavel transverse to the path of the machine. When sufficient has collected the driver oscillates the hand lever and the cradle tips out its load while a bar arrests the falling stalks during the momentary incapacity of the cradle to receive them.

Claim.—1. A cut-off, N, having an endwise movement parallel to the path of the machine, substantially as set forth.

2. The combination, substantially as set forth, with a tilting platform, of a cut-off, vibrating endwise at a right angle to the axis of the platform, and parallel to the path of the machine.

3. The combination, substantially as set forth, with a tilting platform and a cut-off, of a guide or deflector, supported at the grain end only.

4. The combination and arrangement, as set forth, with the reel, revolving on a vertical axis, of the tilting platform.

5. The combination, substantially as set forth, of a laterally projecting cutting apparatus, a reel, revolving on a vertical axis, a guide, a cut-off, and a tilting platform.

6. The combination, substantially as set forth, of the main frame and supplementary frame with the roller arm F and bracket F′, for the purposes set forth.

77,661.—JOHN SCHATZ, New Haven, Conn.—*Reed Organ Bellows.*—May 5, 1868.—The bellows act on the vacuum principle instead of the plenum. Collapsing chambers are used in connection with the operating bellows to increase the capacity and assure regularity and steadiness of draft.

Claim.—The arrangement of the two chambers I and K, or either of them, upon one side of a fixed partition, B, in combination with the chamber H and bellows F and G upon the other side of the said partition, and all of the said partitions connecting with the passage A, and constructed so as to operate together, in the manner and for the purpose herein set forth.

77,662.—STEPHEN SCOTTON, Richmond, Ind.—*Tree Box.*—May 5, 1868.—The metallic hoop which encircles the tree consists of bars whose notches or catches hold the boards. Bars protrude from two of the sides to hold the tree in a central position.

Claim.—1. A band or belt, constructed of the various sections A, B, and C, formed substantially as described, and for the purposes set forth.

2. The braces E, in combination with the band, substantially as and for the purposes specified.

77,663.—I. D. SEELEY, Hudson, Wis.—*Wash Boiler.*—May 5, 1868.—The side plates form chambers within each side of the boiler, and the boiling water from beneath the grated false bottom is turned aside by the inclined deflecting plates and is driven up the side chambers, discharging from the holes near the top of the plates.

Claim.—In a washing boiler, the combination of the plates B, forming vertical compartments, the transverse and diagonally placed plates B^2, forming a continuous flange in extension of said plates B, and the perforated plate C, placed above the flanges B^2, substantially as and for the purpose set forth.

77,664.—HENRY SHLAUDEMAN, Decatur, Ill.—*Beer Cooler.*—May 5, 1868.—The beer trickles over the corrugated sides of the pyramidal cooler and is received in the trough beneath. The cooler is filled with a constant supply of water, which it discharges into the water jacket of the pan, from whence it passes off.

Claim.—1. The pyramidal cooler C, when the same is formed of either plain or corrugated sides C′ C′, and the whole is so constructed and arranged as to leave an open chamber for the reception of water, substantially as described.

2. The independent base trough A, when the same is constructed and arranged substantially as described, and for the purpose specified.

3. The pyramidal cooler C, when the same is formed of either plain or corrugated sides C′ C′, and the whole is so constructed and arranged as to leave an open chamber for the reception of water, in combination with the base trough, when the whole is constructed and arranged substantially as described, and for the purpose specified.

77,665.—GEORGE SLATER, London, England, assignor to GEORGE WASHINGTON BELDING, same place.—*Sewing Machine.*—May 5, 1868.—One of the two vibrating shafts has an arm to operate the shuttle carrier and the other a cam to operate the feed bar. These shafts are operated by separate eccentrics on the driving shaft, and the one operating the shuttle is made tubular from end to end, the other shaft being passed through it.

Claim.—A simple rocking shaft, K, and an encircling, tubular rocking shaft, J, combined with each other, and respectively, at one end, with a cam, Y, operating the feed plate X, and lever N, operating the shuttle carrier O, and at the other, with the eccentrics G H, upon the driving shaft of a sewing machine, all substantially in the manner and for the purpose herein set forth.

77,666.—JONATHAN SMEAD, East Wallingford, assignor to himself and THOMAS STEWARD, Clarendon, Vt.—*Automatic Feeder for Evaporators.*—May 5, 1868.—The valves which admit the liquid to the pans are operated by buoyant vessels which float in the pans below, and their action is to maintain a uniform height of liquid in the pans. The casings around the floats are to prevent their being affected by the ebullition of the liquid. In the larger pan, besides its special duty, the float governs the admission of liquid to the reservoir whence the other pans are supplied, an arrangement being superadded by which excess or lack in the said pans is made to work an auxiliary device to correct the inequality.

Claim.—1. The perforated casings, arranged within the pans, in relation with the floats operating the sap or liquid-supplying mechanism, substantially as and for the purpose specified.

2. The arrangement of the chamber E, the case F, valve *c*, with its stem *d*, and bent lever D, in relation with each other, and with the stem *b* of the float C*, the pipe *f*, and the reservoir pipe G, substantially as and for the purpose set forth.

3. The valves *m*, arranged upon the stems *i* of the floats J, and in relation with the funnel-shaped mouth piece *g*, surrounding the orifices *c′* of the reservoir pipe G, substantially as and for the purpose specified.

4. The elastic diaphragm *e*, arranged in the end of the case F, and in relation with the valve stem *d*.

operated by the float C* and the pipe *f*, substantially as and for the purpose specified.

77,667.—AMOR SMITH, Cincinnati, Ohio.—*Fertilizer.*—May 5, 1868.—The dry cracklings after extraction of the grease are pulverized and mixed with phosphates as a manure.

Claim.—As a new article of manufacture, cracklings, reduced to a powder, for use in combination with phosphates as a fertilizer.

77,668.—WILLIAM C. SMITH, Warrensburg, Mo.—*Sugar Evaporator.*—May 5, 1868.—Improvement on his patent, June 11, 1867. The furnace is adapted for a battery of pans at varying heights and the dampers determine the course of the caloric current so as to direct upon such pans as may be necessary, or directly to the chimney. The air is admitted at side openings, and after being warmed by traversing sinuous courses, enters the fire box below the grate.

Claim.—1. The air-heating chambers B^1 B^2, when combined with the fire box B, in the manner and for the purpose herein set forth and described.

2. The dampers or slides D D^1 D^2, when arranged and operated as and for the purpose shown and described.

77,669.—DANIEL E. SOMES, Washington, D. C.—*Cooling Air and Liquids, and Making Ice.*—May 5, 1868.—Refrigerating is induced by the use of atomized fluid. Carbonic acid is drawn or forced into a partial vacuum and then compressed into a receiver to be used in a vacuum for cooling purposes. The heat rendered sensible by condensation is conducted away by cold water.

Claim.—1. Atomizing liquid over and over in a chamber or vessel, without removing it from said chamber or vessel, substantially as and for the purpose set forth.

2. Atomizing liquid in a vacuum, or partial vacuum, over and over again, without removing it from said vacuum or partial vacuum.

3. Generating and using gas, substantially in the manner and for the purpose set forth.

4. A small portable cooler, constructed and operated substantially as set forth, as an article of manufacture.

5. The atomizers and chamber, in combination with the pump or its equivalent, substantially as described.

6. The atomizers and chamber, in combination with pipes or channels, and means for conducting away heat, substantially as described.

7. The atomizers and chamber, the receiver, the pump, and means for cooling or freezing, substantially as described.

8. The atomizers and chamber, the gas generator, and pump or its equivalent.

9. The atomizers and chamber, the gas generator and receiver, the pipes, and means for cooling, substantially as described.

10. The atomizers and chamber, the pump or its equivalent, and the gases, air, or liquids, substantially as set forth.

11. Means for regulating the supply of gas, air, or liquids, in combination with the atomizers and chamber, substantially as set forth.

12. The chamber and apartments with non-conducting substances, and double or multiple walls, substantially as and for the purpose set forth.

77,670.—ODED SPENCER, Jacksonsburg, Ohio.—*Steam Generator.*—May 5, 1868.—The boilers are placed in parallel position in the furnace, and are connected by tubes above and below the water line. The furnace bottom is undulating, and the boiler and tubes are enveloped by the caloric current.

Claim.—The combination and arrangement of the boilers and tubes with the furnace E, whereby the entire surface of the boilers A and tubes B C is subjected to the action of the heat, substantially as and for the purpose specified.

77,671.—JACOB SPRINGER, Lancaster, Pa., assignor to himself, A. C. FLINN, and H. B. MCNEAL, same place.—*Apparatus for Rectifying Spirits.*—May 5, 1868.—The tub has three chambers and means for heating the "singlings" before charging the lower chambers, so as not to check the continuous process of evaporation incident to the use of a single-chambered vessel. The upper chamber receives the low wines, and they are heated by the steam in the middle chamber. The chambers are charged successively from the upper one, and provision is made for avoiding collapse and for carrying off vapor.

Claim.—The construction and arrangement of the doubling tub, with its three chambers D E F, copper or metallic heating dome H, or its equivalent, in combination with the pipes 5, 6, 11, and 12, arranged substantially in the manner and for the purpose specified.

77,672.—EDWARD STAHLBRODT, Rochester, N. Y.—*Lathe Rest.*—May 5, 1868.—The slot in the apron permits the carriage to be moved either way, to a distance bounded by the length of the slot, without opening the shear knot. This affords a means of readjustment of a cutting tool to its work of cutting screws after having been removed for grinding.

Claim.—The combination of slotted apron B, knot *g*, screw *d*, plate *f*, and tool carriage A, when constructed and arranged substantially as described.

77,673.—JOHN H. STARCK, Milwaukee, Wis.—*Glazing and Coloring Tobacco Pipes.*—May 5, 1868.—The pipes, after baking, are dipped in a solution made by mixing water, 3 pints; milk, 3 pints; and gelatine, 1 oz., dissolved in a quart of water. After drying, two coats of shellac dissolved in alcohol are applied, and the pipes supported over a heated plate until the proper color is produced, ranging from yellow to deep brown. If preferred, one coat of shellac and one of dye solution may be applied.

Claim.—1. The process of glazing tobacco pipes by the use of milk, gelatine, water, and shellac, substantially as described.

2. The process of glazing tobacco pipes by the use of the whites of eggs and gum shellac, substantially as described.

3. The process of coloring tobacco pipes by the use of the dye-wood solution, substantially as described.

77,674.—EDWARD STOCKTON and WILLIAM O. ST. JOHN, Folsom, Cal.—*Apparatus for Producing Motive Power.*—May 5, 1868.—Intended as a power for driving fan mills, pumps, churns, grindstones, &c., and operated by the power of springs and weights, which are wound up for the turning of the shafts.

Claim.—1. The combination and arrangement of the springs I I, weights P P, and gears J J, said gears being so connected with their respective shafts that they remain stationary while the shafts are turned to wind up the springs and weights.

2. The ratchet wheels L L, for connecting the gears with the shafts, in combination with the couplings E E, substantially as and for the purposes described.

77,675.—OLE O. STORLE, North Cape, assignor to himself and ISAAC N. MASON, Milwaukee, Wis.—*Harvester Rake.*—May 5, 1868.—The gavels are dropped at the side of the harvester. The rake is dropped at the commencement of its stroke, and is moved athwart the platform by an endless chain, delivering the gavel on to the tilter and pressing it against the arms of a shaft at the point of delivery. The depression of the tilter and elevation of the arms are effected by contact of a pin on the rake carriage with levers on the shafts of the dumping apparatus, and the gavel being dropped, the parts are restored to position, and the elevated rake is carried back to the initial point, ready for another stroke.

Claim.—1. Tilter I, levers M and N, rake frame F, and pin O, in combination, substantially as described.

2. Rake B, chain C, spur wheels D and D, and rake frame F, and lever G, in combination, substantially as and for the purpose described.

3. Rake B, tilter I, shaft K, rake frame F, lever G, levers M and N, and pin O, in combination, substantially as and for the purpose described.

77,676.—G. L. SWETT, Leominster, Mass.—*Shelf Rest.*—May 5, 1868.—The post has a series of notches, and the hub of the shelf, being loose upon the post, catches on the shoulders when deflected from a position concentric with the axis of the post.

Claim.—The standard or shelf rest B, when the same consists of a series of truncated cones, the larger base of each being upward, when the same is combined with and used for supporting adjustable shelves, substantially as described and for the purpose set forth.

77,677.—HUGH TAGART, Jacksontown, Ohio.—*Cattle Guard for Railroads.*—May 5, 1868.—The vertical bars which form the guard are attached to a horizontal shaft, beneath which is a weight, which causes the bars to maintain an upright position, except when depressed by the passing train.

Claim.—The combination of the case A, shaft H, and weight B with the shaft C, provided with a series of vertical rods D D, when constructed substantially as described and operated as and for the purpose specified.

77,678.—R. M. THOMPSON, Coshocton, Ohio.—*Lifting Jack.*—May 5, 1868.—The bar is raised by the hand to the required height, and the pin passed through it and the notch of the rack bar. Being placed below the axle, the lever is depressed, and the stirrup iron falls into position on the base piece and maintains the load. The stirrup is withdrawn by pulling on the rod to lower the load.

Claim.—1. The lever C and standard B, in combination with stirrup iron G, substantially as described.

2. The base A, standard B, lever C, guard piece D, rod E, box F, and stirrup iron G, the whole being combined and arranged substantially as described.

77,679.—S. H. TIFT, Morrisville, Vt.—*Potato Washer.*—May 5, 1868.—The roots are washed by agitation in an interior perforated vessel which stands upon legs in the tub.

Claim.—The arrangement of the vessel B, provided with perforations *x x* and legs *h h*, with the arms C C, agitator D, and outside vessel A, the several parts being constructed and operated substantially as and for the purpose specified.

77,680.—SAMUEL TOOMEY, Wilmot, Ohio.—*Constructing Carriage Wheels.*—May 5, 1868.—In the setting of the rim on the tire some room for shrinkage is allowed between the rim and the shoulders of some of the spokes.

Claim.—The method of constructing bent rim carriage wheels, with the ends of the rim abutting together, and with spaces between the rim and the shoulders of the spokes, before putting on the tire, and then closing the rim and spoke shoulders together by the shrinking on of the tire, substantially as and for the purpose herein specified.

77,681.—ROBERT W. TOWLE, Searsport, Me.—*Handle for Smoothing Irons.*—May 5, 1868.—The forward end of the handle has a tenon which enters a mortise in the forward standard, and the rear end is held in the slotted standard by a latch piece which engages a notch in the post, and from which it is removed by a trigger on the handle when it is designed to disconnect the latter.

Claim.—The combination of the handle *a*, spring *c*, lever *d*, connecting rod *e*, uprights *g* and *j*, with the iron *b*, constructed and operating substantially as described and for the purpose specified.

77,682.—G. W. TUCKER, Elba Township, Ill.—*Gate.*—May 5, 1868.—The weight of the gate is supported upon a socket joint forming a hinge, and upon a roller on which the gate traverses as it swings 90° in opening. The hooks on the gate post keep it from leaving its hinge.

Claim.—The ball E, socket D, hooks F, and roller G, in combination with the gate A, for the purpose substantially as herein set forth.

77,683.—STEPHEN USTICK, Philadelphia, Pa., assignor to himself and GEORGE L. MILLER, same place.—*Pea Sheller.*—May 5, 1868.—A handful of unshelled peas are thrown into the hopper, and the lower ones fall between the strips and slide down the incline, being presented endwise to the rollers which draw in the pod and shell out the peas.

Claim.—1. The combination and arrangement of the longitudinal strips *e* with the hopper E, substantially in the manner above described and for the purposes specified.

2. The combination of the roller B with the hopper E, when said roller has annular depressions *i* which coincide with the spaces *f*, substantially as and for the purpose set forth.

77,684.—HENRY VATTER, Lawrence, Mass.—*Return Flue Stove Pipe.*—May 5, 1868.—The pipe has a vertical, central partition, at the lower end of which is a damper. In one position of the latter the caloric current is forced to make the upward and return circuit before reaching the chimney, and in the other position the current has direct course to the chimney.

Claim.—1. A return flue stove pipe, constructed and arranged for operation as and for the purpose substantially as described.

2. The damper C, constructed as described, in combination with the partition A and the pipe, for the purpose and substantially as described.

77,685.—W. J. WALKER, Brooklyn, N. Y.—*Acid Powder as a Substitute for Yeast.*—May 5, 1868.—Commercial muriatic acid, 3 lbs., is mixed with water, 3 lbs., and the mixture thoroughly mingled with dry farinaceous substance and pulverized.

Claim.—1. Producing a powder, which is an admirable substitute for yeast, by combining with a dry farinaceous substance a certain quantity of hydrochloric (commercial muriatic) acid, when the same is prepared substantially as described and for the purpose specified.

2. Mixing with a powder, composed of a dry farinaceous substance and muriatic acid, a certain quantity of argal, cream of tartar, or other like acid powder, substantially as is described and for the purpose specified.

3. The mixing the powder with an alkaline carbonate, in such proportions, with flour or meal, as to make a self-raising flour or meal, for the purpose of bread, pastry, &c., substantially as described.

77,686.—BARTHOLOMEW and PETER WALTHER, New York, N. Y.—*Hitching Post.*—May 5, 1868.—The hitching chain is fast to a ball which rises and falls in the hollow iron post. Water entering at the slot above runs out at an opening below.

Claim.—A hollow hitching post, A, covered by a perforated metallic cap, and provided with inclined water-escape channels at the bottom of its cavity B, substantially as and for the purpose described.

77,687.—WALTER WARD, Mount Holly, N. J.—*Shaft Attachment to Wagons.*—May 5, 1868.—The pintle of the thill iron is held in two closed sockets, on sectional interlocking plates which slip up together laterally, and are held by screws or rivets.

Claim.—A carriage shaft, or thill connection or coupling, made of the pieces A, B, C, D, interlocked or breaking joint with each other, and firmly united, so that the shaft or thills cannot become detached, substantially as herein described and represented.

77,688.—ERASTUS D. WESTON, Taunton, Mass.—*Cooking Stove.*—May 5, 1868.—Passing in beneath the front overhang of the stove top the air courses beneath the top plate, dives behind the oven and passes thereinto. From thence it reaches the fire chamber, passes over the oven, dives down corner flues, along the sides at the bottom, reverts along the middle of the bottom and ascends the middle flue at the back.

Claim.—1. The arrangement of the air-heating flue G, the fireplace A, the smoke flue K, the oven E, and the air flue or flues M, provided with one or more openings, I, to lead air into the oven, as set forth.

2. The arrangement of one or more openings, J, with the flue G, the fireplace A, the oven E, one or more openings I, the flue or flues M, and the air flue G.

3. The arrangement of the air flue G, and its induction openings H, so as to extend over and in front of the front plate of the fireplace, as represented.

4. The arrangement of the air flues G M, the oven E, the fireplace A, the smoke flue K, and flues F, underneath and in rear of the oven, the oven being

provided with the air induction and eduction openings I J, as set forth.

77,689.—George H. White, Huntington, N. Y. —*Preventing and Curing Crib Biting in Horses.*—May 5, 1868.—A prominent part of the manger is so arranged that when the horse bites the same he is struck upon the jaw by a bar connected to levers which are actuated by depression of the said part of the manger.

Claim.—The device herein shown, attached to the manger or any place where the horse may be fastened, and to operate by the motion caused by the biting of the horse, substantially as and for the purpose herein shown.

77,690.—Peter White, St. Louis, Mo.—*Check Valve.*—May 5, 1868; antedated April 22, 1868.—The poppet valve has a long stem and has two faces so that it may be reversed and either side used. The parts are arranged to be detached for this purpose and the upper tube and lower socket form guides for the valve stem.

Claim.—1. The combination of the shaft K, thumb screw I, shaft N, valve A, valve seat B, socket P, and cylinder E, substantially as herein set forth.

2. The arrangement of the valve A and seat B, as herein set forth and described.

77,691.—William N. Whiteley, Springfield, Ohio.—*Harvester.*—May 5, 1868.—The drag bar is secured to the front end of the frame, passes beneath the latter, divides, bends outward, and reaches the shoe in two places. The coupling arm holds the shoe at the proper lateral distance from the machine. The lever is used to elevate the coupling apparatus. The brace is bolted to the coupling arm and passes through the head of the standard on the shoe. The object is to regulate the height of the shoe from the ground. The drop latch is pivoted to the shoe and its duty is to fall behind the heel of the cutter bar and keep it from running out of its seat when the bar is folded up for transportation.

Claim.—1. The shell main frame A, cast in single piece, with a recess fitted to receive the gearing, and another recess, L, to serve as a receptacle for tools, in connection with the cover or platform M, likewise cast in a single piece, so as to inclose the gearing and cover the tool box with the same piece, substantially as set forth.

2. The drag bar R, constructed and attached to the frame and shoe in the manner described, in connection with the brace Y and the standard Z and coupling arm U, as set forth.

3. The lever W, attached and operating as set forth.

4. The drop latch *i'*, constructed and located as described.

77,692.—E. R. Whitny, Plattsburg, N. Y.—*Dumping Sled.*—May 5, 1868.—The box is hinged to the rear bolster so as to tip and dump the contents when the bed is run back. This is done by removing a catch, when the draft of the team on the tongue draws upon a rope and runs the box to the rear.

Claim.—1. The sliding bars B, when used in combination with a cord, F, for the purpose of elevating the front part of a body, D, of a sled or wagon, and operated as and for the purpose specified.

2. Operating a dumping body, D, by means of the same team which draws the same, without detaching and reattaching said team, substantially as and for the purpose specified.

3. The arrangement of the posts C, pulleys *h* and *j*, with the cords F, when operated by means of sliding bars B, as and for the purpose herein set forth.

77,693.—George Wiggins, Ortonville, Mich., assignor to himself, Charles Herrington, and Hiram Maxfield, same place.—*Sheep Shearing Table.*—May 5, 1868.—The table top has a double incline, and has straps to fasten the sheep; one around the girth, either one of the three at one end of the table for the head, and the sliding bar, with transversely sliding blocks, for the hind legs. This bar is drawn taut by the cord and windlass, secured by ratchet and pawl.

Claim.—The sliding bar C, in conjunction with the slots D, grooves F, the sliding fastening blocks G' and G'', the strap I, shaft J, crank K, ratchet L, and pawl M, when arranged and operating substantially as and for the purposes specified.

77,694.—Julius Wilcke, Newark, N. J.—*Pump.*—May 5, 1868.—The cylinder of the double acting pump communicates at its ends with the ends of a valve cylinder in which is an intermittingly moving, tubular valve, reciprocated by the pressure of the fluid in the main cylinder, upon the middle diaphragm of the valve. The latter has on each side of the partition ports, which act in conjunction with openings in the side of the chamber in which it reciprocates, to induct or educt the fluid.

Claim.—1. The combination with the pump barrel A, having within it a reciprocating piston and valve cylinder or chamber C, connected with the pump barrel by end passages, *a a'*, of a loose or independent valve, F, constructed with an intermediate diaphragm, *e*, and separate suction and delivery ports controlling separate suction and delivery ports or passages in the valve chamber, as the valve is shot by the pressure of the fluid at the commencement of the return stroke of the piston, substantially as specified.

2. The intermittently reciprocating valve F, with its dividing diaphragm *e*, and side inlets and outlets, controlling suction and delivery ports in the valve cylinder by the pressure of the fluid in the discharge stroke of the piston, as specified, when said valve is of tubular or cylindrical form, and made with splits or divisions, H, to give to it an elastic character, essentially as shown and described.

77,695.—Simon Wing, Boston, assignor to himself and Eli F. Southward, East Boston, Mass.—*Hanging Signs or Banners.*—May 5, 1868.—The wind has passage through the suspended sign, which is therefore less agitated, rendering its inscriptions more legible and its material more lasting.

Claim.—Making the ground of signs or banners of an open work or net work of twine, thread, silk, cord, wire, or other material that will allow the free passage of air, substantially in the manner and for the purpose set forth.

77,696.—James F. Winchell, Springfield, Ohio, assignor to himself, L. A. Simons, and G. C. Steele. —*Corn Harvester.*—May 5, 1868.—The machine cuts one row at a time. Guides direct the stalks to the pair of rotary cutters, one of which is serrated. The stalks are fed and directed by the reel, and their butts are carried towards the rear and received upon the platform, the tops falling against a bar, which is removed by the driver when sufficient has accumulated. When released, the swinging arm retreats, its rear end being guided by a slot in a cam; and when the load has fallen, the counter-weight comes into play, returning by a peculiar motion which prevents interference with the cut stalks. During this return motion the rear of the swinging arm is governed by another slot in the cam, into which it is guided by a spring.

Claim.—1. The swinging lever or rest I, in combination with the cam K, or its equivalent, for imparting to it the movements, substantially as described.

2. The corrugated roller G, arranged in rear of the cutters, for delivering the stalks to the platform, substantially as set forth.

3. The combination of the roller G and the platform H, substantially as set forth.

4. Providing the groove *a'* in the cam K with the projection *e''*, for holding the lever I in position, until operated by driver, as set forth.

5. The combination of the lever I, connected by the arm *a* to rock shaft J, with the weighted arm *m*, or its equivalent, for automatically returning the lever to its position, substantially as set forth.

77,697.—Torwald Winter, Boston, Mass.—*Chair and Lounge.*—May 5, 1868.—The end of the lounge is formed by a chair seat, which is capable of revolution on an axis so as to present the back in any required direction.

Claim.—1. The combination and arrangement of the rotary chair seat and back and the lounge frame, substantially as shown and described.

2. Combining with a rotary chair seat rollers *k*, supporting the seat upon a bed piece *h*, and enabling the chair to be rotated upon said bed piece, substantially as described.

77,698.—Christian Wolf, Danville, Ill.—*Horse Collar.*—May 5, 1868.—The sides of the collar are provided with tug hooks and rein rings, and are secured by a yoke above and a fastening below. The latter consists of a ratchet and spring pawl.

Claim.—The arrangement of a wooden collar A, having the straps or plates B F and H, rein guide E, and hold back rings secured to it, as described, with the ratchet bar K, guide I, pawl *j*, and spring *h*, all the parts being constructed and used as and for the purpose specified.

77,699.—U. A. Woodbury, Morrisville, Vt.—*Vegetable Washer.*—May 5, 1868.—The rotary dasher revolves in the slotted cage which is slipped into a bucket or tub of water.

Claim.—The combination of the slotted bucket A E with the revolving frame *a b b d*, as described, which can be used in any water vessel of suitable size, for the purposes specified.

77,700.—C. F. Woodruff, Newbern, Tenn.—*Spur Wheel.*—May 5, 1868.—The rim is made in two sections perpendicular to the axis; each section has dovetail notches which correspond in the allied sections, so that the double dovetailed shank of the key will hold the two together. The key shanks also engage with the dovetail ends of the spokes. Pins hold the teeth in the wheels.

Claim.—1. The rim of a spur wheel, as constructed and cast in sectional segments A A′, united and bound together by the double dovetail shanks *a a* of the cogs B B, in the manner herein described.

2. The double dovetail shanks *a a* of the cogs B B, in combination with the sectional segments A A′, constructed, arranged, and operating substantially as and for the purpose described.

3. The combination of the arms C C, the shanks *a a*, the pins *b b*, and the sectional segment rim, constructed, arranged, and operating substantially as and for the purpose described.

77,701.—William Youngblood, New York, N. Y.—*Horse Collar.*—May 5, 1868.—The collar has two tubular portions divided by a partition which is immediately beneath the hames and preserves the filling from being destroyed.

Claim.—As a new article of manufacture, an India-rubber horse collar of tubular form, when said collar is divided longitudinally by the thick India-rubber partition *a*, forming an increased bearing surface for the hames, as herein shown and described.

77,702.—Heinrich A. Zopff, Milwaukee, Wis.—*Culinary Apparatus.*—May 5, 1868.—The steamer has a depression in the floor to catch and retain condensed steam and preserve the water below from contamination.

Claim.—The tight bottom on shell D, containing a recess F to catch the condensed steam and the raw, ill-tasting vegetable water, and prevent this liquid from falling into the water below, with cover G and strainer H, substantially as and for the purpose described.

77,703.—Augustus B. Felgemaker and Silas L. Derrick, Buffalo, N. Y.—*Portable Pipe Organ.*—May 5, 1868.—The front row of vertical pipes connect with the upper section of the wind chest, and the rear row of vertical pipes with the lower section. The valve openings for the bass notes connect with openings at one end of the valve chest by passages to the divisions alternately.

Claim.—A compound wind chest D, having two or more divisions e^1 e^2, each division having distinct air passages to supply a distinct set, row, or rows of pipes, for the purpose and substantially as described.

77,704.—Herman Mengel, Philadelphia, Pa.—*Instrument for Measuring and Laying out Garments.*—May 5, 1868.—The vertical and lateral scales are graduated for obtaining the sizes and proportions of the figure, being adjusted to agree with the measures as taken in the usual manner. At the upper end are scales adapted to the width of the back and the height of the shoulder.

Claim.—In combination with an instrument having laterally and vertically adjustable scales B B′ C D E the scales *n*, vertically adjustable in the instrument, for laying out, on cloth or other fabric, measures for upper garments, operating substantially as described.

77,705.—Antonio Pelletier, Washington, D. C.—*Cement for Roofing, Artificial Stone, Coating Iron, Wood, &c.*—May 5, 1868.—The oxide of calcium, magnesium, or aluminium is mixed with the chloride of the same; or the oxichloride of zinc or other metals may be used. The cement is composed of moist woody fiber or hair, 8; sand, asbestos, or mica, 4; and oxide of zinc, 4 parts; these are powdered and mixed with chloride of zinc in solution, 30° to 35° Baumé, to render it plastic. Other proportions and equivalents may be used.

Claim.—1. The chlorides of the alkaline earths, true earths, and heavy metals, in combination with the corresponding oxides of these, for the purpose of producing insoluble oxichloride compounds, substantially as described and set forth.

2. In combination with the oxides and chlorides, organic substances, such as vegetable and animal fiber, glue, hair, shoddy, substantially as described and set forth.

3. In combination with oxichlorides and organic substances, finely divided granulated fibrous or pulverized mineral ingredients of any kind, substantially as set forth.

4. The above-mentioned composition, with or without the incorporation or external coating with silicate of soda, either by itself or ground together with mineral colors, substantially as described and set forth.

5. In combination with the cement composition, for preventing its too rapid solidification, solutions of starch, gum, dextrine, sugar, gelatine, borax, or sulphate of ammonia, substantially as described and set forth.

77,706.—Henry Arden, Cincinnati, Ohio.—*Car Elevator.*—May 5, 1868.—The car is passed beneath the frame and the hooks of the vertically moving frames engaged beneath the sill. The chains attached to the frames are then drawn up by turning their pulley shafts by means of the arms upon them which are linked to a vertically raising bar. The latter may be actuated by a screw or other means.

Claim.—1. The combination of the frame A, shafts C, and arms G with the links *e* and rod *f*, substantially as and for the purpose set forth.

2. The shafts C and pulleys D, in combination with the ropes or chains E and beams F, or their equivalents, all as shown and described.

3. The combination of the beams F and lifting hooks *b*, or their equivalents, all as shown and described.

4. The combination of the arms G, shafts C, and pulleys D, all as shown and described, and for the purpose specified.

5. The combination of the shafts C, pulleys D, and ropes or chains E, all as shown and described, and for the purpose specified.

77,707.—D. S. Baker, West Bloomfield, N. Y.—*Stove Grate.*—May 12, 1868.—The rotating grate rests upon a fixed one beneath. The fingers facilitate the shaking down of the ashes, and may be attached to the upper grate or to a ring which is suspended over the edge of the fire-pot.

Claim.—1. A rotating grate, *h*, having upright fingers, *m*, in combination with the lower grate *i*, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

2. The combination of the fingered ring C, with the fire-box A, fingered rotating grate *h*, and the under supporting grate *i*, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

3. The combination of a cylinder or fire-box, or its

equivalent, with a fingered ring or bar C, as shown and described, and for the purpose set forth.

4. The combination of rotating grate *o* with a fingered ring, *n*, constructed and operated in the manner as shown and described, and for the purpose set forth.

5. In combination with said parts, as just described, the fingered ring C, or its equivalent.

77,708.—Moses and William P. Bales, London, Ohio.—*Corn Harvester.*—May 12, 1868.—The horse walks between two rows and the wheels run outside of said rows which are leaned outward by the spreader plates, then pass to the rear of it and in contact with a curved rod which assists in holding them while they are cut. They then fall forward with the tassel toward the team, and are guided by the tops of the spreaders to a dumping platform in the middle of the machine. The oblique cutters are placed in frames which give a "draw" motion to the blades.

Claim.—1. The arrangement of gatherers E E′, spreaders F F′, curved bar I, and central platform O O′, for the purpose set forth.

2. The oblique sickles J J′, lips *j j′*, oblique tongue N, and pivoted frames K K′, combined and operating in the manner explained.

3. The pivoted platform O O′, in the described combination with the discharging lever P, arranged and operating as set forth.

4. The curved guide or rod R, in the described combination, with the gatherers E E′, spreaders F F′, curved bar I, and platform O O′, for the purpose specified.

77,709.—Joseph Beck, New York, N. Y.—*Automatic Fan.*—May 12, 1868; antedated April 25, 1868.—Wings upon the fan direct the current of air. The fan is operated by clockwork whose rotary motion is converted to oscillatory by connection of the crank to a lever which has a segmental cog-gear which acts upon a similar gear upon a lever to which the form is attached.

Claim.—1. The employment of the fan C, constructed with the protectors *b b* and *c c*, operated and for the purpose substantially as herein described.

2. The arrangement and combination of the clockwork G, the balance V with the crank W, the rod X, the arm Y, the axle 7, the gear Z Z, and the fan-shaft C, operated and for the purpose substantially as herein shown.

77,710.—Benjamin D. Beecher, Plantsville, Conn., assignor to Luther Beecher.—*Machine for Threading Bolts.*—May 12, 1868.—The blank is heated and inserted in the guide tube and passes between the screw-threaded pressure dies, first entering a circular opening between the dies, and having the scale rolled off between the embossed surfaces of the dies. The thread is formed by pressure of the dies which rotate in the same direction.

Claim.—1. Arranging the cutting threads on the surface of the dies, as herein described; that is to say, so that a portion of each of said die surfaces shall be left plain, for the purpose of gradually rounding the blank, as the operation of threading it progresses, and that the initial or commencing portions of the several cutting threads shall follow one another in succession, all substantially as set forth.

2. In combination with the threaded part of the die, the embossed surface *k k′*, substantially as and for the purpose set forth.

77,711.—N. A. Boynton, New York, assignor to himself and Daniel E. Paris, Troy, N. Y.—*Fender Ring for Heating Stoves.*—May 12, 1868.—An annular fender is placed around the base of the fire-pot.

Claim.—A fender ring, situated at or near the bottom of a fire-pot, with its outer edges turning upward, so that the ring and the pot shall form together an acute angle, with its point toward the base of the pot, substantially as and for the purposes described.

77,712.—Joseph Brakeley, Bordentown, N. J.—*Drier.*—May 12, 1868.—A condensing apparatus is combined with the wood-drying kiln to form a partial vacuum therein.

Claim.—Combining, with a dry-kiln, both a condenser and an exhaust pump, substantially as and for the purpose set forth.

77,713.—Darius C. Brown, Lowell, and John Ashworth, North Andover, assignors to D. C. Brown, Lowell, Mass.—*Machine for Making Wire Heddles for Loom Harnesses.*—May 12, 1868.—The wire is straightened during its passage into the machine; seized near its end and drawn into position to be presented to the doubling mechanism, which seizes it by the middle after it is cut from the coil, and draws it into the mechanism for twisting it; the legs are separated to allow the entrance of the device which aids in the formation of the eye of the heddle; another mechanism passes between the legs and aids the formation of the loop near the end of the wire, the other loop being formed by the mechanism which seizes the eye at the middle. Mechanisms put the two longer and the two shorter twists in the doubled wire. The loops are turned into positions with their planes at right angles to the eye. The surplus wire is cut off and discharged, and the heddle delivered from the machine.

Claim.—1. The combination or machinery for spreading the heddle-eye lengthwise, as described, and also the combination of machinery for spreading the heddle-eye lengthwise, as specified, with mechanism for forming such eye from wire, in manner substantially as explained, such mechanism for spreading the eye consisting of the fingers q^3 q^3, and mechanism for operating them, as set forth.

2. The presser R, as constructed, and provided with mechanism for operating it, substantially as described.

3. The combination of such presser R (provided with mechanism for operating it, as described) with the eye-former P, made substantially as described, so as to form and spread the eye of the heddle as specified, and with the next adjacent twisters, T U, to form the twists of the eye, as explained.

4. The mechanism or combination for straightening the wire during its passage into the machine, the same consisting of the curved arm I, and its pins *m n*, and the slider K, and its pins *o o*, the whole being arranged and applied together and to the frame of the machine, substantially in manner and so as to operate as specified.

5. The arrangement of the latch lever k^1 and the cam m^1 with the wheel L, its notch l^1, and the shaft N, such latch-lever k^1 being for estopping the wheel L, as set forth.

6. The combination as well as the arrangement of the nipping and cutting levers *w x*, and their operative mechanism, with the wheel L, such operative mechanism being the plate O, and its cams z a^1, and the springs b^1 c^1, the stud d^1, the latch e^1, notches f^1 g^1, the lever n^1, stud o^1, arm p^1, and stud q^1.

7. The combination for operating the dog S, or moving it lengthwise on the pinion q^2, such consisting of the cam plate x^3, and the studs y^3 z^3 of the gear a^3, and in combination with the cam plate x^3 and its dog S, the spring bolt a^4 and the notches b^4 c^4, arranged as explained.

8. The combination of the pinion p^5, the curved rack q^5, the lever r^5, the cam s^5, and the spring t^5, or their equivalents, with the retractor t^1, combined with mechanism for twisting wire, and having mechanism for operating such retractor in other respects, substantially as set forth.

9. The combination of the auxilliary twister V (provided with mechanism for operating it as described) with the two twisters T U, to operate together and with the retractor, and provided with mechanism for operating them, as specified.

10. The twister T, as composed of the head d^4, the jaws or slides l^4 l^4, the flanged wheel f^4, the cammed lever or slider K^4, the studs m^4 m^4, and slots n^4 n^4, the whole being arranged substantially as described.

11. The combination of the screws p^4 p^4 with the twister T, made substantially as described, the purpose of such screws being to adapt the twister to operate on wire of different sizes.

12. The application or arrangement of the slide jaw i^5, the lever m^5, and its spring n^5, with the lever

d^5, applied to the bar c^5, as and for the purpose specified.

13. The combination and arrangement of the spring f^3, or its equivalent, with the mechanism for making the heddle, such spring, when the heddle may be resting on the inner stationary jaw of the bar c^5, being used to press the heddle down a little, as and for the purpose hereinbefore mentioned.

14. The combination of the discharger u^5 (provided with mechanism for operating it as described) with mechanism for making the heddle, as specified.

15. The conductor W, made substantially as described.

16. The combination for actuating the tongue v^1 of the retractor t^1, in order to enable a heddle to be removed from the retractor, and the tongue to close upon the next succeeding piece of wire introduced into the retractor, such combination consisting of the slider w^1, the spring x^1, the lever m^2, and the cam o^2; also their combination with the retractor and its tongue.

77,714.—CALEB CADWELL, Waukegan, Ill.—*Harvester.*—May 12, 1868.—A double lever is attached to the tongue and arranged with one or more notches, fitted to rest on the main shaft, to regulate the position of the cutter bar when in use or moving from place to place. A cam wheel is arranged to work in an oscillating frame which works in combination with a lever to give motion to the cutter bar. The motive lever is connected to the pitman with a double joint, to avoid cramping the motion of the pitman. The cutter bar is adjustable in inclination by levers, chains, and a catch.

Claim.—1. The double joint T, in combination with the motion lever R and pitman V, arranged to operate substantially as specified.

2. The combination of the oscillating frame Q Q, cam wheel W, strap *i*, motion lever R, double joint T, and pitman V, all arranged as and for the purpose herein specified.

3. The lever *a*, attached to the tongue J, in combination with catch *c*, chain 23, and rod 22, arranged to raise the front of the harvester, as described.

4. The arrangement of the rods C D, brace G, lever E, catch F, and shoe B′, for raising the cutter bar U, substantially as described.

77,715.—C. CHABOT, Philadelphia, Pa.—*Sewing Machine.*—May 12, 1868.—The looper sleeve has a spiral slot traversed by a pin projecting from the needle bar, so as to cause the oscillatory movement of the said sleeve when it is prevented from vertical movement by the latch. The latter is pivoted to the lower bracket; it enters a circumferential groove in the sleeve, and is held in either position by an angular headed spring bolt, which engages an angular projection upon the latch. The throat piece has two catches, one of which takes beneath the table plate, and the other passes into an aperture in the spring push piece. The latter serves to hold the throat piece down when governed by the spring, and to raise one end of it when thrust forward. The bobbin is placed upon its arbor pin, and is held thereon by the "embossed" spring, whose tension is regulated by its pivot screw, and which may be swung around to allow the introduction or removal of the bobbin.

Claim.—1. In combination with a removable and replaceable throat plate, a push piece that fastens, unfastens, raises, and holds up said plate, substantially as and for the purpose described.

2. In combination with the shuttle and its bobbin the spring *i*, when pivoted to swing laterally, and embossed at both of its ends, for holding and allowing the bobbin to be removed by the side movement of the spring, as also for regulating the tension of the bobbin thread by means of the set screw *r*, substantially as described.

3. In combination with the latch D the concealed spring bolt *t*, for holding said latch in either position—that is, open or shut—substantially as described.

77,716.—HENRY CHAMBERLAIN, Dayton, Wis.—*Store Window.*—May 12, 1868.—The window may be rotated to bring the outer side to the inside, for attachment and removal of the shutters, or for other purposes.

Claim.—The combination of the spring bar A, the perpendicular bars *a b c* and *d*, the plate C and D of a store window, when constructed and operated substantially as described and for the purpose set forth.

77,717.—EDWIN CHESTERMAN, Boston, Mass., assignor to himself and EDWIN A. EATON.—*Boot and Shoe.*—May 12, 1868.—Improvement on his patent, January 23, 1866.—Instead of interposing a separate stratum of material between the upper and lining, a single lining fabric is used, having a rough or woolly side, which is placed next to the upper, and a smooth side next to the foot.

Claim.—A boot or shoe, whether made of leather or other material, having a lining fabric, one of whose sides consists of a loose, shaggy, or woolly material, when such shaggy side is placed toward the upper or outside of the boot or shoe, for the purpose of securing warmth and ventilation, as specified.

77,718.—PAXSON COATS, Cincinnati, Ohio.—*Condenser for Spirit Stills.*—May 12, 1868.—At the lower end of the worm is a chamber, from which the liquid passes downward, while the uncondensed vapor passes upward through a vertical axial pipe.

Claim.—The worm B, having its lower end *b* terminating in the reservoir C, from which extend the pipes E and D, the one up and the other down, in combination with the vat A, when the same are constructed and arranged in the manner substantially as and for the purpose specified.

77,719.—MARCELLUS V. CUMMING, Winthrop, Me.—*Mowing Machine.*—May 12, 1868.—The engine is mounted upon a wheel carriage and operates both the wheels of the same and the cutting mechanism. The wheels of an additional truck are turned by chain gear, to cause additional friction upon the ground.

Claim.—1. The combination of a cutting apparatus, M, a wheeled carriage, and a steam engine applied to both, so as to put them in operation under circumstances and substantially in manner and for the purposes as hereinbefore explained.

2. The combination of an auxiliary wheel carriage, O, and mechanism as described, (viz., the chain R and wheels S S′,) or its equivalent, for revolving its axle with the mowing machine, its wheel carriage, and a steam engine applied to both, so as to put them in operation, substantially as and for the purposes set forth.

77,720.—J. D. F. DAHL, Milwaukee, Wis.—*Bed Bottom.*—May 12, 1868.—The bed bottom has two frames, and the upper one has guide pins passing through the lower one. Cords from the bottom of each guide pin pass over a sheave, cross the ends transversely between the frames, and, passing under another sheave, are connected to the corner of the upper frame, so that the bed is always transversely level.

Claim.—The combination of the frame B, provided with the guide rods C and the frame A, with the springs D, cords G, and pulleys F, all constructed and arranged to operate as set forth.

77,721.—MARTIN A. DILLEY, Mendon, Mich.—*Hay Raker and Loader.*—May 12, 1868.—The derrick frame is attached to and runs on wheels alongside the wagon, the rake teeth collecting the hay as it advances. The driver, by means of a treadle, brings the clutch in gear with a winding drum and elevates the fork in the ways, when the shaft turns and causes the rake to dump its load into the wagon and return to its lower position, ready for duty.

Claim.—1. The hinged box *s s* and universal joint *j*, in combination with the frame F, guide bar K, and winding drum H, the several parts being constructed and arranged substantially as and for the purpose herein specified.

2. The arrangement of the lever *l*, rod *a*, elbow lever *t*, and rod *h* with the arm *m* and lever M, for the purpose of automatically detaching the clutch *j*, as herein fully described, and for the purpose specified.

3. The shaft R, provided with the arms L *m m* and *n*, in combination with the cords *b c* and *d*, and winding drum H, the several parts being constructed

and arranged for the purpose of elevating the hay fork described, substantially as herein set forth.

77,722.—FRANCIS ELLERSHAUSEN, Montreal, Canada.—*Furnace and Process for the Manufacture of Iron and Steel.*—May 12, 1868.—The two furnaces are separated by a bridge. One furnace has a central crucible, and heats the contents through the side of the same, and the other furnace gives a reverberatory heat to the top of the crucible. The crucible is filled through a hole in the arch above it, and is emptied through a tap-hole at its bottom. The crucible is chiefly intended for the conversion of cast-iron into steel by the admixture of wrought or malleable iron scraps. The contents may be puddled through a working hole in the top.

Claim.—1. The furnace, in its novel combination of two fire chambers *b* and *l*, separated by fire bridge *m*, as shown in the two modifications, one chamber being a crucible fire chamber, and the other a reverberatory fire chamber, both in connection with the crucible *i*, all working together, substantially in the manner and for the purpose described.

2. The process of smelting and refining metals in large quantities and in short time, by the employment of a large crucible with discharge hole.

3. The puddling of cast iron in a crucible placed in my furnace, and surrounded by fire, the product being cast-steel, substantially in the manner described.

77,723.—JOSEPH S. ELLIOTT, Philadelphia, Pa., assignor to himself and A. B. COOLEY, same place.—*Hasp Lock.*—May 12, 1868.—The hasp falls into place over the usual staple on the lower part of the trunk, for instance, and the staple is engaged by the hook, whose notched inner end is then locked by a spring bolt. The bolt may be withdrawn by pressure on a projecting pin, after the tumblers are properly adjusted by a push key introduced at an opening above.

Claim.—The bolt D, operated by a spring *f* and projecting pin *i'*, as described, and the tumblers F and G, secured within, and arranged to operate in connection with the said bolt and with each other, in the manner and for the purpose herein set forth.

77,724.—ALOIS ESCHENLOHR, Munich, Bavaria.—*Seamless Leather Strap and Tube.*—May 12, 1868.—The skin of the animal may be removed in a long spiral strap either passing around the body transversely or longitudinally, or the hide may be split along the belly and the back, and axially around the nose, the two sides connecting at the rump, and forming a hide of double the usual length; or the hide may be removed in a cylindrical form and subsequently cut into a spiral strap.

Claim.—1. The method of skinning the animal and cutting out the skin, as herein described, and illustrated in Fig. 1, sheet 1, of the accompanying drawings.

2. The method of skinning and cutting out the skin of the animal, so as to form endless belts or straps of great length, in the manner herein described, and illustrated in Fig. 2, sheet 1, and Figs. 1 and 3, sheet 2, of the accompanying drawings.

77,725.—JOHN LYON FIELD, Kensington, Great Britain.—*Candle.*—May 12, 1868.—The lower end of the candle has a side projection, which is so formed as to project into the space left between the candles in packing. It is intended to enable the use of the candles in sockets of various sizes.

Claim.—A candle, having one or more ribs or projections near its lower end, substantially as and for the purpose described.

77,726.—JOHN FINN, Decorah, Iowa.—*Pan Former.*—May 12, 1868; antedated April 24, 1868.—The edges of the blank are, one after another, placed in the narrow slot, and the longitudinal and transverse corners are formed by raising the hinged blocks. Recesses in the blocks allow space for the vertical corners.

Claim.—1. The recesses E and blocks F, as herein specified.

2. Extension block D and bolt and slot J, substantially as described.

3. Lever or cam G, for the purpose set forth.

77,727.—JOSEPH FIRMENICH, Buffalo, N. Y.—*Manufacture of Vinegar.*—May 12, 1868.—The ground grain is macerated in water for 24 hours, and at a temperature of 150° to 160° F., and then passed through smooth mill-stones, (termed a squeezer.) The first grinding may be dispensed with. From the squeezer the material is passed through a sieve having wire gauze at top and silk cloth at bottom, and from this to a sieve composed of fine silk cloth. From the last sieve the material is conveyed to the filter, which consists of a number of slightly inclined troughs or gutters, upon the bottoms of which the starch is deposited. The starch is scooped up and introduced into a tub, where it is mixed with water to the consistence of cream. To this 2 per cent. of sulphuric acid is added, and the mass allowed to stand 12 hours, and then gradually added to an equal amount of boiling water having a like proportion of sulphuric acid. The whole is kept at a boiling temperature until converted into glucose sirup, which is ascertained by the mass becoming clear or by the iodine test. After standing and cooling, chalk is added at the rate of 6 per cent. to the starch, to neutralize the acid, and the mass is gradually drawn off. The mass is then fermented by yeast and converted into vinegar in the "acetic" generator.

Claim.—1. The process of making vinegar from grain and other starch-producing substances, as a whole, substantially as herein specified.

2. As part of the process of making vinegar, the injection of steam into the digesting mass of meal or grain, as in the vats G and I, substantially as herein set forth.

3. As part of the process of making vinegar, the soaking and digesting of grain without grinding, as in the vat I, substantially as herein described.

4. As part of the process of making vinegar, the subjection of the soaked meal or grain to the smooth squeezing mill J, substantially as herein specified.

5. As part of the process of making vinegar, the method of applying the sulphuric acid, first with cold water and then with boiling water, and the injection of steam into the latter while adding the starch, and until it is converted into glucose, substantially as herein specified.

6. As a part of the process, the method of conducting the vinous fermentation by successive additions of yeast, first weak and then strong, substantially as herein described.

7. The arrangement of the sieves K and L, substantially as and for the purpose herein set forth.

8. The gauge valve *m n*, for drawing off the clarified sirupy liquid, substantially as herein described.

9. The construction of the acetic generator, substantially as herein set forth.

77,728.—HENRY A. HALL, Boston, Mass.—*Ankle or Knee Guard.*—May 12, 1868.—The "feelers" are intended to prevent interference, or cutting of one leg with the other hoof. They are usually cast solid with the band, but in this improvement are made separate for subsequent attachment.

Claim.—As a new article of manufacture, an ankle or knee guard, in which the band or belt is provided with a series of independent and separate feelers of vulcanized rubber, constructed or formed in the manner herein shown and specified, so that each feeler shall be uniformly flexile in various directions.

77,729.—WILLIAM HALL, Dubuque, Iowa.—*Lightning Rod.*—May 12, 1868.—A coiled metallic strip forms the lightning conductor.

Claim.—A continuous convoluted cylinder, constructed of sheet metal, wherein the sheet of which it is composed shall extend more than once around the axis in forming the cylinder, whether the same shall be constructed over an iron wire or not, when the same is made substantially as and for the purposes herein set forth.

77,730.—ALEXANDER HAMAR, New York, N. Y.—*Iron Furnace.*—May 12, 1868.—As the caloric current leaves the furnace it is conducted into a mixing chamber under the oven, and mixed with steam or hydrogen, which escapes through rose jets. The gases then pass into a combustion chamber, and pass upward between the rectangular bed pipes of the hot-air pipes, coming in contact with the deflectors by which the current is spread among the said pipes. From the air pipes the caloric current passes in contact with a coil to superheat the steam therein, which passes into a chamber containing charcoal and iron filings to generate hydrogen. A portion of the hydrogen passes into the mixing chamber aforesaid, and the remainder passes into the tuyeres. The steam pipe may pass within the blast pipe, to maintain the former at a high temperature.

Claim.—1. The method, herein described, of injecting steam, superheated steam, or hydrogen into the oven, to mingle with the gases and increase their heating effect on the hot-blast pipes.

2. The arrangement, in a large combustion chamber, of the hot-air pipes, as and for the purpose described.

3. The combination, substantially as set forth, of the hot-air pipes with the interposed deflectors *r*, for the purpose described.

4. The combination, substantially as set forth, of the mixing chamber, the combustion chamber, and the hot-air pipes.

5. The arrangement, as set forth, of the superheating pipes *f* in the combustion chamber and above the air pipes, for the purpose specified.

6. The arrangement of the steam pipe within the hot-blast pipe, to maintain the steam at a high temperature.

7. The arrangement of the steam and blast pipes in sets, at different levels, for the purpose specified.

77,731.—David M. Heikes, Franklin Township, Pa.—*Clover Separator and Huller.*—May 12, 1868.—The clover, after passing beneath the thrashing cylinder, is raised by an endless carrier to a riddle, through which the seed falls upon a carrier which takes it back to the huller, by which the seed is liberated from the hulls, to be separated by the fans and riddles.

Claim.—The combination of the breaking device *e f*, elevator G, riddle H, conveyer J, platform or board I, hulling device *k l*, sieves M N Q, fans O P, and delivering spout R, all arranged substantially as described.

77,732.—Nicholas Hiemenz, Buffalo, N. Y.—*Beer Cooler.*—May 12, 1868.—Around the outside of the ice chamber is a continuous trough with a gradual descent. The beer follows this to the discharge pipe at bottom, and is cooled by contact with the sides of the cold chamber.

Claim.—A beer cooler, composed of an ice chamber A, having an open inclined trough C, formed upon the outside walls thereof, in the manner and for the purpose substantially as herein described.

77,733.—Edward R. Holzer, Philadelphia, Pa.—*Scaffold.*—May 12, 1868.—The posts are of sections scarfed together, are secured by screw bolts, and have a ratchet upon one side, into which a pawl of the platform engages. The posts are hinged to a base.

Claim.—1. A scaffold, consisting of two or more posts, A, each hinged to a base, B, resting on the ground, and to each of which is secured an adjustable bracket, C, all substantially as described.

2. The grooves *e*, arranged in opposite sides of the post, for the reception of the bent ends of the plates on the brackets, as set forth.

77,734.—William Howard, Watertown, N. Y.—*Cheese Vat.*—May 12, 1868.—The space between the outer and inner vats is filled with water, through which passes the flue from a fire chamber at one corner.

Claim.—1. The combination with outer and inner vats of a fire chamber and heat and smoke conducting pipes, arranged about the sides of and between the vats, as and for the purposes set forth.

2. The combination with the heat and smoke conducting pipes and vat of a damper, arranged as and for the purposes set forth.

77,735.—H. Hunt, Delavan, Wis.—*Gate.*—May 12, 1868.—The opening cords are attached to levers pivoted to the pulley, and their action is to draw back the hinge upright and raise the latch end before the cord acts upon the pulley to swing the gate around into an open position upon the holding rest.

Claim.—1. The combination of the levers R R, pulley O, and cords F, arranged substantially as and for the purpose set forth.

2. The combination of pulley O, levers R R, pivots I J, and cap P, arranged to operate substantially as herein set forth.

77,736.—I. S. Hyatt, Rockford, Ill.—*Tax Calculator.*—May 12, 1868.—A sheet is arranged according to the rate of taxation; a vertical row upon its left hand indicates the units and tens, as the case may be; and to the proper figure upon this row the sliding bar, having the hundreds marked upon it, is adjusted. The amount of tax is read from the sheet immediately over the hundred. Upward projections upon the bar cover the place of mills on the sheet

Claim.—1. In combination with tax table A, constructed substantially as described, the sliding bar B, operating in the manner and for the purposes as set forth.

2. Providing the sliding bar B with the projections *b b*, as and for the purposes set forth.

3. Rendering the sliding bar B adjustable in a direction at right angles to the carrier E by means of a slot and set screw, or their equivalents, for the purpose substantially as set forth.

77,737.—Alvarado Jones, Westford, Wis., assignor to self and A. A. Sage, same place.—*Harrow Teeth.*—May 12, 1868.—A steel point is welded to a piece of gas-pipe, to form the tooth.

Claim.—The hollow body B, in combination with the steel point A, in the construction of a harrow-tooth, substantially as and for the purposes set forth, as a new manufacture.

77,738.—Blinn D. Joslin and Reuben A. Newhall, North Brownville, Mich.—*Bed Bottom.*—May 12, 1868.—The ends of the slats are suspended by links from the bedstead rails, and supported by coiled springs, which rest upon a metallic truss-strip beneath.

Claim.—1. The truss D, provided with supporting springs 3, when attached to slat C, and operating substantially as and for the purposes described.

2. The combination of the trussed slats C with the rod B and hooks J, upon the double coil-spring E, for the purpose described.

77,739.—George G. Knowles, Wakefield, R. I.—*Hay Spreader.*—May 12, 1868.—The tedder reel is revolved by gearing from the cogged rims on the driving wheels. As each bar comes into its lower position, its teeth are held vertically, so as to catch the hay, and become horizontal as they reach their upper position, in order to discharge the hay. These motions are produced by the eccentrics and their plates, which turn the triangular plates upon the tooth-bars.

Claim.—The combination of the eccentric plates *r r r r* with the triangles *t t t t*, and bars K V, as and for the purpose herein described.

77,740.—Frank F. Landis, Lancaster, Pa.—*Padlock.*—May 12, 1868; antedated May 7, 1868.—The lock snaps shut, and the bolt is held by a spring lever. The key pivot pin forms an arbor on which the guard cylinder turns, the walls of the said cylinder serving to cut off communication between the keyhole and the bolt. The jointed end of the winged tumbler engages between two lugs as the cylinder is turned, and a key-pin upon the key passes through a hole in the rectangularly-bent guard plate, and by acting upon the tumbler, retracts the hinged end from between the lugs; the cylinder is then turned forward until the said end has passed over the inclined side of the catch upon the spring lever, and, being reversed, it engages the straight side of the same, and draws back the bolt; the lock staple must then be drawn out, or it will be re-locked when the lever is allowed to spring back.

Claim.—1. The rounded right angled chamber or partition I, with its wall, H, thickened and perforated, in combination with the hinged and winged tumbler G E F, on its pivot *f*, with a cylinder, J, revolving freely on the pin O, for the socket in the key, arranged, and operated in the manner specified.

3. In combination with said chamber, or partition I H, and tumbler G E F, the arrangement of the lever C, with its hook D, in connection with the spring-bolt B, by the pin *b*, when actuated in the manner and for the purpose set forth.

77,741.—George T. Lape, Summit, N. Y.—*Bridge.*—May 12, 1868; antedated April 28, 1868.—The top plate of each voussoir is suitably curved to form a section of the upper shell of the arch, and its ends project transversely to opposite sides, so that joints are broken between the different plates. A center plate runs across the voussoir, and the latter has also a longitudinal rib, whose flanged bottom runs parallel to the top plate. The abutting ends of the voussoirs have dovetailed and rectangular interlocking tongues.

Claim.—1. The construction of sections or voussoirs, consisting of abutting ends, flanges, rib, and cross-plate, with tongues, grooves, and dovetails, all arranged substantially as and for the purposes specified.

2. The construction of bridges, arches, &c., by combining a series of sections or voussoirs, and securing them to each other, substantially as herein specified.

77,742.—William H. Leach, Uxbridge, Mass., assignor to self and Bradford Stetson, same place.—*Tool Post for Lathe or Planing Machines.*—May 12, 1868.—The tool socket has a universal joint, with limited play, so as to present the tool in the required direction. As the clamping screw is brought down upon the shank of the tool, it binds it upon the ring of the socket, and at the same time draws the segment of the sphere against its shell, and stiffens the post upon its foundation.

Claim.—The construction of a tool-post, for a lathe or other machine, with the joint A′ B′, in combination with the collar C and set screw F, substantially as and for the purpose set forth.

77,743.—Samuel N. Long, South Chatham, assignor to himself and Lincoln B. Bearse, Barnstable, Mass.—*Caster for Furniture.*—May 12, 1868.—Anti-friction balls are interposed between the lower face of the sleeve flange, and the upper face of the caster carriage. Channels in each surface form tracks for the balls to travel in as the carriage rotates on its axis.

Claim.—The combination of the sleeve D with the spindle A, with the plate B, having the groove *c* and the opening *g*, all constructed, arranged, and operating as for the purposes described.

77,744.—Robert H. Martin, Staten Island, N. Y.—*Safety Hatch.*—May 12, 1868; antedated April 25, 1868.—To each hatchway is a vertical, sliding, counterpoised guard. A retractable spring bolt upon the platform, in passing upward, impinges upon a ratchet projection of the guard and elevates it, making a clear way from the platform to the floor. As the platform passes the floor the bolt is pushed backward by a rounded projection, and the guard descends. When the platform is descending, a bolt, similar to the aforesaid, engages a ratchet tooth upon the counterpoise weight and elevates the guard by carrying the weight downward.

Claim 1. The combination, with a hatchway-hoist to the several floors, or any of them, of a warehouse or other structure, of partially balanced or counterpoised safety guards, substantially as specified.

2. The combination, with rising and falling or opening and closing safety guards, to a hatchway on any or all of the floors of a building, of self-shooting bolts on the hoist, operating automatically to open the guards, both in the ascent and descent of the hoist, essentially as shown and described.

3. Providing the hoist with unshipping or backlocking gear to its self-shooting bolts, for operation, at pleasure, of the latter with any one or more of the safety guards without lifting the others on intermediate floors, or for running the hoist up and down the hatchway without stopping at or raising any of guards, substantially as herein set forth.

77,745.—Thomas Marvin, Cambridge, Mass.—*Attaching Door Knobs to Spindles.*—May 12, 1868.—Each end of the spindle passes into a socket in the knob, having a cylindrical surface, upon which the escutcheon fits. The escutcheon has a shoulder upon which fits a disk applied to the inner end of the knob. The disk is applied to the knob by turning a peripheral flange back and down upon the neck of the knob. The shank of the socket piece is square in section, and fits into the knob mortise. One end of the spindle is confined to its socket by a transverse pin, and the other pin is adjustable in its socket.

Claim.—The combination of the stationery escutcheons, the spindle, the spindle sockets, with the shoulder *h* and flange *i*, the disks and the knobs, when constructed, connected, and relatively arranged, substantially as described.

77,746.—William Mathews, Troy Township, Ohio.—*Purifying Sorghum Juice.*—May 12, 1868.—The cisterns are charged with filtering material, and are temporarily set on each other and on legs, so as to discharge into each other in descending series.

Claim.—The improved filterer herein described, composed of the vessels *b c d*, or their equivalents, arranged and charged with filtering materials, substantially as described.

77,747.—George W. Miller and Julius D. Stevens, Scranton, Pa.—*Hub Fastening for Eccentrics.*—May 12, 1868.—Steel, wedge-shaped, tooth dies are placed between the hub and its shaft, and the latter are clamped together as the wedge piece between the dies is drawn outwardly, forcing the dies apart.

Claim.—The dies C C, and which are secured within the hub of the eccentric, and made to clamp the shaft, by means of a bolt with a tapering head, or other equivalent, as and for the purpose set forth.

77,748.—William Johnston Miller, Gettysburg, Pa.—*Shutter Fastening.*—May 12, 1868.—The shutter catch is pivoted in the sill, and tips freely to lock the sash, but is opened from the inside by a pull bar, which rotates the cam and depresses the catch.

Claim.—The arrangement and combination, in a shutter-fastening, of the pull P, bent arm or trigger E, rod *j*, spring *i*, catch *b*, and plate *a*, with its projecting catch, operating in the manner as shown and described, and for the purpose set forth.

77,749.—Hypolite Monier, Paris, France.—*Gas Burner.*—May 12, 1868.—The air has passage through the grooves of the corrugated and fluted glass cone or chimney rest. The tulip is slipped upon the tube beneath the chimney rest, and the air passes between the points of its notched top and the said rest.

Claim.—1. The combination, with a gas or other burner, such as herein described, of an internally-fluted cone or chimney rest, of glass or other transparent material, surrounding the same, and a cap, R, or its equivalent, the whole being constructed and arranged as specified, so that air shall pass to the flame through the interior of the burner, between the burner and the cone, and between the cone and the chimney, as and for the purposes set forth.

2. The combination, with the burner, of the internally fluted glass cone and chimney seat, and the corrugated and fluted glass tulip applied to the said cone, in the manner and for the purposes shown and specified.

77,750.—Henry Morgan, Springfield, Mass.—*Clothes-line Holder.*—May 12, 1868.—The line is gripped between a pulley and a serrated cam, both of which are pivoted to the plate.

Claim.—The combination of the pulley A and cam B with the gear *c c*, when arranged upon a plate, C, substantially in the manner and for the purpose shown.

77,751.—Benjamin L. Mott, Jr., Pawtucket, R. I.—*Cooking Stove.*—May 12, 1868.—When the soot drawer is in place, its arched top forms a partial division plate in the bottom of the flue, the smoke passing forward over the arched plate, and reverting beneath it on its way to the rear descending flue Vertical plates on the end of the drawer, and on the end of the arched plate, respectively, act in conjunction with the vertical rear plates of the stove to form the rear flues.

Claim.—1. The combination and arrangement of the arched plate H with the soot drawer G, so as to divide such drawer or the chamber E into two connected or return flues, as set forth, and be movable with the drawer.

2. The combination of the lip or flange *a* with the partition or arched plate H, or the same and the drawer G, to be applied to the chamber E and flues D F of the cover, as specified.

77,752.—George Murray, Jr., Cambridge, Mass.—*Meat Pounder and Ice Pick.*—May 12, 1868.—The implement has a face full of projections to pound meat, an edge for cutting, and one for scaling.

Claim.—As an article of manufacture, a combined meat pounder, cleaver, ice pick, fish scaler, &c., composed of a rectangular-shaped plate, of cast or malleable iron, A, one side of which is covered with pointed projections, while from the other side projects a handle, B, and having one edge, C, and end, D, sharpened, so to produce cutting edges, substantially as herein set forth.

77,753.—Esau P. Newman, New Albany, Ind.—*Churn.*—May 12, 1868.—The breakers are supported inside the churn by the circular wire springs, and are removable. The dasher has rotary reciprocation by a bevel wheel and segment rack actuated by a lever.

Claim.—The breakers J J J J and steel-wire springs K K, as used in connection with the paddles I I I I in churning butter.

77,754.—Charles Northlich, Muscatine, Iowa.—*Wagon Lock.*—May 12, 1868.—The pawl has a bell-crank form, and is operated by a compound lever whose upper end, when the pawl is disengaged from the ratchet, lies parallel with the curved end of the main lever.

Claim.—The arrangement and construction of the angular lever G G′, link F, and pivoted pawl D, in combination with the bevel-toothed rack A, and vibrating lever B B, the arrangement of the whole being such that the pivot *c* can be thrown to the right or left of the line *x x*, and when in one position the pawl will be firmly locked without the aid of an auxiliary stop, and when in the other position, the pawl will be unlocked, all substantially in the manner described and shown.

77,755.—James Ogden, Philadelphia, Pa.—*Oil Can.*—May 12, 1868.—The oil-discharging and the air-receiving tubes are closed by the backward rotation of the spout; when the latter is brought into position for pouring, the former tube is in connection with it, and the latter admits air from the outside.

Claim.—The combination and arrangement of a can, A, pipe, G, socket, B, having openings, *f* and *i*, and a plug, D, fitting the said socket, and having passages, *e m*, and a spout, E, all substantially as described.

77,756.—Samuel Perry, Seaford, Del., assignor to himself, and John L. Coulborn.—*Lifting Jack.*—May 12, 1868.—The lever is pivoted in the standard and lifts the rack bar by means of the swinging link. The rack is held at its elevated position by an upper link, and by blocks in the rear between it and the standard.

Claim.—The arrangement of the standard A, with its slotted arm C, through which passes the rack F, and to which is pivoted a loop, *d*, said rack being operated by the lever D passing through the standard, and kept in position by the bar E and block *c*, all constructed and used as specified.

77,757.—W. H. Phelps, Boston, Mass.—*Suspensory Bandage.*—May 12, 1868.—A silk net supports the scrotum which is slightly embraced by the elastic upper edge of the net. A narrow bandage is sewn to the net and follows the line of the septum of the scrotum. Elastic bands pass over the hips and are buckled in the rear.

Claim.—A suspensory bandage constructed and adapted for being used substantially as described and shown.

77,758.—Samuel Pitcher, Barnstable, Mass.—*Medicine.*—May 12, 1868.—Mixture to be used as a cathartic. Composed of senna leaves, 20 lbs.; bicarbonate of soda, 2 oz.; essence of wintergreen, 5 lbs.; extract of taraxacum, 1 lb.; sugar, 50 lbs.; and water, 10 galls.

Claim.—1. The composition substantially as described, and for the purpose as explained.

2. The process hereinbefore described for compounding the ingredients of such composition, such process embracing the two operations of straining the liquor from the leaves, and subsequently obtaining, by pressure of them, one extract, not obtainable by simple infusion.

77,759.—William W. Potter, Buffalo, N. Y.—*Stencil Plate.*—May 12, 1868.—Each letter is on a plate whose edges are bent over, so that it can be slipped upon a slotted plate attached like a tongue to a larger slotted plate. The letters are readily changed to form different combinations.

Claim.—1. A slotted plate, A, attached to the stencil plate B at one end, while the other end is free, substantially as and for the purposes set forth.

2. The combination of the slotted plate A, stencil plate B, the C-formed letters sliding on plate B and the latch D, substantially as and for the purposes described.

77,760.—S. H. Rhoades, Clyde, Ohio, and William Carroll, Hillsdale, Mich.—*Horse Hay Fork.*—May 12, 1868.—The springs in the lower end of the stock tend to retract the prongs within the case. The springs in the upper part act upon the pawls which engage the notched shank to retain the prongs in their projecting or collapsed positions respectively.

Claim.—1. The springs *b′* in combination with prongs E, for the purpose specified.

2. The catches *a b* and springs *c d*, as constructed and arranged to operate in combination with the shaft C, for the purpose specified.

77,761.—Charles Richmond, Memphis, Tenn., assignor to Gainor, Stiles & Co, same place.—*Cotton Planter.*—May 12, 1868.—The furrow opener precedes, and a spur in its rear keeps open, the groove between the flanges of the cylinder containing the seed. Stirrers in the latter keep the seed from clogging and force it to the aperture. It is covered by a drag bar.

Claim.—The adjustable flanges, whereby they can be separated or closed at will, for the proper distribution of seed, the separators to keep the seed disunited, in order to distribute equally and regularly, together with the hollow journals, allowing the whole to revolve and adapt itself.

77,762.—James Riley, Detroit, Mich.—*Straw Cutter.*—May 12, 1868.—The cutters are upon a horizontal disk which turns beneath the mouth of the box. The feeder is journaled to a frame which may be slid out when cutting roots.

Claim.—The arrangement of the sliding frame C with feeder A′, when used in combination with the revolving cutter D and hopper L, and operated in the manner substantially as and for the purposes herein set forth.

77,763.—Edward S. Ritchie, Brookline, Mass.—*Paint for Liquid Compasses, &c.*—May 12, 1868.—The pigment (such as dry white lead) is reduced to proper consistence by mixture with albumen, and the mixture immediately applied to the compass card. The albumen is coagulated by a solution of lime, or by heat.

Claim.—The application to a compass card, or other article to be exposed to alcohol, or an alcoholic mixture, as set forth, a paint composed of one or more pigments and coagulating material, (such as albumen, for instance,) and then, or subsequently, effecting coagulation of the vehicle, the whole being substantially as and for the purpose above specified.

77,764.—Andrew J. Rock, Union Village, Va.—*Last and Shoe Holder.*—May 12, 1868.—The supporting posts slide in the foot piece and have a regulating screw. The jaws slide in a block and have a similar adjustment. The height of said block is regulated by a central, vertical screw.

Claim.—The arrangement and combination of the adjustable posts C, screws D, E, and K, blocks A and G, when adjusted and operated with the adjustable jaws J J, as herein described, and for the purposes set forth.

77,765.—Stephen W. Roof, New York, N. Y.—*Frame for Neck Ties.*—May 12, 1868.—The frame has wings to pass behind the lappels of the shirt collar, and a band clasp in front by which the bow is attached.

Claim.—The combination of the frame A with the clasp, made detached, as shown at B, or hinged to said frame, as seen at C, when the frame A is made as shown, so that its ends, when in use, pass up under the outer ends of the turn-down collar, with which it is worn, so as to hold it in its place, all substantially as shown and described, and for the purpose specified.

77,766.—Samuel I. Russell, Chicago, Ill.—*Sidewalk.*—May 12, 1868.—The wooden foundation forms the principal portion, and its upper surface has dove-tail projections which anchor the superjacent mastic or asphaltum which forms the upper portion of the walk.

Claim.—1. The construction and arrangement of sidewalks or other ways with framework or supports, or combined with and covered by a surface coating composed of coal-tar, and grooved, substantially as specified.

2. The construction and arrangement of the walk in sections, substantially as described.

77,767.—Eilert O. Schartau, Philadelphia, Pa., assignor to Frank S. Judd and John G. Powell, same place.—*Lamp Wick.*—May 12, 1868; antedated April 28, 1868.—The wick, of ordinary character, is protected by a perforated metallic cap.

Claim.—A wire gauze or perforated metallic case, of any shape, fastened permanently to the top of a lamp wick, of any material, or so constructed as to be folded on it and detached at convenience, for the purpose of guarding the wick from the carbonizing effect of the flame, thereby producing a clearer light and a saving of wick and oil, as herein set forth.

77,768.—S. Franklin Schoonmaker, New York, N. Y.—*Transporting and Storing Grain and other products.*—May 12, 1868; antedated April 25, 1868.—The closed metal-lined chamber is charged with grain, cotton, or other product, and an artificial atmosphere of nitrogen is then injected to prevent fermentation or generation of heat.

Claim.—1. A closed chamber or compartment, rendered impervious to air and gases by a metal lining, so applied as to permit the free expansion and contraction of the metal, substantially as and for the purpose specified.

2. In connection with a suitably inclosed chamber or compartment, nitrogen gas, when produced from the confined air, by the agency of a chemical compound and heat, without the production of carbonic-acid gas, substantially as and for the purpose described.

3. Providing an opening or inlet, in connection with an inclosed chamber, for the passage of exterior air, to maintain, in the process, an equilibrium of pressure within and without, for the purposes substantially as described.

77,769.—Anson Searls, New York, N. Y.—*Shaft Coupling for Carriages.*—May 12, 1868.—The thill iron has a slot which slips over the clip bolt. A hook bolt passes through the clip iron, its lower end engaging beneath the clip bolt and its upper end having a nut, beneath which is a packing ring.

Claim.—1. The shaft hook A, with a recess, C, in the back part of it, and hole for bolt I as set forth.

2. The curved T-head bolt I, for the purposes described.

3. The combination of the bolt I, spring K, washer J, and nut E, in combination with the hook A and pin B, substantially as described, and all for the purposes set forth.

77,770.—George A. Seaver, New York, N. Y.—*Cotton Bale Tie.*—May 12, 1868.—The fastening is a single wire, one end being bent to hook over the other. By rotation backwardly the straight portion is so exposed that the loop of the last fastened end of the band may be slipped over it and be retained as the bale expands, bringing it into locking position.

Claim.—The construction of the tie or fastening, substantially as described.

77,771.—Amos Shipley and William T Mersereau, Newark, N. J.—*Instrument for Lighting Gas, &c.*—May 12, 1868.—A match is secured in the end of the stock and is ignited by drawing back the frame which carries the friction surface over the match, the latter projecting conveniently for lighting gas.

Claim.—In combination with a standard, a movable framework, supporting the corrugated lips, when the same shall be constructed and operate substantially as described, for the purposes set forth.

77,772.—Shermen E. Skilling, Benton Harbor, Mich.—*Tube Well.*—May 12, 1868.—The lower section of the driven pipe is shod with a point and has a slot for entrance of water. A coil of iron inside acts as a strainer, and the distance between the coils is regulated by a nut on the end of the central bolt.

Claim.—The coil spring G, provided with the rod H, the collars E and I, and the nut J, within the pipe A, substantially as arranged, and for the purpose hereinbefore described.

77,773.—Edward C. Smith and David F. Wilcox, Greenville, N. Y.—*Dentistry.*—May 12, 1868.—To assist in withdrawing the impression from the mouth air is introduced between the plaster and the surface of the mouth. The tube passes through the body of the cup, and the head of the hollow spring pin is in contact with the palate. By pressing the pin the air communication is made.

Claim.—1. The introduction of air between the surface of the mouth and the material used in taking impressions for artificial bases for teeth by means of air tubes T *t*, valve rod V, and spring S, substantially as set forth.

2. In combination with the impression cup C, the tubes *t* T, valve rod V, and coil-spring *s*, when arranged and operating substantially as and for the purposes set forth.

77,774.—William H. Smith, New York, N. Y., assignor to himself and Israel Hecker.—*Sinker for Fishing Lines.*—May 12, 1868.—The conoidal end pieces are attached by an axial bolt and as many interposed annular disks are added as may be necessary for the purpose.

Claim.—Making a sinker in two parts, and in such a manner that sections or disks may be added to or taken from it, for the purpose of increasing or diminishing its weight, substantially as herein set forth.

77,775.—Lorenzo D. Snook, Barrington, N. Y.—*Hop Trellis.*—May 12, 1868.—The posts have hooks upon which the longitudinal and transverse horizontal poles are laid.

Claim.—The horizontal poles D and E, when supported at right angles upon the upper sections B of the stakes, as specified, by means of the hooks K, and used in combination with the sectional stakes A B, substantially as and for the purpose set forth.

77,776.—George W. Southwick and John H. Gillett, Scott, N. Y.—*Shingle Machine.*—May 12, 1868; antedated May 4, 1868.—The carriage is reciprocated in the plane of the saw by means of pinion and rack. The carriage has a sliding frame and head block on which the shingle blocks are secured and by whose motion the feed of the block is effected. An oscillating lever operates the spring pawls which act upon the ratchets to feed the block. The movement is derived from a hand lever which gives an oscillation to the ways on which the block slides so as to present the latter to be cut heads and points alternately.

Claim.—The arrangement of the bar N, with its grooves P P, through which pass the pins S S, said bar being operated by the lever *q* for oscillating the bar J through its arm K, substantially as and for the purposes specified.

77,777.—EDWARD SPAULDING, Brooklyn, N. Y. —*Process for Treating Wood.*—May 12, 1868.—The timber is subjected to great longitudinal pressure to condense the cellular structure.

Claim.—The method of treating wood herein described, consisting essentially in subjecting it to sufficient pressure to change and compact the structure, preparatory to the process of drying by artificial heat, substantially as set forth.

77,778.—THOMAS H. SPENCER, Providence, R. I., assignor to CHARLES L. SPENCER, same place.—*Construction of Blacking Boxes.*—May 12, 1868.—The connecting link is jointed to the handle and to the box; when fully closed, the handle lies on the lid. The oscillation of the handle raises the lid and when the latter is vertical the handle is in the plane of, and supports the box.

Claim—A double hinge, when applied to a blacking box and cover, in connection with a handle, substantially as described, and for the purpose set forth.

77,779.—AUGUSTUS STANLEY, New Britain, Conn.—*Saw-Horse.*—May 12, 1868.—One section has two rounds and the other but one, and that forms the pivot; the former slips into the latter, when the parts are collapsed, but the rabeted edges of the two sections interlock when the saw-buck is extended.

Claim.—The folding parts A A, B, C, notched or recessed across, and adapted to lock into each other, and be rigidly confined at the proper angle by the aid of the screw-brace D *d d′*, or its equivalent, substantially as and for the purpose herein specified.

77,780.—ALBERT I. THUNELL and JOHN M. HEDSTROM, Buffalo, N. Y.—*Rotary Steam Engine.* —May 12, 1868.—The induction port is in one end of the shell and communicates with a curved groove in the end of the piston hub, and the said groove communicates by a longitudinal duct with a circular groove at the other end of the hub, both grooves communicating with the steam space. The eduction port is through the periphery of the shell. The curved groove with which the induction port communicates is discontinued at one part to close the said port when the piston wing is passing beneath the hinged valve.

Claim.—1. The arrangement of the concentric steam grooves *f f′*, passage or passages *g*, and blank *n*, when combined with the piston head B, and steam pipes E G, in the manner and for the purpose specified.

2. In combination with the wing D, the spring slide D′, with right angled packing edge *a*, arranged and operating as herein set forth.

3. In combination with the valve C, the crank arm H, connecting bar I, rock lever K, and cam pin *m* the whole arranged and operating as herein set forth,

77,781.—JULES TUREL, Kendallville, Ind.—*Lettering Marble.*—May 12, 1868.—Letters are cut in the marble and a strip of metal placed upon the slab projecting perpendicularly therefrom in the direction of the width of the strip, and from the midheight of the letters. A plaster cast is then taken and the same being raised from the slab the projecting letters are dressed off it, and the metallic strip being removed the plaster is returned into position upon the slab and the lead is then poured through the gate made by the removal of the metallic strip, and the letters in the slab are filled, together with the divergent holding holes drilled in the bottoms of the letter recesses. The face of the marble and letters is then dressed down.

Claim.—The process, substantially as herein described, for applying metallic lettering to marble or other stone.

77,782.—JOHN J. WALDRON, East Durham, N. Y., assignor to himself, TIMOTHY G. PALMER, and HENRY BROWN.—*King-bolt for Wagons.*—May 12, 1868.—A socket is formed in the plate which unites the perch and head block; the said socket receives the king-bolt and forms a brace for the same, presenting an extended surface.

Claim.—The socket *l*, projecting downward from the plate *f*, that unites the perch *c* and bolster or head block *d*, in combination with the king-bolt *i*, that enters, at its upper part, said socket *l*, and is retained by the nut *o* above said plate *f*, as and for the purposes specified.

77,783.—DAVID WALKER, Newark, N. J.—*Blotter.*—May 12, 1868.—A thin strip of metal adapted to be used as a ruler and paper cutter is attached to the side of the blotter by the same wire which confines the blotting paper to the holder.

Claim.—The strip of metal or hard substance *a*, constructed, adapted, and attached to the blotter, in the manner and for the purpose specified.

77,784.—RUSS B. WALKER, Claremont, N. H.—*Waxing Floors.*—May 12, 1868.—The composition is put on in powder and left to be worked in by the feet of dancers or others. It is composed of beeswax 20, paraffine 60, spermaceti 20, Prussian blue 2, and linseed oil 2 parts, melted together, and when nearly cold scented with oils of cinnamon, bergamot, and lavender.

Claim.—1. The combination of beeswax, spermaceti, and paraffine, or its equivalent, in such proportions that the whole may be reduced to powder, substantially as and for the purpose set forth.

2. The method or process herein described of waxing floors by sprinkling thereon a waxing material, when the same is in a dry and pulverized or powdered state.

77,785.—JAMES WEATHERS, Greensburg, Ind. —*Attaching Hubs to Axles.*—The thimble at the inner end of the spindle has a flange through whose lower end a bolt passes. The other end of the bolt has an eye traversed by a bolt which passes through the axle and serves also to secure the hounds.

Claim.—The thimble B and skein E, cast of one piece, the former provided with a flange, *h*, and secured to the axle A by means of the bolt *f* and rod *g*, all combined, arranged, and used substantially as specified.

77,786.—E. Z. WEBSTER, Louisville, Ky.—*Stove for Railroad Cars.*—May 12, 1868.—Valves admit air to the fire and to the heating chamber respectively, and regulate the supply to each. Rising in the furnace the air dives again, and the smoke and gases pass out by a central flue beneath the floor. The jacket around this flue conducts the heated air from the hot-air chamber of the stove to register openings in the car floor. A charging chamber, with a slide valve above and below, is the means of introducing coal without exposing the fire and permitting the escape of smoke into the car.

Claim.—1. The slides M and O, in combination with the hopper N, for supplying coal to the furnace, substantially as herein described.

2. The combination of the furnace A, casing H, valves I and G, smoke and hot-air flues D and K, slides M and O, and hopper N, for the purpose and substantially as herein specified.

77,787.—SAMUEL WEHRLY, San Francisco, Cal. —*Trunk Lid Supporter.*—May 12, 1868.—The metallic catch upon the lid engages a hole in the spring attached to the inside of the back of the trunk, and serves to prevent the lid from shutting, or undue opening.

Claim.—1. The spring B, having a hole, *a*, near its upper end, for the purpose of receiving the point D, substantially as described.

2. The catch E, having a point, D, formed by making a slot on its top, substantially as and for the purpose described.

77,788.—PATRICK WELCH, New York, N. Y.—*Frame for Neck Ties.*—May 12, 1868.—The middle of the frame, to which the bow is attached, is slotted, so that it can be entered from below and pressed upward behind the shirt button. An elastic loop, from its lower portion, is then placed over the button to hold up the frame.

Claim.—The neck-tie frame, formed with a slot running from the upper part down the center of the body, for the purposes and as set forth.

77,789.—JOHN E. WILLIAMS and MICHAEL LEMON, Binghamton, N. Y.—*Churn Dasher.*—May 12, 1868.—The tubular staff has a double flap valve at bottom which admits air to a recess beneath the crucial dasher. The air passes from the recess through holes having radial exit through the ends of the dasher arms.

Claim.—The combination of the dasher A, center-hinged valve F, hollow shaft or dasher rod C, and oblique openings E E through the edges of the wings, all being constructed substantially as herein described and represented for the purpose set forth.

77,790.—JOHN I. WILLIAMS, Etna, Pa.—*Boiling and Puddling Furnace.*—May 12, 1868—The hollow boshes form channels to conduct a supply of water, and obviate the use of "fixing" for protecting the sides of the said boshes which are exposed to the fire.

Claim.—1. The hollow cast-iron water-chill boxes *a a* of a puddling or boiling furnace, made with rounded back corners, and jambs *b* in front, substantially as and for the purpose hereinbefore described.

2. The use of hollow water boshes or boxes, connected with a water reservoir or tank, of suitable capacity to keep up a circulation of warm water, as well between heats as when the furnace is in operation, substantially as hereinbefore described.

77,791.—L. W. WOLFE, Jacksonville, Ill.—*Seat for Vehicles.*—May 12, 1868.—The sides and back are dovetailed into connecting, curved, metallic corners, to which the top props may be attached.

Claim.—The arrangement of the seat A with the hollow concavo-convex metallic corners B B, as herein described, all constructed and used substantially as set forth.

77,792.—GEORGE T. WOODBURY and THOMAS BURCH, Newark, N. J.—*Finishing Skins and Leather.*—May 12, 1868.—The indentations, similar to those in the grain of hog-skin, are engraved upon a soft steel cylinder, and the cylinder is then hardened. The pattern is transferred by pressure to a soft steel cylinder, which is subsequently hardened and used to impress the pattern upon leather.

Claim.—1. A metallic or other roller, provided with such marks, prominences, and depressions as will produce, when passed over leather, under pressure, an imitation hog-skin.

2. The means of producing an imitation of the dressed skin of a hog upon leather adapted thereto, by the use of a roller, prepared and employed substantially as described.

3. An imitation hog-skin, when produced by the use of a metallic or other roller, having engraved, indented, transferred, or otherwise prepared upon its circumference, such marks, depressions, and projections as will secure a representation of the marks left by the removal of bristles and otherwise, when pressed upon and revolved over leather, the whole substantially as described.

77,793.—HOWELL W. WRIGHT, Taunton, Mass., assignor to REED and BARTON, same place.—*Alloy for the Manufacture of Spoons and Forks.*—May 12, 1868.—Composed of nickel 1, and copper 3 parts.

Claim.—The within-described alloy, or composition of metals, or any other substantially the same, all as and for the purposes set forth.

77,794.—REUBEN ZIDER, El Paso, Ill.—*Railway Chair.*—May 12, 1868.—The rail is held between the two clamps which embrace its base flange, and are forced against the rail by the pressure against their inclined surfaces of the inclined sides of the cavity in the chair. The clamps are held down by pieces which are retained by spikes passing through them and entering notches in the clamps as they pass through the chairs. A wedge is driven between the clamps and beneath the rail, after the spikes are driven.

Claim.—The arrangement of the clamps B B and key D with the chair A, the several parts being constructed substantially as described, thus forming an improved railroad chair.

77,795.—FEDERAL C. ADAMS, Cincinnati, Ohio.—*Cupola Furnace.*—May 12, 1868.—The peculiar form given to the cupola is to keep the stock up until melted. Above the cupola is a domed top which deflects the heat. The air blast becomes heated beneath the outer casing before passing through the tuyeres.

Claim.—1. The general shape of the interior of a cupola furnace, as described; that is to say, gradually contracted from the bottom to a point above the tuyeres, and thence gradually enlarged to the top, as shown.

2. The heating chamber A above the cupola, provided with openings B and door C, with the base-wall H projecting over the lining, substantially as shown.

3. The air-heating chamber F, under the wall H, and between the lining and the outer case, with the openings for the introduction and discharge of air, substantially as described.

4. The plate J in the chimney, with its smoke-passages, substantially as shown, and for the purpose described.

5. The outer case L, forming a blast-heating chamber N, surrounding the cupola, substantially as described.

6. The partitions O O^1 O^2 O^3 in the blast-heating chamber N, substantially as and for the purposes described.

7. The space or chamber between the lining E *e* and the inner case, for the purpose of cooling the back of the lining, or heating the blast, substantially as described.

8. The cupola lining E *e*, composed of an iron plate or plates covered with fire clay or other non-conductor, as described.

9. Arranging the tuyeres in a cluster, as shown by P Q R S T.

10. The arrangement of tuyeres on an angular or spiral line, as shown by the combinations P Q R S or R S U V.

11. The tuyeres set at an angle to a radial line, as shown at W, for the purpose of creating a tangential or vertical blast, as described.

12. The arrangement of tuyeres, having the same size at the outlet, one above the other, in regular or irregular order, substantially as and for the purpose described.

13. The tuyeres Y Y projecting beyond the lining toward the center of the cupola, as described.

14. The employment, in a cupola furnace, of slotted tuyeres for the admission of the blast.

15. The slotted tuyeres constructed with the lower part of the outer end wider than the upper part, and projecting beyond the lining, substantially as shown.

16. The horizontal slotted tuyeres, constructed substantially as shown.

17. The upright center tuyere Z, surmounted by a cap, Z′, whether introduced through the bottom or from the sides of the cupola, substantially as described.

18. So arranging the tuyeres of a cupola furnace, as to employ a greater number below than above, for the purposes described.

19. The upper row of tuyeres W W W, substantially as and for the purpose described.

20. The combination, in the same cupola furnace, of tuyeres of different shapes and sizes, and located above and below each other, substantially as set forth.

21. The inclined supports of the cap of the center tuyere Z, for the purpose of introducing the blast with a vertical motion, as described.

22. In a horizontal series of tuyeres applied to a cupola furnace, constructing the inlets of unequal size, as described.

23. In a series of tuyeres, placed one above the other, making some of them with the outer end of greater diameter than others, while the inner end remains of the same diameter, as described.

24. The horizontal line of tuyeres R^3, R^2, P, T, S, S^2, and S^3, increasing and diminishing, substantially as shown.

77,796.—ALONZO BENEDICT, Albany, N. Y.—*Carriage-Pole Tip.*—May 12, 1868.—The metallic tip has a socket to receive the end of the carriage pole, and an upwardly and forwardly curved horn for the ring of the neckyoke.

Claim.—A pole tip, A B, substantially as and for the purpose described.

77,797.—WILLIAM L. BLAISDELL, Port Byron, N. Y.—*Shaft for Vehicles.*—May 12, 1868.—The thill is connected to the cross-bar by a metallic shoe which gives bearing to a spring trace hook. The latter is drawn outward and turned when attaching the trace, a plate and spiral spring acting respectively to draw the hook inward and to turn it to the proper position when released.

Claim.—1. The hollow foot B, of iron or other metal, when arranged as described, for the purpose of uniting the shaft and cross-bar.

2. The combination of the hook D and shoe E with the springs *e* and F and foot B, all arranged and operating substantially as described, for the purpose set forth.

77,798.—ISAAC J. BOGERT, Fayette, assignor to himself and S. C. CROSBY, Manchester, Iowa.—*Stump Extractor.*—May 12, 1868.—The two lifting chains occupy the grooves upon the periphery of the windlass drum, which is operated by a pawl lever, and held by a catch pawl. The frame stands upon pivoted feet.

Claim.—1. The combination of the head block or frame A, inclined legs B and C, cylinder F, and toothed wheel G, with each other, substantially as herein shown and described, and for the purpose set forth.

2. In combination with the above, the feet N pivoted to the lower ends of the supports B, substantially as described, for the purpose specified.

3. The combination of the lever I and hooked pawl J with the toothed wheel G, substantially as herein shown and described, and for the purpose set forth.

77,799.—CHARLES L. BROWNE, Washington, D. C.—*Flame Aerator.*—May 12, 1868.—The crescent-shaped plate is attached to rings which are slipped upon the burner. The plate is formed by bending up a curved strip of metal so as to form a sharp edge beneath, and leave a groove above, along which the air passes into the flame.

Claim.—The wedged-shaped bar *a a a*, grooved on its periphery or exterior edge, and so placed on the burner that the ends or mouths of the groove are below the lowest point of combustion, substantially as and for the purposes herein described.

77,800.—EDWARD M. CARPENTER, Middletown, N. Y.—*Suspension Bridge.*—May 12, 1868.—The wedges are inserted in the openings between the upper parts of the nearly rectangular truss sections, and the bolts pass through the wedge blocks, and through the lower ends of the uprights.

Claim.—1. The construction and arrangement of the frame of a bridge, of separate sections, B B and B′, in combination with the wedges F F, substantially as herein shown and described.

2. The wedges F F combined with the screw-rods *e* and nuts *g*, substantially as and for the purpose herein shown and described.

77,801.—DE LANCE COLE, Marshall, Ill.—*Extension for Tables.*—May 12, 1868.—To a common folding leaf, rectangular, table are applied two leaves which are connected thereto by dowel pins and bars, and whose outer ends are supported by legs whose heads slide between cleats beneath the said leaves.

Claim.—The combination of the extension leaf or leaves F, provided with legs H, dowel pins G, and supporting bars I, with the hinged leaf or leaves D and slotted side bars of the frame A of an ordinary table, substantially as herein shown and described and for the purpose set forth.

77,802.—JAMES W. DAVIDSON, Mount Auburn, Ill.—*Wheat Drill.*—May 12, 1868.—The runners or openers are pivoted at the fore end, and connected to each other and to a transverse bar at the rear end; and the forward end of the seat is supported by legs resting upon said bar so that the driver, by his position upon the seat, regulates the depth at which the seed is dropped. Each opener is followed by a wheel which presses the seed down to the proper depth. The wheels serve to sustain the machine, and are placed upon two rotating axles to assist in turning.

Claim.—1. The seat K, when its forward end is supported upon the adjustable cross-bar C, carrying the seed tubes by the bars M, all arranged as described, for the purpose specified.

2. The adjustable shoes B, when provided with short vertical tubes at their rear ends to receive the flexible tubes D, said shoes being held in place and connected to each other by means of the cross-bar C secured to the short tubes, all arranged as described for the purpose specified.

77,803.—HENRY G. DAYTON, Maysville, Ky., assignor to RICHARD H. COLLINS, Cincinnati, Ohio.—*Tobacco Pipe.*—May 12, 1868.—The metallic case is bottomless, and receives the clay bowl secured therein by the metallic end of the stem.

Claim.—1. As a new article of manufacture, a bowl, D, with a perforated side, so that it can be inserted into the main bowl of a pipe.

2. A tobacco pipe, consisting of a bowl, A, without a bottom, and with a socket, B, of a removable bowl, D, which is held in place by means of the tube C, substantially as herein shown and described, and for the purpose set forth.

77,804.—LYMAN DERBY, New York, N. Y.—*Thill Fastener.*—May 12, 1868.—The thill iron passes vertically through the pivot pin, and is retained by a spring catch taking beneath the outside of the pin.

Claim.—1. The combination of the slotted bolt C with the ear-pieces B, whether attached to the clip A or jack plate, for securing the clip upon the axle, as sometimes used for the purposes hereinbefore set forth.

2. In combination with the slotted bolt C, the tenoned or wedge-shaped thill iron E, having an oblong hole, F, in it, substantially as hereinbefore set forth, and for the purposes described.

3. In combination with the tenon-shaped thill iron E, having a slot or hole, F, in it, the spring-latch G, substantially as described and for the purposes set forth.

77,805.—GUSTAVE DE VILLEPOIX, Abbeville, (Somme,) and JOSEPH FRANCOIS BONNATERRE, Paris, France.—*Liquid Extract from Vegetables.*—May 12, 1868.—A distillate of 7 gallons is made of the following: water, 16½ galls.; salt, 4 lbs.; turnip, 36 lbs.; leeks, 16 lbs.; onions, 1½ lbs.; celery, 6 lbs.; parsley, 1 lb.; cloves, 200; and 8 small tubers of garlic. The distillate is added to salt, 24 lbs.; and refined sugar, 16 lbs.

Claim.—1. As a new article of manufacture, the herein-described liquid extract of vegetables, as and for the purpose described.

2. The herein-described process for preparing the said liquid extract of vegetables, as and for the purpose described.

3. The combination with the said liquid extracts of vegetables, of a solution of salt and sugar, substantially as and for the purpose described.

77,806.—JEAN MAURICE DUFOURNET and LOUIS CLEMENDOT, Paris, France.—*Preserving the Wood of Coffins.*—May 12, 1868.—The wood of which the coffin is composed is coated with impervious, antiseptic composition, and the coffin is coated inside with paper that is coated inside and outside with metal.

Claim.—1. Rendering the wood indestructible by coating it over with any antiseptic matter.

2. Covering the coated wood with metallic sheets or suitably prepared papers so as to obtain perfect air and water-tight surfaces, substantially as and for the purpose herein specified.

77,807.—JOHN ELBERTSON, Kirkville, Mo.—*Corn Planter.*—May 12, 1868.—The seed roller is turned by a rack or strap connection with the vertically moving staff whose lower end acts to puncture the ground.

Claim.—1. The combination of the rack *e*, gear *e′*, plate i, and roller C having one flat edge, substantially as and for the purposes set forth.

2. In combination with the parts above referred to, the slide D and tube A, when all said parts are constructed and arranged so as to operate together in the manner and for the purpose set forth.

77,808.—WILLIAM H. FISH, Jr., Scarsdale, N. Y.—*Corn Planter.*—May 12, 1868.—The fore wheel is upon two vertically-adjustable arms. The seed slide is operated by a lever actuated by pins upon the side of the ground wheel. The seed drops into a short spout, which is closed at bottom by a valve that is actuated simultaneously with the slide, and allows th immediate fall of the corn brought to the spout by the previous movement of the slide.

Claim.—1. The valve *e* in the spout I, when arranged in connection with the seed slide H, so as to be operated therefrom, substantially in the manner as and for the purpose specified.

2. The fitting of the small front wheel D in an adjustable frame, E, secured to the front part of the frame A, in the manner substantially as and for the purpose set forth.

3. The combination of the two frames A E, when used in connection with a seed-dropping mechanism, substantially as shown and described.

77,809.—THOMAS FLINN, Brooklyn, N. Y.—*Water Indicator and Alarm.*—May 12, 1868.—The float is attached to the lower end of a vertical rod sliding in a cylindrical case upon the boiler, and, through medium of another rod, acts upon a bell-crank lever connected with a whistle valve to cause the whistle to sound whether the water be much too high or too low. The height of the water is seen through a transparent part of the case by the position of a pointer upon the rod.

Claim.—1. The arrangement of the rods E and F, connected so that the upper suspended rod F will only be operated by the lower floating rod, when the water in the boiler is at too high or too low a level, substantially as herein shown and described.

2. The rod F, when operated as described, in combination with the levers G H and with the valve B, all made and operating so that the valve will be opened both when the rod F is raised and when it is lowered, as set forth.

3. The above, in combination with the pin *f*, or other indicator on the floating rod E, whereby the apparatus is provided with an index, as set forth.

77,810.—WILLIAM S. FORD, Clinton, Ill.—*Bridle Bit.*—May 12, 1868.—Each end of the mouth-piece is attached to a downwardly flaring tubular piece through which the ends of the cheek straps pass, twisting around 90° to bring the end into position for attachment of the rein.

Claim.—The tubes B B, when formed as described, in combination with the bit mouth A and cheek straps C C, as and for the purpose set forth.

77,811.—A. J. GOING, Clinton, La.—*Corn Planter.*—May 12, 1868.—The planter has a jumping cutter or colter enabling its use in rooty ground.

Claim.—The arrangement of the colter D, furrow opener E, and standard F, with the beam B, as herein described for the purpose specified.

77,812.—LEWIS GRISCOM, Mahanoy Plane, Pa.—*Lathe.*—May 12, 1868.—The cross-feed screw has a pulley upon which is coiled a band whose other end is attached to a bar fixed to the shears, so that the transverse feed shall bear proportion to the longitudinal feed, and be actuated thereby.

Claim.—For operating the cross-feed screw of a lathe, the combination of the feed-screw with the pulley E, band *b*, bar J, or its equivalent, all substantially as described.

77,813.—E. L. HAGAR, Empire City, Col.—*Chart Roller.*—May 12, 1868.—The case receives a number of roller charts which are drawn up by cords in a similar manner to a window shade.

Claim.—The chart-roller constructed as described, consisting of the case C. having the hinged lid H, and adapted to receive the chart rollers B, said chart passing through the curved opening E, their operating cords F passing through separate openings in front of the charts, as herein shown and described.

77,814.—WILLIAM P. HAMLIN, Exira, Iowa.—*Liniment.*—May 12, 1868.—Intended as an outward application for wounds and bruises. Composed of alcohol, 1 gall.; gum camphor, ¼ lb.; sugar of lead, ¼ lb.; water of ammonia, 1 lb.; spirits of turpentine, 1 quart; and water, 1 pint.

Claim.—A liniment, formed of the ingredients, in the proportions, and in the manner substantially as herein described.

77,815.—JOSEPH S. HOSKINS, Spring Hill, Mo.—*Hemp Breaking Machine.*—May 12, 1868.—In a main frame are set rollers, in the peripheries whereof are a number of sharp pins, similar to those in a hackle, and through these teeth the hemp is fed to adjustable swords. These are disposed in three series parallel to the feed rollers; one series rigidly stretched across the frame; another mounted upon a lifting frame. and. having a vertical reciprocation therewith, bringing the swords borne in the lifting frame upon and off the third series, which is mounted upon springs attached to the main frame.

Claim.—1. The lifting-frame F F′, carrying the swords C, the swords D upon the frame A, and the swords E upon the springs G, secured at *g* to the frame, and passing beneath the rollers B, all constructed and operating as described for the purpose specified.

2. The lifting-frame F F′, swords C D, yielding swords E, and springs G, in combination with the whipper Q, feed rollers B, pawl R, and oscillating bar P, substantially as described, for the purpose specified.

3. The whipper Q, substantially as above set forth and described.

4. The oscillating bars P, carrying the whipper Q in their forked extremities, in the manner and operating substantially as above set forth and described.

5. The pawl R, in combination with the ratchet T and oscillating bar P, operating substantially as above set forth and described.

77,816.—AUGUST W. HERR, Chicago, Ill.—*Fire Proof Safe.*—May 12, 1868.—The inner and outer boxes have a grooved joint between the lid and body of the box, and the space between them is packed with a non-conductor in which are placed water tubes to supply steam in case of fire.

Claim.—The fire-proof box, consisting of case A and box B, each constructed and arranged, and both combined as described, the spaces between the same being provided with water evaporators, arranged in the manner herein described, or in any other suitable manner, and filled with fine salt or other bad conductor of heat, substantially answering the purpose herein specified, all combined and operating substantially as herein shown and described, and for the purposes set forth.

77,817.—S. R. HIGGINS, Parma, Mich.—*Hay Raker and Loader.*—May 12, 1868.—The rake teeth have radial movement by their own weight and cam plates, and collect the hay which is compressed between rollers, and raised to the wagon between an endless carrier and a guard frame.

Claim.—1. The two rollers B H, in combination with the endless carrier D, guard F, the adjustable frame C, and the main frame A, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

2. The revolving rake or picker G, in combination with the rollers B H, arranged substantially as and for the purpose specified.

3. Constructing the revolving rake or picker with moveable rake bars *t*, arranged so as to be operated by the curved plates *u* and their own gravity, substantially as shown and described.

77,818.—OTTO JACOBI, Philadelphia, Pa.—*Manufacture of White Lead.*—May 12, 1868.—The converter acts in conjunction with a vinegar-making apparatus and a furnace. The heat of the furnace causes vapors to arise from the vinegar mash and travel toward the vinegar apparatus, whence the acetic acid passes to the chambers containing the lead and converts it into acetate. Carbonic acid is then conducted into the converter to change the acetate to carbonate. The lead is contained in small wooden boxes with perforated sides.

Claim.—1. An apparatus for producing carbonate of lead, consisting of the furnace A, boiler D, converter G, and of the perforated boxes I I, or their equivalents, all made and operating substantially as herein shown and described.

2. The device set forth in the foregoing clause, in combination with the vinegar apparatus F arranged within the converter, as described.

3. The pipes B and J, in combination with the converter G, all made and operating as described, the pipes being provided with dampers *c* and *d* respectively, as specified.

77,819.—Charles Krebs, West Springfield, Mass.—*Countersink.*—May 12, 1868.—A wing on the end of the tool is twisted into a spiral, conical shape so as to form a countersink.

Claim.—A countersink, having one or more bent lips, when constructed substantially as herein described and set forth.

77,820.—Enos S. Laney, Waterloo, N. Y., assignor to himself and Enos Laney, same place.—*Finger for Shuttle Stop Rod in Looms.*—May 12, 1868.—The finger is made in two parts; the upper part socketed in the lower, and connected thereto by a strong torsion spring, which yields to blows and renders it less liable to slip around on the oscillating rod to which it is attached.

Claim.—The improved finger herein described, when constructed substantially as and for the purpose specified.

77,821.—Gilbert Laverr, Bridgeport, Conn.—*Lamp Burner.*—May 12, 1868.—A cylindrical wall divides the interior space of the burner into two chambers and prevents the direct radiation of the heat upon the lower part of the chimney; air circulates freely through the outer wall and lower plate of the outer chamber. Air for the supply of the flame is introduced at an opening in the floor of the inner chamber and in immediate proximity to the wick tube.

Claim.—1. The combination of the central chamber *b* with the annular chamber *e* and wick tube *d*, substantially as shown and described, and for the purposes set forth.

2. The removable burner, substantially as shown and described, in combination with a rest *q*, the said burner being so constructed as to be lifted off from the said rest *q* without unscrewing, all as set forth.

77,822.—Thomas Joseph Leigh, London, England.—*Furnace for Burning Fuel for Heating Metals and for other Purposes.*—May 12, 1868.—The fuel is fed automatically or by hand into a furnace containing molten matter such as slag. The fuel passes down a side of the furnace perforated by tuyere holes and is carried over the surface of the molten material beneath an arch descending nearly to the surface. The resulting caloric current may be carried through the tubes or flues of a steam-boiler or to a reverberatory or cupola furnace.

Claim.—The combination of fuel in a bed of molten matter, and the construction and working of furnaces adapted to this purpose, as herein described.

77,823.—William H. Lippincott, Pittsburg, Penn.—*Vulcanite Billiard Ball.*—May 12, 1868.—The perfect vulcanization is insured by treating the layers successively.

Claim.—Forming billiard balls and other balls of a similar nature, or for similar purposes, of successive layers of rubber, each layer being vulcanized as it is added, substantially as herein described.

77,824.—John A. Lobb, Independence, Mo.—*Crutch.*—May 12, 1868.—The end of the hollow staff rests on a spring which is coiled around the central stem.

Claim.—1. The hollow staff A, in combination with the hollow bar *a*, the plug *d*, and the spring *e*, substantially as and for the purpose set forth.

2. The hollow bar *a*, in combination with the plug *d*, the spring *e*, and the clamps *e' e''*.

77,825.—Arthur Lyon, Warren Shumard, and Jasper N. Robbins, Goshen, Ohio.—*Saw Set.*—May 12, 1868.—The anvil has a tapering top to accommodate it to teeth varying in size. The rest bar is pivoted to the side of the adjustable anvil and is regulated by a temper screw to secure the proper set to the teeth. The points of the row of teeth rest against soft metal stops which are adjusted by temper screws.

Claim.—1. The chisel-pointed punch D *d*, so guided as to strike the teeth at their bases only.

2. The tapering anvil G *g*, adjustable to fit teeth of different widths, as explained.

3. The combination of the anvil G, supporting bar I, punch D, and stops or guages F F', substantially as and for the purposes set forth.

77,826.—P. Marcelin and Joseph Saunders, Green Point, N. Y.—*Pan for Concentrating Sulphuric Acid.*—May 12, 1868.—The upper pans discharge by pipes near the bottom of the next pan in the series. The effect is to move the whole contents of the pan below.

Claim.—Providing sulphuric acid pans with elongated, downward extending spouts B, for the purpose of carrying the acid from the upper part of one pan to near the bottom of the next pan below, substantially as herein shown and described.

77,827.—Charles E. Mason, Elgin, Ill.—*Pallet for Time Pieces.*—May 12, 1868.—The slots for the jewels are cut through the pallet block which admits the adjustment of the jewels, in or out to insure correct action on the 'scape wheel.

Claim.—The pallet block or stud, when slit or cut across from side to side, substantially as described, for the purposes specified.

77,828.—Michael McGarry, Westfield, N. Y.—*Wash Board.*—May 12, 1868.—The carriage containing the corrugated rollers is guided by rods and ways; the rods have springs beneath and are allowed to rise when the carriage passes over clothes of considerable thickness.

Claim.—The arrangement of the spring guides B and ways *b*, connected by eyes *c*, and bends *h*, as described, when combined with wash board A and rubber C C, as herein set forth.

77,829.—Warner Miller, Herkimer, N. Y., assignor to National Wood Fiber Company, New York, N. Y.—*Machine for Making Paper Pulp.*—May 12, 1868.—Improvement on the patent of H and F. Marx, October 23, 1866. The blocks are pressed against the grindstone by a spring or weighted lever. The seives are made of metallic plates which are perforated by elongated meshes separating the pulp according to the diameter of the fibers and delivering the different qualities into different receptacles.

Claim.—1. The operating of the followers E E', or, in other words, the feeding of the wood to the grindstone, by means of springs or a lever and weight, arranged substantially as herein shown and described, and for the purpose specified.

2. The particular application of the springs I K, as shown, to admit of the followers being relieved of their pressure, whenever it is required to withdraw the followers for the insertion of the wood to be ground.

3. The placing of two or more screens, P P', one above the other, in a shoe, Q, placed in a suitable box, N, and having a shake motion communicated to it by means of a cam, R, or its equivalent when such device is used in connection with or applied to a machine for making paper pulp, substantially as set forth.

4. The curved spout or chute T attached to the upper screen P, when said spout or chute is used in connection with a shoe containing two or more screens, and all arranged in such a manner as to admit of the dividing or separating of the pulp into two or more kinds or qualities of stock, substantially as set forth.

77,830.—James W. Milroy, Galveston, Ind.—*Revolving Spade Plow.*—May 12, 1868.—The frame is mounted on wheels and supports a vertically adjustable frame which contains the operative mechanism. This consists of a wheel, armed with spades or forks on its periphery to penetrate and lift the ground as it progresses; and another wheel above, whose forks work in the intervals between those below and comminute the soil that may be carried up on the lower one.

Claim.—1. In a revolving spade plow, the hinged frame D, operating substantially as and for the purposes set forth.

2. The employment of one or more revolving plows or forks, arranged to operate substantially as described.

3. The combination of the lower spade or forked wheels R R, with the upper wheels R′ R′ gearing therein, substantially in the manner and for the purpose set forth.

4. The combination of the frame A, roller H, pawl *l*, and cords *v v*, all arranged and operating substantially as and for the purpose specified.

77,831.—A. H. Nathans and Matthew Thornton, Macon, Ga.—*Car Axle Box.*—May 12, 1868.—Around the neck of the axle is a plate upon whose face is a curved piece of packing to prevent the outflow of the grease in the axle box.

Claim.—The curved packing *c*, when arranged on the side of the plate C, in the manner and for the purposes specified.

77,832.—John Novek, New York, N. Y.—*Flour Sifter.*—May 12, 1868.—The barrel of flour is supported on a trestle above the sifter, which is reciprocated by a system of levers deriving their motions from a shaft with projecting cogs, and from a coil spring.

Claim.—1. A flour sifter consisting of the rotating cam shaft B, levers D, E, and F, and spring G, in combination with the seive H, all made and operating substantially as herein shown and described, for the purpose specified.

2. In combination with the above, the support or supports I, so arranged as to hold a barrel in an inclined position above the seive, substantially as herein shown and described, for the purpose specified.

77,833.—George N. Palmer, Greene, N. Y.—*Stone Gathering Machine.*—May 12, 1868.—The stones are drawn upon the shoe by the rakes upon the endless belts and are carried backward by the slotted conveyor, and dropped into the receiving box.

Claim.—1. The broad shoe or scraper, formed with a series of grooves or channels, and having projecting points or fingers for gathering and conveying small stones, as herein described.

2. The shoe D, as constructed, in combination with a series of rakes, E, with spring teeth *e e*, when secured to endless belts F F, or chain gear, for loosening and picking up small stones from the surface of the ground, substantially as herein set forth.

3. Hinging the grooved shoe or scraper D to the frame A A, and controlling it by the springs *h h*, in such a manner that it will adjust itself to the surface of the ground when in operation, substantially as herein described.

77,834.—William P. Parrott, (George Hughes, executor,) and John J. Bordman, Boston, Mass.—*Removing Metallic Scale from Glass and "Moils."*—May 12, 1868.—The "moils" is the metallic oxide which the glass derives from the blowpipe or ponty to which it has adhered in the process of glass blowing. It is cleaned by boiling the fragments of glass in an acidulous solution. The glass is placed in a tray in one boiler and an acidulous vapor generated in the other, which has a stirrer to agitate the contents.

Claim.—1. The employment of heat and a weak solution of sulphuric or muriatic and fluoric acids, in manner substantially as described, for removal of the metallic oxide or scale from the "moils," or from the sand or silica used for making glass.

2. For the purpose set forth, the combination of the vessel or tray C with the boiler B and the furnace A.

3. The combination, as well as the arrangement of the acid-generator E with the boiler B and the furnace A, the said boiler and generator being connected as described.

4. The combination of the condenser D with the boiler furnace and the vessel C, or the same and the generator E.

77,835.—Luther M. Parsons, Waukau, Wis.—*Cooking Stove.*—May 12, 1868.—The furnace of the elevated oven is supplied with air from a pipe in the rear, the air passing through a passage beneath the stove flue. A slide determines the course of the air, either beneath the grate or at the fore-bridge. A damper in the floor of the flue may divert the in-coming air and direct it to cool the oven.

Claim.—1. The arrangement, as herein described, of the damper K with relation to the air passage G and oven C, whereby the supply of cold air to the furnace A is cut off and directed through the oven to reduce the heat in the latter and the supply of oxygen to the fire, as set forth.

2. The arrangement of the air-supply flue G beneath the fire flue *a* of the stove, communicating with the furnace A through the ash pit when the stove is used with coal, and through the aperture *f* above the ash pit when used with wood, and whereby the cold air is heated by contact with the plate J before reaching the fire, as herein shown and described for the purpose specified.

77,836.—N. A. Patterson, Winchester, Tenn.—*Vote Register.*—May 12, 1868.—The name of each member is set up or cast in type upon each sliding block of a frame at the clerk's desk, and each block is connected by two wires to the member's desk. The wires serve respectively to draw the blocks to the "aye" or "no" side of the frame, where it is retained by a catch. The faces of the types are then inked and the vote printed.

Claim.—1. The catching strips G, or their equivalent, substantially as shown and described, in combination with the name blocks B and plate A, or its equivalent, all as and for the purpose set forth.

2. The springs *b*, attached and operating substantially as shown and described, or the equivalent thereof, in combination with the name blocks or chases B, all as and for the purpose set forth.

3. The springs *s*, of any suitable material, employed and operating substantially as shown and described, in combination with the strips G and plate A, or the equivalent thereof, all as and for the purpose set forth.

4. The device, consisting of the tablet H, strip I, and cross-piece J, or other equivalent mechanism, constructed and operating substantially as shown and described, in combination with the strips G, all as and for the purpose set forth.

77,837.—Charles T. Pooler, Deansville, N. Y.—*Perpetual Calendar.*—May 12, 1868.—Of two broad belts running upon horizontal rollers one bears the number indicating the day of the month, and the other the name of the month and the number of days therein, arranged in manner of a calendar. The belt bearing the initials of the days of the week is narrow, and outside that indicating the month and days, and is so situated that the name of the month appears above it. The rollers are turned by handles upon the outside of the case.

Claim.—1. A perpetual calendar, consisting of the bands C and E, working respectively around horizontal and vertical rollers, substantially as herein shown and described.

2. The perpetual calendar, when provided with the bands C and E, of which the latter partly covers the former, in combination with the hinged portion G of the frame in which the device is held, as set forth.

3. The band H and rollers I, in combination with the device set forth in the foregoing clauses.

77,838.—Lewis Pray, Portland, Me.—*Seat for Vehicles.*—May 12, 1868.—The movable seat is supported by X-frames, one leg of each of which is pivoted to the bed. The seat may be laid flat upon the bed, either forward or back of its usual position.

Claim.—The combination of the jump seat A, upheld by crossed legs *a a*, and pivoted, as shown and described, in combination with the sliding seat D of a vehicle body, all substantially as and for the purpose set forth.

77,839.—EMANUEL RABER, Lake, Ohio.—*Horse Hay Fork.*—May 12, 1868.—After grasping the hay the fork is lifted by the rod, which suspends it from the hinging point of the claws, the hook on the upper part of the stem engaging a hook on the trigger on the lower part. When the trigger is pulled the hooks are disengaged, the hinging point of the claws drops, and the weight is thrown upon the ropes, which open the claws and drop the hay.

Claim.—In combination with the pivoted forks A A the trigger C, hook F, and lines or cords *g*, connecting said forks with the bar E, so that the forks may enter and hold and carry the load or charge of hay upon their tines, and drop it at the place of delivery, substantially as herein described and represented.

77,840.—JOHN S. RAMSBURGH, Newmarket, Md.—*Fertilizer.*—May 12, 1868.—Composed of calcined bone 100 pounds, and sulphate of lime 25 pounds. The above, while heated, is poured into a mixing box and mingled with sulphate of soda 65 pounds, sulphate of lime 125 pounds, and leached ashes or muck 150 pounds.

Claim.—The compound for a fertilizer, composed of the ingredients, mixed in the manner and proportions substantially as herein described.

77,841.—WILLIAM RECKARDS, New York, N. Y., assignor to himself and LEONARD GATTMAN, same place.—*Bedstead, Chair, Secretary, and Wardrobe.*—May 12, 1868.—The front of the lower portion has a flap to let down and form a seat. Above it is a secretary with a falling flap to form a desk. Above the secretary is a cupboard. The desk and cupboard form the front part of the upper portion, which is hinged in the lower portion, and when the front part is oscillated forward 90° the back is found to be provided with a mattress.

Claim.—1. The box A, provided with a pendent hinged door C, and a hinged portion Ax, as shown, in connection with the adjustable box F, fitted in A, on a rod G, all being arranged in such a manner that the box F may be adjusted in a vertical or a horizontal position, substantially as and for the purpose specified.

2. The flaps D D, fitted to the inner sides of the box A, when used in connection with the hinged portion Ax of the box, substantially as and for the purpose set forth.

3. Dividing the box F into two compartments by means of a longitudinal partition *b*, one compartment containing a mattress G, and the other furnished to answer as a secretary or wardrobe, or both, substantially as and for the purpose specified.

77,842.—IRA D. RICHARDS and HENRY D. SNYDER, Carbondale, Pa.—*Fence Post.*—May 12, 1868.—The cast-iron lower portion has a step and upright flange, to which the wooden post is secured. A dovetail tenon on the face of the post enters a corresponding vertical mortise in the flange of the support.

Claim.—The fence post, with cast-iron bottom and wood top, as herein described and for the purposes set forth.

77,843.—GEORGE M. ROBINSON, New Wilmington, Pa.—*Horse Hay Fork.*—May 12, 1868.—The points are brought together like a spear head while entering the hay, and are then projected by depressing the sliding stem to which they are jointed. Being locked in this position the load is lifted, and is dumped when required by drawing the trigger cord, which releases the central stem and allows the weight of the hay to depress the prongs.

Claim.—The combination of the bars A and B, cutters D D, slotted center bar *a*, trip lever *f*, having the notch *n* and cam surface *m*, all constructed and operating together, substantially as shown and described, and for the purpose set forth.

77,844.—WILLIAM J. ROSS, Worcester, Mass.—*Lamp Burner.*—May 12, 1868.—The floor of the deflector has projections above, which secure the chimney by engaging its foot flange. Catches beneath the floor of the deflector are engaged by the bow spring, whose sides are drawn together by pressure upon the thumb and finger piece when the chimney and deflector are to be removed.

Claim.—1. The spring G, secured within the burner, in combination with the pendent hooks *h* on the cone or deflector, for the purpose of securing the latter on the burner, as shown and described.

2. The upright projections *h*x on the lower part of the cone or deflector in combination with the hooks *h* and spring G, all arranged substantially as and for the purpose set forth.

77,845.—HERMAN SEIDEL, Roxbury, Mass.—*Piano-Forte Action.*—May 12, 1868; antedated May 2, 1868.—The weight piece of the damper instead of being arranged as a lever is a loaded piece of wood, arranged vertically in front of and close to the rest block, and having a wire foot to rest upon the rear part of the key. The foot and the supplementary guide pin slide in a guide shelf projecting from the rest block. An upper stem supports the damper.

Claim.—The arrangement of the weight piece G, provided with a guide pin *b*, or its equivalent, with respect to the damper E, the key A, the frame I, and the rest block F, the whole being substantially as hereinbefore explained.

77,846.—JOHN F. SHEPARD, Hampton Falls, N. H.—*Apparatus for Making Cigars.*—May 12, 1868.—Wrap the tube with paper or tobacco leaf, turning down the end over the mouth of the tube. Fill the hopper with fine-cut tobacco and force it into the tube by successive motions. Draw off the wrapper with its filling, the latter being ejected by the plunger; twist the end, and the cigar is finished.

Claim.—The combination and arrangement of the several parts of the device, viz., the hopper A, the cylindrical tube B, the plunger C, the ferrule D, the spring catch E, the groove in the plunger F, and the opening G in the bottom of the hopper, substantially in the manner and for the purpose above set forth.

77,847.—THEODORE F. SNOVER, Oconto, Wis.—*Machine Belt.*—May 12, 1868.—A fabric of wire warp and thread weft is interposed between two layers of leather, which are cemented to it.

Claim.—The machine belt, constructed as described, by interposing between two layers of leather, or other flexible material, a series of longitudinal wires, connected by transverse textile threads, all secured together as described for the purpose specified.

77,848.—CHARLES SPRINGER, New Castle, Pa.—*Watch.*—May 12, 1868.—An adjustable, grooved collar containing packing is placed around the winding arbor or the center square which moves the hands. The watch case shuts down upon the packing and closes the opening against dust.

Claim.—The adjustable collar D, containing the packing in the annular recess *a*, in combination with the back plate B, cap C, and post A of an ordinary watch, as herein described, for the purpose specified.

77,849.—ROBERT J. STEELE, Jr., Rockingham, N. C.—*Spring Seat for Saddles.*—May 12, 1868.—The curved metallic seat is connected to the saddle tree by bowed springs.

Claim.—1. The bent springs D, forming the support for the curved seat E, each spring being secured at its ends to the horizontal cross-bars C C at the front and rear end of the frame A, as herein described for the purpose specified.

2. Forming the support for the curved seat E of single springs, whose front and rear curved ends are secured to horizontal cross bars at the front and rear of the frame A, as herein described for the purpose specified.

77,850.—ZAPHNA STONE, Kinsmans, Ohio.—*Aerial Navigator.*—May 12, 1868.—The space between the ceiling and roof and that at the ends of the car, not occupied by the well for the passengers, are filled with hydrogen gas to give bouyancy to the machine.

Claim.—A balloon or aerial navigator, constructed with an upper part A, having a flat or plane surface and an upper convex surface, and adapted to be filled with gas, in connection with a pendent car C, having compartments D D, which are also adapted to be inflated with gas, and a central compartment E for the passengers, substantially as herein shown and described.

77,851.—Hiram Taylor, Cincinnati, Ohio.—*Lubricator.*—May 12, 1868.—The loose rod which regulates the flow of oil from the lubricator rests upon an inward projection or contraction in the lower end of the stem, and is preserved thereby from contact with the journal. The rod has an end grooved to admit increased flow when that end is presented.

Claim.—1. Supporting the rod D by the lower end *c'* of the hollow stem out of contact with the journal, substantially as set forth.

2. The notched or grooved rod D *d*, adapted, by reversing end for end, to change or graduate the freedom of delivery of oil, as herein explained.

77,852.—Grey Utley, Charlotte, N. C.—*Hay and Cotton Press.*—May 12, 1868.—Each lever has fulcrum bearing beneath a block which slides upon the side guide rods, and the lever is adjustably connected by a link to the cross-beam of the platen. The platen beam is held down by retainer blocks which gravitate upon the side guide rods and are held down by cams which have frictional bearing against the rods. The elevation of the fulcrum blocks is prevented by the same device.

Claim.—1. Operating the platen D, of a cotton or hay press, by means of the blocks G H, having the dogs *i i*, the rods E E, the link L, and the levers J J, all acting in co-operation with each other, in the manner and for the purposes specified.

2. The dogs *i i*, each having the arm *a*, and operating in combination with the blocks G H, rod E, and eccentric collar *m*, in the manner and for the purpose set forth.

77,853.—Jonathan Walton, Brooklyn, N. Y.—*Bail Ear for Pails.*—May 12, 1868; antedated April 30, 1868.—The prongs of the wire bail ear enter the wood and it is further secured by a wire staple around the neck.

Claim.—The bent wire bail ears B, constructed as described, the two prongs *b b* passing through the side of the pail A, and clinched upon the inner side, and held in position by means of the staple C, encompassing said ears below the upward-projecting loop *a*, their inner ends also passing through the side of the pail A, and clinched upon the inner side thereof, as herein shown and described.

77,854.—Lawson S. Warner, Chicago, Ill.—*Concrete Block Press.*—May 12, 1868.—The follower is raised to give pressure by a compound system of toggle levers, and the block is raised from the mold by a simple lever when the sliding cover has been removed.

Claim.—The spring S, in combination with the toggle bars H, G, E, and F, and follow bottoms D, substantially as shown and described, for the purpose of lowering the follow bottoms to their first position, all arranged as set forth.

77,855.—Thomas P. Warren, Norfolk, Va.—*Plow.*—May 12, 1868.—Improvement on the patent of Warren and Woodhouse, June 10, 1867. The moldboard is attached to the post and landside by bolts which pass through slots in the said moldboard so as to render the same adjustable. An angle iron sole is adjustably bolted to the landside.

Claim.—1. The slots *a a* and *a'*, when arranged in a vertical or inclined position in the moldboard, and all extending in the same or parallel lines, in the manner and for the purpose set forth.

2. The reversible heel iron and guide G, when constructed so as to be employed in the manner and for the purposes specified.

77,856.—Godfrey Widmer, New York, N. Y.—*Adjustable Couch.*—May 12, 1868.—The laterally and longitudinally adjustable canvas covered couch has an eccentrically-hung head rest, so arranged that it can be turned upon its horizontal axis to adjust its height.

Claim.—1. A couch, consisting of a canvas or other sheet F, which is fitted over an adjustable frame B C H, so that it can be stretched in either direction, as set forth.

2. The eccentric rings E E, when arranged as described, so that they serve to elevate the sheet F, to form the head rest of the couch, when said rings are adjustable around a common axis, as set forth.

3. The strap I, arranged on the under side of the sheet F, in front of the head rest, substantially as and for the purpose herein shown and described.

77,857.—William Young, Easton, Pa.—*Device for Clearing Pipes.*—May 12, 1868.—The nozzle of the flexible steam pipe consists of a hollow reamer which enlarges to the necessary size any contracted part of a cock or coupling in the frozen water pipe.

Claim.—The arrangement of the tubular reamer E with the steam pipe D, substantially as set forth.

77,858.—C. F. Allen, Paw Paw, Mich.—*Car Truck.*—May 12, 1868; antedated May 9, 1868.—Improvement on his patent, April 24, 1866, and June 18, 1867. The six-wheel truck has a rigid frame maintaining the wheels in the same line at all times, but allowing them to run over curves in the track by having the flange removed from the middle wheel of each trio. The truck is so supported that the weight shall be equally distributed upon the three axles, and is consequently balanced over the center of the middle axle, but giving it support when needed outside the same.

Claim.—1. So supporting the end of a car upon a six-wheeled truck that the weight shall be equally distributed upon all the wheels, by resting it upon a support over, but not upon, the middle axle, said support being sustained by springs placed on each side of and equidistant from the middle axle, and the whole weight being transferred to the axles through a rigid frame, substantially in the manner set forth.

2. In combination with the beam F, the braces G, and swinging beams H, placed on each side of the middle axle, and supporting upon their outer ends the side-bearing blocks N, so as to balance the weight of the end of the car over the middle axle, substantially in the manner set forth.

77,859.—George M. Allerton, New York, N. Y.—*Forming Tight Seams in Rubber Cloth.*—May 12, 1868.—The seam is riveted and India-rubber stoppers are placed over the rivets and the edges of the lap to render the seam strong and also tight.

Claim.—The stoppers to the rivets, and the lapping strips applied to and combined with the joint or seam of India-rubber cloth, as and for the purposes set forth.

77,860.—Jacob Althouse, Cross-roads, Pa., assignor to himself and Joseph V. Winemiller.—*Fertilizer.*—May 12, 1868.—Composed of air-slacked lime, 700 lbs.; broken bones, 180 lbs.; and wood ashes, 100 lbs. The above is put into a box and covered with 3 inches of ground plaster, and urine 320 lbs. gradually added. After the bones are dissolved, wheat bran, 400 lbs., is spread upon the barn floor, and the aforesaid composted therewith, with the addition of pulverised chicken dung 300 lbs.

Claim.—1. The above-described composition or fertiliser, compounded in about the proportions specified, for the purpose of manuring land.

2. The process described of mixing and preparing said composition or fertiliser, substantially as described.

77,861.—D. C. Baker, Buffalo, N. Y.—*Washing Machine.*—May 12, 1868.—The clothes are held by the aprons in contact with the slatted, rotating cylinder, and carried beneath the liquor in the suds-box. The aprons are kept taut by an idler roller journaled in spring arms.

Claim.—The combination and arrangement of the slatted cylinder B, one or more rollers D, the series of aprons *k k k*, and spring roller E, when employed in the manner and for the purpose herein specified.

77,862.—E. H. Barney and John Berry, Springfield, Mass.—*Skate.*—May 12, 1868.—The toe clamps are operated independently to give means of transverse adjustment. The socket which secures the heel to the skate is adjustable to compensate for wear in the heel. A projection upon the toe of the runner gives a center on which to turn when the heel is raised.

Claim.—1. The heel-socket F, consisting of the portion p, having the button-socket therein, and the threaded neck r, and operated by means of the screw G, thus securing the skate to the inner sole of the boot, all constructed and operating substantially as described, and for the purposes specified.

2. A skate, having the point or projection t formed upon the toe of the runner, substantially as described, and for the purposes specified.

3. A skate, having a concave bottom, with the chamfered or beveled sides n n, substantially as described and herein set forth.

4. The heel-fastening to a skate, having the neck x', the button h^2, the hole m^2 in the heel plate C, and the hole m in the button-socket, all of the same shape; the button h^2 and stem having upon its lower end the larger portion s^3, substantially as described.

77,863.—AUGUST BERTRAM, New Albany, Ind. —*Finishing Leather.*—May 12, 1863.—Walrus fat is heated to a somewhat fluid state, and rubbed upon the leather, which is afterward dried over a slow fire.

Claim.—Rendering leather water-proof, when the same is accomplished by the process substantially as described.

77,864.—NELSON P. BOWSHER, Ligonier, Ind.—*Power Indicator.*—May 12, 1868.—An index and pointer is combined with the common ball governor to indicate the power by the position of the same.

Claim.—1. The peculiar arrangement and combination of the dial S, pointer P, shaft M, coiled spring N, pulley K, cord I, pulley J, arm G, and sliding collar F, of the ball governor D, E, B, E, D; the several parts being arranged in the manner and for the purpose specified.

2. The combination of the power indicator with a grain separator, substantially as and for the purpose herein specified.

77,865.—GEORGE E. BRETTELL, Rochester, N. Y.—*Waste Valve for Pumps.*—May 12, 1868.—The pump tube has a cast section which has a side passage for the water, and in line with the main tube is a stem carrying two valves; the lower one forms a check valve upon the top of the lower section of tube, when the pump is at rest, and is raised by the ascending current of water when the pump is operated. The raising of the lower valve closes the other against the port through which the water from the upper part of the pump escapes when it is at rest.

Claim.—The arrangement, in pump-pipes, of the automatic escape valve, substantially in the manner herein shown and described, and for the purposes set forth.

77,866.—HENRY D. BROWN, Tipton, Iowa.—*Sheep-Shearing Chair.*—May 12, 1868; antedated April 25, 1868.—The butt of the sheep rests in the hollow of the platform, and the hind legs are secured by straps. The sheep is leaned against one rack or other, to shear the respective sides; a strap on each being arranged to fasten the head. The racks are adjustable in inclination.

Claim.—1. Oscillating racks for sheep-shearing chairs, adjusted and fastened by braces, with a bolster attached to throw out the side of the sheep, and prevent the skin from wrinkling.

2. The manner of fastening the hind legs of the sheep by means of straps and pins, as shown in the drawings.

77,867.—ISAAC BUCKINGHAM, Seymour, Conn., assignor to himself and H. W. RANDALL, same place. —*Automatic Car Ventilator.*—May 12, 1868.—The circulation of air is caused by a fan whose revolution is induced by the movement of the car, by means of a windmill within a case upon the car top.

Claim.—The arrangement of the driving blades D within the case F, the said case provided with openings G and H, so that the said driving blades will revolve in the same direction, into whichever of the said openings the air enters, and having combined therewith, and so as to be operated thereby, the spiral blades C, upon a vertical shaft within a cylinder, B, substantially in the manner and for the purpose described.

77,868.—JOHN H. BULLOCK, Gold Hill, Nevada. —*Shoe for Amalgamators.*—May 12, 1868.—The quicksilver is thrown by its superior gravity, to the periphery of the pan, and is caught upon the points of the shoes and carried back to the center through grooves made at necessary angles in the faces of the shoes.

Claim.—The combination and arrangement, on the face of a shoe or grinder for amalgamators, of the grooves H H, with the supplementary grooves I I, by which the quicksilver is taken from different points at the outer edge of said shoe, and delivered at different points at the rear of the same, to be in the way of the following shoe, substantially as described.

77,869.—WESLEY B. CAMPBELL, Abingdon, Iowa.—*Rotary Steam Engine.*—May 12, 1868.—The periphery of the piston is formed into a number of sections of volutes, and it is driven by the pressure of steam upon the radial surfaces between them. A radially sliding spring valve works in the case.

Claim.—The arrangement of the following parts: The induction pipe A, the case B, wheel C, packing D, valve E, spring F, and eduction pipe G, substantially as set forth.

77,870.—M. G. COLLINS, Baltimore, Md.—*Device for Boiling and Stirring Fruit.*—May 12, 1868; antedated May 8, 1868.—The lower stirrer bar just fits the bottom and is revolved with a vertical shaft and higher stirrer by a hand crank and cog gearing.

Claim.—In a fruit-butter stirrer, the detachable frame C, with lids M, constructed and arranged as described, provided with the flanges E F, and supporting the posts G, having the shafts H upon one side of the vertical stirrer K, as herein shown and described.

77,871.—ARCHIBALD C. CRARY, Utica, N. Y.—*Heating Railroad Cars.*—May 12, 1868.—The caloric current from the locomotive boiler passes through the flues of a second boiler, the steam from which is used to heat the cars.

Claim.—1. The separate steam generator M on the locomotive, heated by the waste heat of the smoke or of the exhaust steam, for the purpose of heating the train of cars, and constructed substantially as herein described.

2 In combination with a separate steam generator, M, constructed as above specified, the use of pipes O, H, and I, in the manner as herein set forth and described.

3. In combination with a separate steam generator, M, and pipes O, H, and I, as above specified, the use of universal or compound joints, in the manner substantially as herein set forth and described.

77,872.—EDWARD DEETZ, Philadelphia, Pa.—*Adjustable Sofa.*—May 12, 1868.—The back of the sofa may be made horizontal or be fixed at any desired inclination.

Claim.—1. The rounded and notched rear portion of the end frame A of the sofa, in combination with the end frames of the back, hinged to the body, and provided with spring bolts adapted to the notches on the said rounded portions of the frames A, all as set forth for the purpose specified.

2. The above, in combination with the within described cords and pulleys, by which the spring bolts at the opposite ends of the sofa may be operated simultaneously, as described.

77,873.—WILLIAM C. DOUTHETT, Rochelle, Ill. —*Churn.*—May 12, 1868.—A side extension of the dasher rod passes through a spherical ball, jointed to an arm which is revolved by a hand crank. The dasher has a circular and vertical reciprocating motion, and carries vertical and horizontal preforated dashers.

Claim.—1. The provision, in a churn-operating mechanism, of a weighted arm, F, applied substantially as and for the purpose described.

2. The combination, with the arm F, of the ball f^1 and jaws f^2 f^2, substantially as set forth.

3. The combination of the bent or twisted blades or wings J J with the disk or dasher B, substantially as and for the purpose set forth.

4. In a churn, the herein described mechanism, by means of which a complete rotary movement of the churn dasher is produced, while it shall, at the same time, be caused to rise and fall, as herein set forth and described.

77,874.—Levi S. Enos, Almond, assignor to Nathaniel Sweet, Allegany County, N. Y.—*Alloy for Metallic Roofing.*—May 12, 1868.—The alloy consists of lead, ¾ lb; tin, ¼ lb; and antimony, 2 drams. It is rolled into sheets.

Claim.—The above-described compound, when made substantially in the manner and for the purpose specified.

77,875.—Frederick Fillingham, Ithaca, N. Y.—*Rigging for Jib Sails.*—May 12, 1868.—The staysail, or jib, is adjusted in position by the lateral oscillation of the boom, to which its forward corner is connected.

Claim.—The construction, arrangement, and use of the jib sprit or boom, for the purpose of moving and adjusting the jib-sail to any point on the starboard or port side of the bowsprit and vessel, as and for the purposes described.

77,876.—James C. Finn, Philadelphia, Pa., assignor to himself, William Howell, and Charles A. Duy, same place.—*Decorating Walls.*—The veneering is placed upon the wall in pieces of like size, and formed into panels by molding strips which cover the joints.

Claim.—The decorating of walls with a material composed of veneers or ornamental papers, mounted on muslin, stiff paper, or other fabric, when the said material is tacked at the edges only to the walls, and when the joints between the pieces are covered by moldings or beadings forming part of the decoration, all substantially as and for the purpose herein set forth.

77,877.—D. L. Gibbs, Worcester, Mass., assignor to R. Ball & Co., same place.—*Mortising Machine.*—May 12, 1868.—The side arm of the bell-crank lever is actuated by stops to cause the semi-rotation of the pawl collar; and the pawl acts upon two ratchet notches of the tool spindle to cause its rotation in intermitting movements of 180°, so as to reverse the cutting edge of the chisel at each effective movement.

Claim.—1. The combination, with the chisel spindle, the pinion or segment gear thereon, and the pawl *a* and ratchet *f*, of the bell-crank lever and its toothed segment, actuated by stops *m n*, in the manner described, and the cam I and spring N, for completing the movement of the spindle, substantially as and for the purposes shown and described.

2. The combination, with the bell-crank lever and its toothed segment, arranged to operate the chisel spindle, as specified, of the friction spring H, ledge *o*, and stops *p p*, substantially in the manner and for the purposes shown and described.

77,878.—James F. Gordon, Kalamazoo, Mich.—*Grain Binder.*—May 12, 1868.—The rake slides along a guide bar at the rear of the platform and makes its effective sweep toward the wheel frame where the gavel is seized and bound into a sheaf.

Claim.—1. The binding arm H, capable of adjustment in the direction of the length of the grain, in combination with an automatic twisting device, substantially as and for the purposes described.

2. The shafts G G^2, in combination with the binding arm H, substantially as and for the purposes set forth.

3. The arrangement of the cam wheel J, forked lever I, pitman *f*, and lever *n*, for giving a vertical vibrating motion to the arm H, substantially as described.

4. The hooked twisting wheel A^3, constructed and operated as described and represented, having an intermittent rotating motion, in combination with the stationary knife P^3, as and for the purpose explained.

5. The clamp plates or jaws 2 and 3, arranged and operating in combination with the arm H, substantially as and for the purpose set forth.

6. The slide plate L^4, arranged and operating in combination with the arm H, substantially as and for the purpose set forth.

7. The combination of the shaft 9, spring g^2, chain *h*, and sector X, for giving an intermittent motion to the twisting device A^3, substantially as described.

8. The combination of the reciprocating rake T, hinged weighted lever S, stop pin t^3, and guide U, all arranged and operating substantially as described.

9. The employment of the jointed arms t t^2, stop pin t^3, and hook t^4, or equivalent devices, in connection with the connecting rods S S^2, e e^2, whereby the rake is held at rest for a specific period, every time it completes its motion toward the binder, substantially as and for the purpose explained.

10. The tension device, consisting of the arms H^4 h^5 h^6 and spring h^4, applied and operating substantially as and for the purpose explained.

11. The combination of crank lever *e*, rod e^2, arm *t*, or its equivalent, slotted lever S, and pitman S^2, for the purpose of imparting a reciprocating motion to the rake, substantially as described.

77,879.—Jesse Havens, Auburn, N. Y., assignor to himself and George Palmer, same place. *Stump Extractor.*—May 12, 1868.—The windlass barrel has differential portions around which the ends of the rope are coiled, the tackle block being hung upon the end of the rope.

Claim.—The differential cylindrical shaft D, tackle block G, and the rope C, in combination with the frame, substantially in the manner and for the purposes herein shown and described.

77,880.—Walter B. Higgins, San Francisco, Cal.—*Carriage Spring.*—May 12, 1868.—The springs are formed of tough wooden strips, bent into elliptical form, and India-rubber cylinders are interposed between the carriage bed and the springs.

Claim.—The combination of the springs D D with the wooden spring A, to form the connection of the same with the body of the carriage, substantially as described.

77,881.—Robert V. Hilton, John G. Webster, and Hiram E. Wheeler, Lowell, Mass.—*Chisel Handle.*—May 12, 1868.—The central plug is formed on the top of the handle to pass through washers of rubber or leather which are covered by another of rawhide.

Claim.—The handle C, plug A, elastic rings B B, and cap E, constructed and arranged in the manner and for the purpose as described.

77,882.—Royal E. House, Binghamton, N. Y. *Electro Phonetic Telegraph.*—May 12, 1868.—The sound made upon the sounding plate by the motion of the armature is concentrated by deflection to a single point. A barrel-shaped case is placed upon the sounding plate and the sound deflected by the inside thereof to a point outside it. The proper form for the deflector may be discovered by the use of a light at the point of sound, and a number of small mirrors so disposed as to reflect the light to the desired point.

Claim.—1. The use of the reflector, shaped and proportioned in accordance with the principles described, and for the purposes set forth.

2. The respective arrangement and combination of the reflector and sounding head, as described.

3. The combination of the reflector with sounding head and limiters, as described, and for purposes set forth.

4. Hinging the sounder and adjusting its angle, as described, for the purpose of regulating the distance through which the permanent magnetic force shall move.

5. The use of a set of deflecting magnetized needles, constructed as described, and relatively arranged as described, for purposes set forth.

6. Constructing the axial aperture of a deflecting needle helix as described, for the purposes set forth.

7. The combination of a deflective needle helix, constructed with an axial aperture, as described, with a set of deflective needles, constructed and relatively arranged as described, for the purposes set forth.

77,883.—George W. Hunt, Hopkinton, Mass.—*Sleeping Car.*—May 12, 1868.—Improvement on his patent, Dec. 10, 1867. Each of the bed bottoms is hung by points at its opposite ends and near its rear side upon two long swinging links, the opposite ends of which are hung at or near the sides of the car. The length and disposition of the links are such that when thrown down the berth occupies its proper position; and when raised, the berth is inverted against the car top where its front side is sustained by bolts.

Claim.—1. The berth leaf or shelf *d*, when hung by links *f*, in such manner that it may be swung up and locked against the roof, or swung down and locked in position to form the berth, substantially as shown and described.

2. In combination with such swinging shelf *d*, the folding partition piece *h*, hinged crosswise at the top of the car, and folding up and locking against the bottom of the shelf *d*, or swinging down to form a partition or a support for the front of the shelf *d*, substantially as described.

77,884.—George B. Isham, Burlington, Vt.—*Culinary Apparatus.*—May 12, 1868.—The vessel is placed upon a stove hole, and has removable bottoms of iron and soapstone to regulate the heat. Perforated disks at various heights give means for roasting, broiling, &c. A soapstone disk is applied to baking griddle cakes, and a hollow bottom gives means for steaming.

Claim.—1. The combination of the several parts of a culinary apparatus, or steamer, baker, broiler, and fryer combined, all as herein described, and for the purpose set forth.

2. The particular construction of the outside, A, with its detachable bottoms F and D, all as herein described, and for the purpose set forth.

77,885.—Joseph H. James, Warren, R. I., assignor to himself and Seth Baxter, same place.—*Buckle.*—May 12, 1868.—The end of the strap is lapped around a bar of the tongue and then passed beneath a bar of the frame. It is clamped by drawing the bar of the tongue against the bar of the frame when tension is applied to the strap.

Claim.—A buckle composed of two frames, one sliding upon the other, and arranged with a thumb-rest, or its equivalent, substantially as described.

77,886.—William J. Keep, Buffalo, N. Y.—*Shield for Smoothing-Irons.*—May 12, 1868.—The slotted shield has a shank by which it is connected to the holder, and it slips over the smoothing-iron so as to ward the heat from the fingers.

Claim.—A shield-plate, A, for smoothing-irons, provided with the oblong opening or openings *a* for admitting the handle of the iron, and with a shank, B, for connecting a holder with the shield, constructed and operating substantially as herein specified.

77,887.—Minor Kilbourne Kellogg, Baltimore, Md.—*Postage and Revenue Stamp.*—May 12, 1868.—The design of the stamp is printed in oil and water pigments having different colors. The first may be printers' ink, and the last consist of honey 3, and isinglass 7 parts, mixed with water and the desired pigment. The object is to render a canceling mark irremovable without defacing the design.

Claim—So printing a revenue or postage stamp, or check requiring cancellation, with a non-fugitive color, and also with a fugitive ink or color, composed of the ingredients herein described, that the fugitive color shall lie in the blank places left after printing with the non-fugitive color substantially as described.

77,888.—John E. Kennedy, New Orleans, La.—*Screw Propeller.*—May 12, 1868.—The described shape is designed to prevent slip and to drive the water as nearly as possible in an unbroken column without splashing. The rear and front surfaces of the blades have two reversed curves of different proportions. The outer represent arcs of circles of *greatly* less diameter than the inner. The water passes with a certain rapidity away from the first curve which has started it in motion, and impinges effectively upon the outer curve.

Claim.—Constructing the blades or wings of a screw propeller with two reversed curves, when the outer curves shall be drawn upon a radius equal to one-fourth only of the radius of an arc of the circumference of the screw, and the inner curves upon a radius three times the length of the radius of the said outer curves, substantially as herein described, for the purpose set forth.

77,889.—Oscar C. Kerr, Philadelphia, Pa.—*Sewing Machine.*—May 12, 1868; antedated May 4, 1868. The needle bar has vertical reciprocation. The loop carrier has reciprocation toward and from the path of the needle, and also a slight vertical movement. In making the stitch mentioned in the first clause of the claim, the upper thread being passed through the eye of the needle as the needle rises, the loop holder will pass through the thread at the back of the needle, which continues its ascent until the loop holder turns to a horizontal position, thus distending the loop while the needle rises above the fabric. The cloth and loop carrier have simultaneous movement; the projections of the latter pass into the loop and between the prongs of the loop holder, which recedes from the needle, disengaging itself from the loop which, as the needle continues its descent, is drawn up around the projections of the carrier. As the needle again commences to ascend, the loop holder is turned to a vertical position and moved forward so as to penetrate the new loop of the thread at the rear of the needle. As the needle passes upward and from contact with the fabric the loop left upon the holder is distended by the latter, which turns to a horizontal position, after which the fabric is moved onward and the loop upon the carrier is carried toward the other loop. The needle now descends between the projections of the carrier and through the loop upon them and in front of the other loop, after which the carrier moves backward and upward, so that the projections are withdrawn from the loop. The carrier then moves forward and downward, the projections passing into the other loop, while the holder recedes from the loop which is drawn around the projections.

Claim.—1. A loop carrier, U, constructed substantially as described, and operating in conjunction with an eye-pointed needle and a loop holder, W, to produce, from the needle-thread, the stitch, Fig. 15, in the manner set forth.

2. A needle, *n*, and loop holder, W, in combination with an adjustable loop holder, U, the whole being constructed and operating substantially as and for the purpose specified.

77,890.—Ira Kinman, Freeport, assignor to Sarah Kinman, Stephenson County, Ill.—*Curtain Fixture.*—May 12, 1868.—The roller is rotated by a crank which may be turned in the journal rod so as to engage a catch in the frame and set the roller to the desired elevation.

Claim.—The reversible crank-handle *h* and angular catch *g*, in combination with the roller B, and arranged to operate as set forth.

77,891.—John D. Kirkpatrick, Urbana, Ohio.—*Preventing Hogs from Rooting.*—May 12, 1868.—One jaw rests upon the snout and has a spout-shaped cutter which penetrates the gristle as the other is pressed against the end of the snout. The barbed plug is then inserted, and the barb prevents retroaction.

Claim.—The within-described instrument, consisting of the handles A A′ B B′, and the plates or parts D E, having the openings *d f*, and the cutter *g*, provided with inclined side-pieces *h h*, substantially as and for the purpose set forth.

77,892.—E. I. Kline, Kirkville, Iowo.—*Bee-Hive.*—May 12, 1868.—The hive is made in three cylindrical sections of glazed earthenware. The lower section has a concavo-convex diaphragm, to the upper side of which the bees enter through a horizontal spout. The moth chamber is beneath the diaphragm and entered by holes through the outer shell; the moth chamber may be opened by removing a shutter. An upper chamber communicates with the main chamber through holes near the edges of two horizontal glass disks, the upper one of which is turned to open or cut off communication.

Claim.—A bee-hive, combining in its construction the following elements, viz: First, a base, A, constructed with a diaphragm, A′, spout B, and openings C; second, a section, D, with slats at E; third, the double glass plates F; fourth, the section G; fifth, the glass plate H; and, sixth, a cap, I; said base sections, and cap being composed of glazed earthenware, and the parts being arranged substantially as described.

77,893.—JOSEPH KOEHLER, New York, N. Y.—*Fishing Apparatus.*—May 12, 1868.—The line is laid over a springjerk and lever trigger, so arranged that the spring is disengaged by a nibble at the hook, and the line is jerked to secure the fish.

Claim.—1. The trigger-lever *d*, applied substantially as specified, in combination with the spring jerk, the parts receiving the fishing line as set forth.

2. The swing arm *h*, in combination with the trigger lever and holding eye 11, or its equivalent, so that the parts may be folded as set forth.

3. The steel yard *n*, in combination with the trigger lever *d* and and jerk spring *c*, substantially as and for the purposes set forth.

4. The spring hook *q*, formed of the arms 14, extending from the coil 15, and terminating in the reverse hooks 16, so that the hooks can be opened by pressing the arms 14 toward each other, as set forth.

77,894.—WILLIAM O. LESLIE, Philadelphia Pa.—*Brick Machine.*—May 12, 1868.—Clay from the pit is thrown into the tub where it is crushed by the rollers and passes through the chute into the mixing tub, when it is acted on by revolving knives and swept into the box. The horizontally reciprocating plunger drives it into the molds as they are alternately presented by the carriage. The clay is then pressed by a vertically moving plunger operated by a cam. Segment cogwheels and rack actuate the mold carriage. A crank pin and slotted yoke operate the horizontal plunger which moves the clay from the box to the mold.

Claim.—1. The combination of the pug mill or mixing tub G, with the chamber *g′* having the plunger I working therein, the chamber *g′* with the plunger J, and the reciprocating mold carriage W, all constructed and arranged to operate substantially as shown and described.

2. The mold carriage provided with the racks T, in combination with the segment wheels S and S′, and the spur wheels Q and Q′, when arranged as shown and described, for the purpose of imparting to the mold carriage a reciprocating motion, as set forth.

77,895.—WILLIAM O. LESLIE, Philadelphia, Pa.—*Machine for Dressing Stone.*—May 12, 1868.—The cutters are attached to a rotating wheel and act upon the face of the stone, which rests upon a traversing table and is fed along to the cutters by gearing from the main driving shaft.

Claim.—The combination of the wheel A, having the cutters attached, with the table B provided with the rack *a*, and the shaft *m* provided with the pinion *u*, and having its outer end journaled in the lever L, all arranged to operate substantially as described.

77,896.—GEORGE F. LEWIS, Philadelphia, Pa., and FREDERICK D. STUART, Washington, D. C.—*Cylindrical Plate Printing Machinery.*—May 12, 1868.—The engraved cylinder is heated by a row of gas burners placed in the hollow axis of the cylinder, which may be cast iron, surfaced with steel or copper. The ink is applied by rollers adapted to stand a moderate heat. The whiting is applied to the detergent roller by a board which is held in contact with its lower side by a series of spiral springs.

Claim.—1. Applying whiting or other material, as a detergent, to the cylinder, in a solid form, by means of boards i^1 i^2 and springs, i or equivalents, substantially as described.

2. The buff f^3 applied to the detergent roller F, substantially as and for the purpose described.

3. The application of gas to heat the printing cylinder and the ink rollers, by means of pipes b passing through said rollers, and provided with burners or jets b^1 b^2, substantially as described.

77,897.—E. J. LEYBURN, Lexington, Va.—*Harvester.*—May 12, 1868.—The combined rake and reel revolves in the arc of a circle whose axis is parallel with the finger-bar. The rake is made to act as a reel-bar in gathering the grain, and then to descend automatically to sweep the gavel from the platform. That portion of the cam which causes the peculiar action of the rake is under command of the driver, so that it may be thrown out of action and allow a greater amount of grain to accumulate. The draught frame, platform, and finger bar are simultaneously adjustable upon the draught wheels in a vertical direction. The cutting apparatus may be raised independently of the tongue.

Claim.—1. The shifting device *f*, constituting an auxiliary to the cam J, substantially in the manner described, and applied to a combined rake and reel of the character substantially as described, whereby the raking can be stopped and started at pleasure while the reels and rake continue to revolve, substantially as set forth.

2. The combination of the vertically and bodily adjustable frame A^3 with the rock shaft S and the inner and outer supporting wheels D and d^3, substantially in the manner and for the purposes described.

2. The segmental toothed frame E, provided with a latch and lever, and pivoted to the draught frame A^3, said frame having the axle of the supporting wheel D applied to it, and being attached, by means of a lever, B^1, to a pivoted draught pole, B, so that in the act of raising and depressing the draught frame the front end of said pole shall remain in one given position, substantially as described.

4. The idler, or pulley E^1, applied to the vibrating frame E, so as to maintain proper tension of the belt C^1 at all times, substantially as described.

5. The toothed segment frame E, adapted for suspending the frame A^3, and for being geared with toothed pinions *a a*, and for being connected to the devices which actuate the wheel d^3, substantially as and for the purposes described.

6. The continuously vertically revolving reel arms I^1, intermittent horizontally sweeping rake I^2, and a shifting device, *f*, in combination with a hand lever, G^1, and catching device, y y^1, substantially as described.

77,898.—JOHN LONGANECKER, New Pittsburg, Ohio.—*Stump Extractor.*—May 12, 1868.—A pinion on the sweep axis gears into a larger wheel on the shaft of the drum on which the rope is wound. The additional power of the tackle is exerted upon the end of the lever which is secured by a chain to a stump so as twist out the latter as the lever is swept around.

Claim.—The combination of the tongue C, gears b' and d, windlass D, rope d^2, pulleys E and F, and lever G, with the frame A and braces *a*, when arranged and operating as and for the purpose set forth.

77,899.—JOHN MCCOY, Philadelphia, Pa., assignor to himself and W. T. SNELL, same place.—*Metal Can and Case for Putting up Alkalies.*—May 12, 1868.—The can has a body, bottom, an inner annular cover, and an outer cover, all composed of sheet metal, and secured by lap joints made tight without solder.

Claim.—The within-described can or case, composed of the body A, bottom *a*, inner annular cover *b*, and outer cover *d*, all being arranged and secured by lap joints, as set forth for the purpose specified.

77,900.—FRANKLIN P. MCCULLON and WILLIAM WOODCOCK, Philadelphia, Pa.—*Oil Cup for Steam Pressure.*—May 12, 1868.—The flow of oil from the lubricator is adjusted by a screw-stem whose end is adjusted in proximity to the opening, or by a faucet.

In each case a pointer shows the extent of opening in connection with an index.

Claim.—1. The needle or plug B, and the index or finger E, in combination with an oil cup A, substantially as shown.

2. The key F′, finger I, sieve K, in combination with an oil cup A, substantially as shown.

77,901.—Achille F. Migeon, Wolcottville, assignor to Union Hardware Company, Torrington, Conn.—*Skate.*—May 12, 1868.—The brackets by which the tread plates are secured to the runner have elongated mortises to receive tenons on the runner posts. One of the sole clamps is fastened by a screw to the tread plate, and the other is moved up to the edge of the sole by a temper screw.

Claim.—1. The metallic brackets *g g*, each formed with an elongated hole, receiving the tongue at the end of the runner arm, into which said tongue is riveted, so that said brackets stand as T-pieces across the arms of the runner, and are united to the sole plate by the screws or rivets *o*, as set forth.

2. The clamps *k l*, in combination with the screw *m*, that passes through the flange of the clamp *l*, and through a threaded hole in the runner, fitting said screw *m*, so as to confine the boot sole by the clamps *k l*, in the manner specified.

77,902.—William Hartley Miller, Philadelphia, Pa.—*Manufacture of Packing for Steam Engines, &c.*—May 12, 1868.—The fibrous material and the powder are united and prepared to resist steam and water by saturation in heated oil, grease, or wax.

Claim.—The process above described, or its substantial equivalent, whereby the combination of dry powdered and dry fibrous material may be secured from the effects of water or condensed steam.

77,903.—C. D. Moody, St. Louis, Mo., assignor to himself and Horace Billings, Beardstown, Ill.—*Car Brake and Starter.*—May 12, 1868; antedated April 28, 1868.—The power expended in stopping the car is stored in a spiral spring surrounding the axle, and is expended in starting the car.

Claim.—The combination and arrangement of the wheels B, B′, and D, with the axle A, and the spring C, as described and set forth.

77,904.—John H. Nolf, Philadelphia, Pa., assignor to himself and John D. Williams, same place.—*Composition for Refining and Toughening Iron.*—May 12, 1868.—For a charge of 500 lbs. of pig iron the following composition is prepared: Red lead, 1¼ lb.; chloride of potash, 4 oz.; manganese, 5 oz.; and salt, 1½ pint. When the pig iron has been thoroughly melted in the puddling furnace the composition is thrown upon it and the dampers closed for a short time. .

Claim.—The treatment of iron during the process of puddling with a composition consisting of the within-described ingredients, or their equivalents, in the manner and for the purpose described.

77,905.—Galen Orr, Needham, Mass.—*Cutting and Forming Blind-Hook Blanks.*—May 12, 1868.—The blanks are cut economically from a plate according to the diagram, and are then forged to the shape required.

Claim.—Making blind-hook blanks by cutting plate metal to the shape herein specified.

77,906.—Frederick W. Palmer, West Richmondville, N. Y.—*Hand Fork.*—May 12, 1868.—Intended for gathering cut grain in the swath and pitching it on to the load without binding into sheaves. The tines have a double bend, forming a cradle for the grain.

Claim.—A hand-fork, substantially as described, for the purposes set forth.

77,907.—Nelson Palmer, Albany, N. Y.—*Horse Hay Fork.*—May 12, 1868.—The fork is pivoted to swing in a bail, and is held in position to retain hay by a bent spring piece which bears against a pin in the fork and a roller in the bail until it is discharged by the trigger cord to dump the load,

Claim.—The spring-catch *k*, in combination with the bail *e* and roller *i*, for the purpose of holding the bail *e* in position, or releasing it at pleasure.

77,908.—George Pancake, Harrisburg, Pa.—*Machine for Wiring Blind Slats.*—May 12, 1868.—The staples straddle the knife-edged inclined plate and rest against the edge of the wheel, which is notched so as to carry at each rotation one staple into the chute traversed by the driver which thrusts the staple out of the chute and into the slat.

Claim.—1. Feeding the staples to the driver W by means of the wheel *b*, said wheel being constructed and operating substantially as described.

2. The staple-supplying incline *a*, in combination with the feeding wheel *b* and driver W, arranged to operate in the manner and by the means substantially as set forth.

77,909.—John E. Parker, Meriden, Conn.—*Reversible Knob Latch.*—May 12, 1868.—A projection upon the yoke enters a hole in the latch bolt, and an arm extends through the top of the case by which the yoke may be raised from the latch-bolt to permit the withdrawal and reversal of the latter. The case has inside guides to assist in the proper replacement of the latch.

Claim.—1. The yoke B, provided with a projection, *a*, and arranged so as to be raised from the latch-bolt, substantially as shown.

2. In combination with the above, the fixed guides *d d*, for guiding and holding the latch-bolt in position, substantially as described.

3. The arm G, constructed so as to form a seat for the spring on the spindle C, and also as a means for operating the yoke B, to permit the removal of the latch-bolt, substantially as herein set forth.

77,910.—Wilbur F. Parker, Meriden, Conn.—*Machine for Threading Screws.*—May 12, 1868.—The gimlet-pointed screw is clamped and rotated in contact with the cutter, which forms a thread at right angles with the surface of the screw around the point.

Claim.—The combination of the mandrel, or its equivalent, for rotating the screw blank and the guide R, with a chasing tool and mechanism for imparting to the said tool a movement of translation along the body of the screw blank, and curvilinearly along the curve or tapered extremity of the blank, substantially as described.

77,911.—George F. Peckham, Grafton, Ohio.—*Hair Dye and Dressing Compound.*—May 12, 1868.—Composed of water, 2 galls.; isinglass, 1 lb.; and sugar of lead, 2 oz.; evaporated to 2 quarts. Add spermaceti, 3¼ lbs.; olive oil, 7 lbs.; lard, 4¼ lbs.; white wax, 2¼ lbs.; milk of sulphur, 4 oz.; and perfume to suit.

Claim.—A compound composed of the ingredients, and in nearly the proportions, substantially as herein described.

77,912.—Truman Piper and E. F. Bradley, Birmingham, Conn., assignors to Howe Manufacturing Company, same place.—*Machine for Sticking Pins.*—May 12, 1868.—The object is to place pins differing in size or color, or both, upon the same paper. A channel is arranged for each kind of pin and a cut-off operates to open the channel from which the required pins are to be received, the other channels being closed, each channel being opened in its turn automatically.

Claim.—1. In combination with the several independent channels, the cut-off device for each of the said channels, constructed and arranged substantially as described, and operating so as at the proper time to deliver the pins from either or several of the channels, substantially in the manner herein set forth.

2. The combination of the intermittently revolving ratchet, cam wheel, spring levers, and cut-off slides with the slide B, substantially as herein described.

77,913.—James Powell, Cincinnati, Ohio.—*Globe Valve.*—May 12, 1868.—The guiding collar neatly fits the outside of the screw upon the stem, so as to act as a guide in grinding. The aforesaid collar has a valve seat upon its lower side against which the packing collar acts as a valve when packing the stem under a head of steam.

Claim.—1. The loose collar or guiding rim F, applied to the neck of a globe valve, substantially in the manner described.

2. The packing collar G, in combination with the loose disk valve and grooved hub C, as described and set forth.

77,914.—George Raymond, Fitchburg, assignor to himself and Oliver P. Conkling, Worcester, Mass.—*Detachable Nose for Bowls, &c.*—May 12, 1868.—The spout is attached to a shield or partial "breast," which is secured by bands to a hoop pressing circumferentially around the cup.

Claim.—The combination, with a detachable nose for bowls and other articles, provided with one or more loops *b*, as herein described, of an elastic band *c*, for holding the said nose to the bowl to which it is applied, substantially in the manner and for the purposes herein shown and specified.

77,915.—John F. Reiner, Columbus City, Iowa. *Joint for Shackles.*—May 12, 1868.—While the thills are raised the cross bolt on the thill iron is dropped into the slot on the upper side of the clip iron, and on lowering the thills into working position, a curved slot in the thill iron engages a pin passing transversely through the clip iron. This prevents accidental disengagement.

Claim.—A joint or shackle, having parts A and B, bolts C and E, clutch D, and hollows G, constructed, combined, and arranged substantially as specified.

77,916.—Charles F. Ritchel, Chicago, Ill.—*Can Opener.*—May 12, 1868.—The point is thrust through the metal of the can, and the tool being rotated on this point as a center, the cutting lip makes a circular aperture in the plate.

Claim.—The can-opener, made of one piece of sheet metal, as described, provided with point D and blade E, both arranged and operating substantially as herein shown and specified.

77,917.—William H. Rodgers, Brooklyn, N. Y. —*Gas Burner.*—May 12, 1868.—The gas burner has an igniting jet, and the latter is extinguished while the main jet is burning. In extinguishing the main jet, the gas is first passed through a small channel in the cock in order that the subsidiary jet may be lighted from the burner before the final extinguishment of the latter, leaving the igniting jet ready for subsequent duty.

Claim.—1. The cock *c*, formed with the gas ways 2, 4, and 7, in combination with the opening 3, and pipes 5 and 6, to supply gas to the chamber *f* and jet *i*, when the jet *e* is extinguished, the parts being arranged and acting substantially as and for the purposes set forth.

2. The regulating screw or cock 8, in combination with the jets *i* and *e*, as and for the purposes set forth.

77,918.—George W. Roland, Salem, Oregon. —*Harness Loop.*—May 12, 1868.—The frame has loops for the back and belly bands, and for the breeching and stay straps, and has trace slots beneath its raised front.

Claim.—A winged metallic loop for attachment to harness, constructed to operate substantially as described.

77,919.—Hugh B. Rorke, California, Mo.—*Mop Wringer.*—May 12, 1868; antedated April 29, 1868.—The roller frame hooks upon the edge of the bracket or tub. One of the rollers is journaled in an arm which is oscillated by the pressure of the foot upon the treadle.

Claim.—The rollers B B′, either with or without corrugations, the ear pieces A, and lever C, when combined and arranged as described and set forth.

77,920.—Herman and Louis Royer, San Francisco, Cal.—*Machine for Treating Hides.*—May 12, 1868.—Intended for treating hides for belting, &c. The end of the unhaired hide is secured in the slot of the central shaft, which is then revolved, winding the hide tightly thereon. The rotation is then reversed and the hide is thereby uncoiled, doubled back, and recoiled in the other direction, stretching it and roughing the surface. The weight rests upon the hide and condenses it by lateral pressure as it is lengthened. It is then treated with oil and tallow in the usual way.

Claim.—1. The vertical shaft B with a slot, B′, and set screws, *b b b*, said shaft having a forward and back motion, substantially as and for the purpose described.

2. The pins or rollers C C C set in the rings D and D′, together with the grooved weight I, substantially as and for the purposes described.

77,921.—George O. Sanderson, Boston, as signor to himself and E. D. Goodrich, Cambridge, Mass.—*Soldering Furnace.*—May 12, 1868.—The "Bunsen" burner is combined with an air deflector and a portable furnace which serves to heat soldering tools, or glue pots.

Claim.—1. The flattened tube A D E when made and arranged substantially as described, and for the purpose set forth.

2. The combination, as well as the arrangement of a Bunsen burner with a deflector, G, the pieces K K′ K″ K‴, and the case N O, made substantially as described, and for the purpose set forth.

77,922.—Elias Sanford, Meriden, Conn.—*Apparatus for Handling Iron in Rolling Mills.*—May 12, 1868.—The automatic handler receives the plate after passing through the rolls and elevates it so that the man can reach it to pass it again through the rolls. The plate is received in a pan, the man places his foot upon a treadle, which by means of a friction pully rotates the shaft, winds up the cord, closes the jaw on the plate, and then lifts it, pan and all, to a position whence it can be reached by the tongs of the workman on the other side of the rolls.

Claim.—The pan C with the valve *a* attached, and its peculiar construction, with the perpendicular bar D and double-jointed lever F, by which it is carried around and over the upper roll, and presented to the man in front of the machine, substantially as herein specified.

77,923.—Socrates Scholfield, Providence, R. I.—*Regulating and Dispensing Mechanism.*—May 12, 1868; antedated March 20, 1868.—The vertical movements of a collar on the stem of the governor are communicated to a rack bar which actuates a pinion having an adjustable frictional bearing upon an arm. The deflection of the latter is communicated by the described devices to an oscillating segment armed with pawls which rotate a gear wheel in the other direction, and by appropriate devices regulate the area of steam opening to an engine, the water power to a wheel, &c.

Claim.—1. Causing the motion derived from any kind of governor, as transmitted in one direction, to be stopped and controlled by an obstructing point or notch, or system of elevations or depressions, operating under the action of a governor, transmitted in another direction, substantially as described.

2. Arranging the ratchet teeth in steps, or one above the other, in connection with a guard operating to produce a corresponding change in the elevation of the catches, substantially as and for the purpose specified, in any regulating or dispensing mechanism.

3. The combination of several elements, consisting, first, of a dispensing device, second, of a vibrating bar or lever, and third, of an opposing point, placed in connection or combination with any governor or other indicator of a desired change in the action of a machine, to operate substantially as described.

77,924.—Jacob H. Schreiner, Camp Hill, Pa. —*Grain Drill.*—May 12, 1868.—To the tubular sahnk is attached a foot-piece which has a sharp toe forming a share. In front of the shank is a shin edge, and this is preceded by a guard bar which fulfills the functions of a colter.

Claim.—1. The peculiar construction of the foot B, substantially as and for the purpose herein set forth and described.

2. The combination of the foot B, cutter C, and boot A, substantially as herein shown.

3. The cutter guard E, substantially as and for the purpose set forth.

4. The combination and arrangement of the feed pipe or boot A, cutter guard E, brace D, cutter C, foot B, and share *d*, substantially as herein set forth and for the purpose specified.

77,925.—ALBERT SKINNER, San Francisco, Cal. —*Machine for Making Drain Pipe.*—May 12, 1868. —A core is placed in the stationary steam-heated cylinder. A follower, attached to a piston head, moves up and down around a stationary core, passing through slots in the center block. A closely-fitting packing ring is placed around the core, and slips up and down upon it by the action of the piston and follower. Another ring is placed at the top of the cylinder, and the clay is held around the core and between the two rings, and pressed by the force of the engine on the piston. After pressure, the cross-head and rings are removed from the top of the cylinder, and the piston drives out the pipe.

Claim.—1. The follower G, constructed with slots G′ G′, and the curved openings F F, in which it slides, in combination with the stationary core E and ring N, substantially as and for the purpose set forth.

2. In combination with the above-claimed apparatus, the steam jacket J for heating the same, and the material worked thereby, substantially as described.

77,926.—J. C. SLAUGHTER, Crumpton, Md.—*Churn.*—May 12, 1868.—The dasher is duplicate; one set of blades being attached to the central post which revolves in one direction, the other blades being attached to a frame which surrounds the other, is sleeved upon it, and is rotated in the other direction.

Claim.—1. A casing, A, contracted in diameter near the bottom, in combination with a series of revolving blades, arranged nearer together at the lower than at the upper end of the casing, for the purpose set forth.

2. The frame G, having blades *m* extending across the same, and hung to the shaft C, in respect to its blades *n*, as and for the purpose specified.

77,927.—ALFRED G. SMITH, Marathon, N. Y.—*Foxing and Soling Boots.*—May 12, 1868.—The front portion of the boot, consisting of a sole, shank, and upper, is made in readiness to be slipped on over a boot, forming a "foxing," and being attached by screws through the sole of the latter and penetrating the sole of the boot proper.

Claim.—As an improved article of manufacture, a foxing or fronting and soling for boots and shoes, constructed separately from the work to which it is to be applied, substantially as and for the purpose set forth.

77,928.—JAMES D. SMITH, New York, N. Y., assignor to ARTHUR P. EMERY, same place.—*Measuring Faucet.*—May 12, 1868.—The measuring chamber, in the head of the faucet, has a rotary draining and measuring device operated by a hand crank upon the outside. An epicyclic train of wheels of differential character operates therewith. Through the latter, motion is communicated by the said crank to an indicator dial, preferably hung to revolve by spring or frictional pressure, with the gear, so as to be capable of independent adjustment relatively to the pointer.

Claim.—1. The combination, with a rotary measuring and drawing device, C, arranged in the chamber B of the faucet A, and turned from the outside by crank or handle G of the fast and loose differential wheels I J, pinion K, carried by the handle and wheels M N, or their equivalents, for operating the dial P, substantially as shown and described.

2 The dial P hung for independent action, as described, and for free rotation with the wheel N, by which it is driven by frictional gear with the latter, through a spring or springs interposed between said wheel and dial, essentially as specified.

77,929.—CHARLES F. SPAULDING, St. Johnsbury, Vt., assignor to himself and E. D. GOODRICH, Cambridge, Mass.—*Double Seamer for Tin Work.*—May 12, 1868.—The carrying disk has a rubber band to create friction upon the vessel acted on. The compressing disk is journaled on top of the standard and is brought into conjunction with the former disk as required, or the disk and standard are thrown over out of the way by removing the brace and vibrating the post on its lower pivot.

Claim.—1. The carrying disk F, the shaft D, and crank E, when combined with the compressing disk H, operating substantially as described and for the purpose set forth.

2. The rubber band G, in combination with the disk F, substantially as described, and for the purpose set forth.

3. The standard K, pivot K′ in combination with the brace N, substantially as and for the purpose set forth.

4. The combination and arrangement of the lever M, shaft I, sliding standard J, and standard K, substantially as described, and for the purpose set forth.

77,930.—GEORGE H. STEVENSON, Washington, Ohio.—*Ditching Machine.*—May 12, 1868.—The curved blade conforms to the shape of the rounded bottom of the ditch, and has two vertical cutters rising from its sides. A foot piece enables it to be used as a spade.

Claim.—The construction of a spade that will cut a ditch ready for tile, thirty inches deep, without the use of any other instrument, and is useful for digging post holes and many other useful things, which is done by the movable foot piece and peculiar shape of the blade and lips attached thereto.

77,931.—JAMES H. SWAIN, San Francisco, Cal. —*Boot and Shoe Last.*—May 12, 1868.—A metallic sole is attached to an ordinary last, and has a flange around it. The object is to clinch the pegs as they are driven through the sole.

Claim.—The projection or flange C, or its equivalent, on the face of the last, substantially as and for the purpose specified.

77,932.—WILLIAM SWINDELL, Allegheny City, Pa.—*Puddling and Boiling Furnace.*—May 12, 1868. —The inner faces of the boshes are cast against chills. A ledge around the bottom plate holds the boshes. The boshes are attached to the bottom plate and to each other by dovetail ribs on the former and lugs on the bottom plate. The latter has grooves below, which receive water pipes to cool the plate.

Claim.—1. A bottom plate for a puddling or boiling furnace, cast with a series of grooves in or along its lower surface, in which to arrange a series of water pipes, substantially as and for the purposes hereinbefore set forth.

2. The use of a series of tubular water chills *a′*, when arranged in grooves cast in the lower face of the bottom plate of a boiling or puddling-furnace, substantially as and for the purposes hereinbefore described.

3. Supporting the boshes of a puddling or boiling furnace by a ledge or rim *c*, on the upper face of the bottom plate, and extending around it in the outside line of the boshes, substantially as and for the purposes hereinbefore expressed.

4. Jointing the boshes of a puddling or boiling-furnace to the bottom plate and to each other by ribs *e*, so shaped as, in connection with lips *c′* to form a dovetail joint, substantially as and for the purposes set forth.

5. Making chill-faced boshes for puddling or boiling furnaces, by casting them against a metallic chill, substantially as and for the purposes hereinbefore set forth.

77,933.—GEORGE H. TAYLOR, New York, N. Y. —*Oscillating Rubbing Machine for Medical Use.*—May 12, 1868.—The spirally-ribbed rubber plays in an aperture in the couch, and is vertically adjustable to suit the adjustment of the couch. The rubber is rotatable upon a lever, which is oscillated by a crank.

Claim.—1. The rubber A, composed of India-rubber, and having its outer surface coated or covered with India-rubber; the said outer surface being furnished with projecting ribs, points, or corrugations, and the said rubber A being constructed substantially as and for the purpose specified.

2. The combination with the rubber A of the

forked rod C, hung on a pivot, E, and operated by any suitable mechanism, substantially as and for the purpose set forth.

3. The combination with the rubber A and rod C of the crank G, arm or connecting-rod H, and shaft I, substantially as described and for the purposes set forth.

4. The combination with the rubber A, driven by suitable mechanism, substantially as set forth, of the couch S, properly connected to the frame O, and having an opening, R, through it, for the said rubber A to work through, substantially as and for the purpose set forth.

77,934.—JOSEPH W. THORP, Hillsborough Bridge, N. H., assignor to himself and DAVID F. BROWN.—*Tailors' Pressing Machine.*—May 12, 1868.—The press-iron is attached by a ball and socket joint to the swinging arm, and is so arranged that a slight pressure on the handle brings the force of a toggle upon the spindle of the press iron, enabling the operator to bring a heavy pressure upon the goods with a slight exertion of power. Pins support the heater in the chamber of the iron to moderate the heat of the face.

Claim.—1. The arrangement of the socket E, the sleeve F, and the spindle J, with the press iron and its adjusting handle, substantially as set forth.

2. Supporting the heater at a distance from the face plate of the press iron, by means substantially as described and for the purpose specified.

3. The arrangement of the adjustable handle *a* and cam *a'* with the spindle J and press iron, for the purpose substantially as set forth.

4. The rubber or elastic bearing *e*, arranged in combination with the jack P, substantially as set forth.

77,935.—DANIEL H. TURNER, New York, N. Y.—*Apparatus for Cooling and Purifying Bone Black.*—May 12, 1868.—The heated charcoal is agitated by means of the lifters on the interior periphery of the revolving cylinder, and a current of cool air is drawn by a fan through the cylinder to remove dust and gases. The hot coal is distributed by an apron, and when purified passes out by a spout at the end of the cylinder. A sleeve regulates the amount of perforated surface through which the dust, &c. is removed.

Claim.—1. The combination of the circumferentially close revolving cylinder A, provided with interior lifters, and set horizontal, or thereabouts, screen, or screen extension C, at the forward end of said cylinder, and hot-air, gas, and dust conductor F, for operation together, substantially as specified.

2. In combination with the circumferentially close cylinder A, and screen forward extension C, the adjustable ring or cover K, essentially as shown and described.

3. The arrangement within the conductor F of the distributing apron H, for operation in connection with the cylinder A, provided with lifters, and set horizontal or thereabouts, as herein set forth.

77,936.—GUSTAV WEDEKIND, Philadelphia, Pa.—*Lamp Shade.*—May 12, 1868.—The supporting wires are looped to the ring and their ends are curved down to rest upon the side of the chimney, thereby making a holder which accommodates itself to various sizes of chimneys.

Claim.—In combination with the radial braces for supporting the shade on the chimney, the raised elbows on said braces to support the shade and prevent it from shaking about, substantially as and for the purpose described.

77,937.—SAMUEL G. WELLING, New Rochelle, N. Y.—*Bed Pan Attachment for Invalid Beds.*—May 12, 1868; antedated May 4, 1868.—The flaring-mouthed pipe passes through the mattress and communicates with a closed vessel beneath. The pipe has a stop-cock. A removable funnel fits upon its top.

Claim.—The movable elastic seat piece, in combination with the pipe and pan, substantially as and for the purposes set forth.

77,938.—WILLIAM M. WELLING, New York, N. Y.—*Artificial Ivory.*—May 12, 1868; antedated May 2, 1868.—Composed of gum shellac, 16; camphor, 1; and talc, 16 parts.

Claim.—The composition herein specified, prepared as set forth.

77,939.—E. B. WEST, St. Anthony, Minn.—*Churn Dasher.*—May 12, 1868.—The device is clamped to the table by the jaws and set screw. It has two vertical dasher shafts having opposite rotation, and an arm depending from the frame has a stationary paddle to prevent the revolution of the cream. The device is applicable to an open-topped cream vessel.

Claim.—1. The arrangement of the arm N and stationary paddle O, as specified, and for the purpose set forth.

2. The combination of the stationary arm N and its paddle O with the movable arms M I, their paddles, and the plate A, all constructed and operated as specified.

77,940.—DANIEL M. WHITE, Malden, Mass.—*Portable Music Stand.*—May 12, 1868.—The three legs are folded together into a cylindrical form and are held by a cap which forms the knob of the cane. The rest arms are pivoted to the end of a vertically adjustable rod sliding in the cane, and may be folded to the same and thrust into a socket at the lower end of the cane.

Claim.—So arranging a convertible cane and music-stand that when closed to form a cane, said cane shall consist of the hinged legs B B B and the tube A, said parts being adapted to inclose the rod D and folding rack C; and, when arranged as a music-stand, the legs B B B shall be extended to support the tube A and the rod D, and frame C be adjustably supported on the latter by means of the spring S, substantially as described.

77,941.—WILLIAM H. WHITE, Lynn, Mass.—*Tube Well.*—May 12, 1868.—The induction tubes have side openings, and slide radially in the lower section of the well tube. When inserting the well tube the heads of the induction tubes are flush with its outside, being held inward by springs, and when the well tube is inserted the induction tubes are forced outward by descent of an inner tube.

Claim.—The combination, with a well tube, A, of the movable strainers or induction tubes, applied and operating substantially as described.

77,942.—THOMAS B. WICKHAM, Granville, Ohio.—*Portable Fence.*—May 12, 1868.—The panels are braced by triangular frames into which the lower and the upper two bars are recessed. The lower corners of the frames are secured to stakes.

Claim.—The manner of locking and supporting the panels by the double brace and clamp B B, in combination with the stakes D D and lock C C, all substantially arranged as set forth in the foregoing specifications.

77,943.—WILLIAM J. WILLITS, Detroit, Mich.—*Platform Car Stake Holder.*—May 12, 1868; antedated April 28, 1868.—The stake is clamped to the sill by a bridle plate and bolts, which latter have transverse movement in the sill to allow the stake to drop down into a horizontal position, or to tighten the same when elevated. The bolts are drawn inward by a cam bar operated by a lever. The stake is hung to one of the bolts.

Claim.—1. The arm I, cams N N, collar H, staple bolts F F, &c., clamp E, plate R, projection O, staple bolt P, nut S, and lever L, for the purpose designed.

2. The combination and arrangement of the stake B, the sill A, the gain D in the floor C, the clamp E, the staple bolts F F, &c., the collar H, the arm I, the head K, the lever L, the cams N N, the projection O, staple bolt P, the plate R, the ring X, and the stop T, arranged substantially as described for the purpose designed.

77,944.—GEORGE H. TIFT, Morrisville, Vt.—*Vegetable Washer.*—May 12, 1868.—The vegetables are inserted through the door of the rotating cylindrical cage. The shaft of the cage is vertically adjustable by means of pivoted supporting blocks, which are turned thereunder.

Claim.—The combination of the bolt-headed journals C C, when attached to the rotating cylinder F, from its interior, and used with the pivoted blocks J J, in the manner as specified.

77,945.—Hiram Aldridge, Goshen, Ind., and Willis Bedford, Chicago, Ill., assignors to Hiram Aldridge.—*Horse Power.*—May 19, 1868.—Two or more pinion spur wheels are applied to the shaft so that it can be adjusted vertically and longitudinally. The main frame is of triangular form, and has three pinions beneath or above a horizontal toothed master wheel, each of said wheels being at the angle of the frame for equalizing, and for providing for a change of speed of the driving shaft.

Claim.—1. In combination with a stationary or mounted horse-power, a vertically adjustable shaft, E, which is provided with two or more pinion spur-wheels, for the purposes and substantially in the manner described.

2. The vertically adjustable shaft E, with two or more pinions upon it, in combination with sliding or compensating knuckles or couplings F, or their equivalents, substantially as and for the purposes described.

3. In combination with a shaft, E, which is made vertically adjustable, and also longitudinally adjustable, the adjustable collars *l l*, substantially as described.

4. The triangular L-shaped cast frame C C′, constructed substantially as and for the purposes described.

5. The combined arrangement of the driving pinions G G G, radial shafts D D D^1, bevel wheels *c c c′*, arranged upon a triangular frame, C C′, substantially as described.

77,946.—Jerome B. Armstrong, Corunna, Mich.—*Strap Fastener.*—May 19, 1868.—A cam with an acute angular edge at the front end, and a narrow stem at the other end, is placed in a frame and held by a bolt. The shank of the strap holder is formed with a recess in which is a spring which raises the stem of the cam, and retains the strap at any desired point.

Claim.—1. The cam E, provided with the angular edge F and stem J, with the spring I, operating substantially as described, for the purposes set forth.

2. The combination and arrangement of the cam E, the recess H, the spring I, with the frame A, the hook B, the cross-bar C, the strap-bolt D, and the bolt G, all operating in the manner specified, and for the purposes set forth.

77,947.—Samuel Ayers, New York, N. Y.—*Truss.*—May 19, 1868.—The pad is made of cork surrounded by a flange from which the curved face of the pad rises. The pad is connected by a loop to the belt so as to adapt it to any position on the body.

Claim.—1. Connecting the pad of a truss with the band or strap by a loop, F, through which the belt slides loosely, substantially as described.

2. Making a truss pad of cork, substantially as described.

3. The flange E, around the edge of the pad, substantially as described.

77,948.—Charles H. Bacon, Boston, Mass., assignor to himself and William Read, Jr., same place.—*Governor for Steam-Engines.*—May 19, 1868.—The link which controls the valve is operated by a shaft passing through a vessel containing water or other liquid. The shaft is allowed a horizontal motion and is provided with a propeller or series of wings, above the vessel, and forming part of the same are two equalizing air-chambers.

Claim.—The combination of the propeller and shaft *a b*, working within the cylinder A, constructed with one or more chambers B C, with the link E, crank *c*, and rod *d*, substantially as and for the purpose set forth.

77,949.—Emory Barnes, Chelsea, Mich.—*Ditching Machine.*—May 19, 1868.—An arrangement of devices for operating a crane and scoop for deepening water channels, and adapted particularly to excavating swampy lands.

Claim.—The combination of the sills Y, the posts B, the cross-tree C, the beam B, the braces A^2, the vertical shaft D, pulleys E, G, and H, the chain or rope R, windlass V, lever W, block F, crane I, bolt 2, lever J, scoop K, platform U, capstan V, lines P, S, N, T, and Q, cross-bar M, blocks O, and rope X, when arranged, constructed, and operating substantially as and for the purposes herein set forth and shown.

77,950.—Nathan Bartlett, Centerville, N. J., assignor to himself and Franklin Osgood, Richmond County, N. Y.—*Furnace for Roasting Ores.*—May 19, 1868.—The ovens are constructed usually in three sections, connected together alternately at their ends into a continuous oven. Each section is connected at the front by a break or opening to the one below it. The lower end of the bottom section is connected with the furnace at the side.

Claim.—1. The sectional arrangement of the oven, and the breaks or openings by which the sections are coupled or united together, constructed and operating substantially as described.

2. The combination of the sectional oven with a furnace and chimney, constructed and operating substantially as described.

3. A sectional oven, as herein described, in combination with openings or doors in both ends of each section of such oven, for the purposes stated, constructed substantially as described.

4. Constructing a sectional oven with the sections alternately inclined to each other, for the purposes stated, arranged and operating substantially as described.

5. The arrangement and combination with each other in pairs of the sectional ovens, the furnaces, and the chimneys, in the manner and for the purpose substantially as described.

77,951.—Benjamin F. Bee, Harwich, Mass., assignor to the New York Tap and Die Company, New York, N. Y.—*Machine for Cutting Eccentric Taps.*—May 19, 1868.—A rotating cutter, while cutting the eccentric threads upon a tap, is caused to approach and recede from the axial line of the blank as many times as there are cutting edges to be made while the blank is turned on its axis and fed past the position of the rotating cutter, the blank so eccentrically cut is subsequently fluted longitudinally by a milling machine, so as to produce cutting edges at the most protuberant parts of the threads.

Claim.—1. The combination in one machine of the following instrumentalities, viz: The rotating mandrel to support the blank, vibrating rotating cutter, inclined cutter arbor, feed screw, and regulating cam, formed and constructed to adapt them to the purpose to be accomplished, and all combined and operating in the machine substantially as before set forth.

2. The combination in a machine of the following instrumentalities, viz, the rotating mandrel, rotating cutter, mounted on a free arbor, cutter guide and spring, formed and constructed to adapt them to the purpose to be accomplished, and all combined and operating in the machine substantially as before set forth.

3. The combination in a machine of the following instrumentalities, viz, the rotating mandrel, rotating cutter, inclined cutter arbor, regulating cam, and weight, formed and constructed to adapt them to the purpose to be accomplished, and all combined and operating in the machine substantially as before set forth.

4. The combination in a machine of the following instrumentalities, viz, the rotating cutter, regulating cam, and adjustable connecting mechanism, formed and constructed to adapt them to the purpose to be accomplished, and all combined and operating in the machine substantially as before set forth.

5. The combination in a machine of the following instrumentalities, viz, the regulating cam, vibrating tool support, variable connecting mechanism, and a directing instrument, formed and constructed to adapt them to the purpose to be accomplished, and all combined and operating in the machine substantially as before set forth.

77,952.—HENRY W. BEMIS, Mount Vernon, N. Y.—*Vulcanizing India-Rubber Car Springs and Other Articles.*—May 19, 1868.—The material being wound on a mandrel is placed in a tubular mold, and then put in a heater which is filled with steam. The ends of the mold project so that when the caps are attached the steam is prevented from coming in direct contact with the ends of the molds, causing the rubber to be vulcanized uniformly throughout.

Claim.—The molds *b*, secured in the heads or plates *a*, of the heater, and having their ends extending beyond such heads or plates, substantially as and for the purpose set forth.

77,953.—S. BICKERSTAFF, Cincinnati, Ohio.—*Hermetically Closed and Keyless Padlock.*—May 19, 1868.—The object is to provide a seal lock which can be opened only by the proper authority.

Claim.—A self-sealing or keyless padlock, consisting of two pieces only, the body and the shackle, and constructed without rivets, bolts, screws, or openings of any kind, except for the reception of the shackle, substantially as shown and described.

77,954.—HYPPOLYTE BROCARD, Paris, France.—*Packing for Joints of Steam and Water Pipes.*—May 19, 1868.—Washers or packings of lead, shaped in rolls, with longitudinal grooves, and placed between the surfaces to be joined; on being subjected to pressure the lead impresses itself with the surfaces to be united.

Claim.—The employment, as means of making the joints of metal pipes and other metal articles tight, of washers or packings of lead, rolled, substantially in the manner hereinbefore described.

77,955.—S. P. BURDICK, New York, N. Y.—*Buckle.*—May 19, 1868.—The buckle is provided with a cam extending across the width of the belt and secured to an axle, one end of which forms a lever, in combination with a stop and catch formed by projections on the edge of the shell of the buckle. By depressing the lever between the stop and catch the belt is secured at any point.

Claim.—1. The lip *c*, turned up from the lower face of the shell A to hold the lever *b*, when the cam *a'* is fully locked and operating in combination with said cam, shell, and lever, and the lip *c*, as herein described.

2. The construction of the shell A of a flat plate, having a depressed concave flange, *g*, at its front edge, substantially as and for the purpose described.

3. The guide *i*, secured to the shell A, and running crosswise to the belt, which is secured in said shell, substantially as and for the purpose set forth.

77,956.—JOHN P. BUTZ and ABNER MCFARLAND, Enterprise, Ind.—*Gate.*—May 19, 1868.—The gate is composed of a series of horizontal slats; the upper one which extends only a part way the length of the gate. A diagonal brace extends from the front end of the bottom slat to the end of a lever, by depressing which latter the front end of the gate is raised and the latch is withdrawn.

Claim.—1. The lever D, with the brace C, and the slats of *a a'*, used as and for the purposes set forth.

2. The combination of the lever D with the brace C, and the latch *c*, and ratchet-bar *g*, as and for the purposes specified.

77,957.—O. D. CHAPMAN, Chicago, Ill.—*Tube Well.*—May 19, 1868.—A series of chambers is made between the tube and wire cloth, and a chamber between the cloth and the outer perforated plate, so as to secure the greatest amount of filtering surface.

Claim.—The combination of the bands *d*, wire cloth E, spiral wire F, and perforated plate G, with the tube A, substantially as and for the purpose set forth.

77,958.—WILLIAM P. CHASE, Boston, Mass., assignor to R. HOE and COMPANY, New York, N.Y.—*Bookbinder's Beveling Machine.*—May 19, 1868.—The book cover or other article being held in position on the bed plate, a clean and even bevel of its edge is obtained by reciprocating the plane in its groove.

Claim.—1. The reciprocating plane, provided with an oblique cutter, in combination with the oblique groove, to guide the plane in its travel, whereby I am enabled to obtain a smooth shear cut of the material, as set forth and specified.

2. The combination, with the oblique groove and reciprocating cutter of the adjustable plate B, for holding the material for the action of the cutter, substantially as set forth and specified.

3. The combination, with the oblique groove and reciprocating cutter H, of the adjustable bed D, for giving any desired bevel to the material, substantially as set forth and specified.

4. Making the face of the cutter or plane H concave, in combination with the oblique cutting iron I, whereby I obtain a clean, smooth cut, without abrading the material, substantially as specified.

5. The combination and arrangement of the oblique guides C C, reciprocating plane H, holding plates B B, and adjusting plate D, constructed and operating substantially as set forth and specified.

77,959.—ROBERT A. CHESEBROUGH, New York, N. Y.—*Lubricating Oil.*—May 19, 1868.—An oil or product made by filtering heavy crude oil according to the process described in patent No. 49,502 to same inventor, using in the process a heated filter and bone black.

Claim.—The product or article called by me Filtrene, as a new article of manufacture.

77,960.—GEORGE F. CLEMONS, Springfield, Mass.—*Heel Cork.*—May 19, 1868; antedated May 15, 1868.—A single piece of steel plate is turned up at its narrowed ends with two curved ears, armed with projecting catches, forming inwardly clamping surfaces. The longest ear has a releasing lever, which is folded down when the heel cork is worn.

Claim.—1. A heel cork adapted to be self-securing to the boot by means of spring-clamping surfaces, substantially as described.

2. The releasing lever *g*, when employed substantially as described and for the purposes set forth.

77,961.—CHARLES C. COMSTOCK, Grand Rapids, Mich.—*Raft Dog.*—May 19, 1868.—The wedges are surrounded by a link, and driven into the logs, the rope being securely held on the logs by the link.

Claim.—The combination of the two wedges A A, the link C, and the rope B, when employed together in the manner as and for the purpose set forth.

77,962.—THOMAS CRANE, Fort Atkinson, Wis.—*Coal Stove.*—May 19, 1868.—Designed to afford a great heat radiating surface.

Claim 1.—A single cylinder drum stove, provided with an annular flue jacket. H, surrounding its upper portion, and communicating with the fire chamber, by means substantially as described.

2. The means shown and described, of compelling the products of combustion leaving the fire chamber A to circulate entirely around the suspended jacket H, when this jacket is arranged and applied to a stove, substantially as described.

3. A flue jacket, H, made shorter than the fire-cylinder A, and applied to said cylinder so as to form an air space, J, which leads through the perforated top P, substantially in the manner and for the purpose described.

77,963.—WILLIAM DAMEREL, Brooklyn, N. Y.—*Umbrella.*—May 19, 1868.—The runner is elongated above the flange to which the stretchers are hinged, and to the upper end of the elongation is attached a collar held to the runner by links, and passing loosely through the upper flange of the runner. The stick is formed of double tubes placed one within the other, the inner one being provided with a rib for the purpose of stiffening it. The umbrella closes automatically.

Claim.—1. The conical collar *f*, connected to the runner *c* by means of links *h*, substantially as and for the purpose set forth.

2. The cam *e* on the spring hook *d*, arranged to operate with the collar *f*, substantially as described.

3. An umbrella-stick, made of an inner and outer tube, united throughout their length, substantially as described.

4. The bridge piece *i*, applied within a tubular umbrella or parasol stick, substantially as described.

77,964.—C. H. Eccleston, Oxford, New York.—*Looped Pin for Securing Artificial Teeth.*—May 19, 1868.—Upon the loop of the pin is formed a flat head, from which project shanks at right angles; the ends of the shanks being bent so as to hold them in the body of the tooth.

Claim.—An angular loop for securing artificial teeth, when made with an enlarged and flattened head, provided with projecting shanks, whose outer ends are bent at an angle therewith, all substantially in the manner herein set forth.

77,965.—Peter T. Elting, Buffalo, N. Y., assignor to Elting Bolt and Duster Company, Cincinnati, Ohio.—*Bran Duster.*—May 19, 1868.—The fan wings are extended beyond the periphery of the screen, to prevent the flour from flying back against the screen, or at the joints, and from packing or clogging. At the eye of the screw disk is a serrated scouring plate to aid in scouring the bran when the motion of the disk is slow. The screen frame is made in sections, covered each with cloth, to enable them to be separately removed. The brackets supporting the case of the flour chamber are furnished with a double set of adjusting screws, to secure a close fitting joint between the case and screen disk.

Claim.—1. The fan wings J^4, revolving within the chamber J, and extending downwardly and outwardly beyond the periphery of the screen disk, as and for the purpose set forth.

2. The combination of the serrated scouring plate, at the eye of the screen disk, with the surrounding screen cloth, as and for the purpose set forth.

3. Making the screen frames in sections, as and for the purpose set forth.

4. Supporting the brush-tempering wheel at two points by the brush-adjusting screws, and at a third point by the screw post from the flour chamber, for the purpose described.

5. The brackets K, with their adjusting screws K^1 K^2, for adjusting the flour case laterally and vertically, as set forth.

77,966.—Barthel Erbe, Birmingham, Pa.—*Reversible Knob Latch.*—May 19, 1868; antedated May 12, 1868.—The yoke is formed with a projecting hook, which falls into a depression in the latch, and is so arranged in relation to a screw hole and screw that the hook cannot be withdrawn from the depression in the latch. When the screw is removed, the latch may be withdrawn, so as to adapt it to a right or left hand door.

Claim.—The hook *n*, in combination with the depression *l* on the latch, arranged and operating as described, for the purpose set forth.

77,967.—O. J. Everson, Lake City, Minn.—*Fence.*—May 19, 1868.—The two contiguous end rails are pivoted together near the top, and may be adjusted to any desired angle by means of a horizontal stay brace projecting rigidly from one rail, and held by a pin in the mortise in the other.

Claim.—Connecting and adjusting the panels of a portable fence together, by means of the pin *e* and the stay brace C, constructed and used with the panels, in the manner and for the purpose set forth.

77,968.—William B. Fahnestock, Lancaster, Pa.—*Car Axle.*—May 19, 1868; antedated May 16, 1868.—The wheels of the car are placed upon a divided axle, to avoid torsion and strain in passing curves, and the stationary or adjustable plate prevents the wheels from coming together.

Claim.—The plate D, constructed and operating as described, in combination with a divided axle, as specified, and for the purpose set forth.

77,969.—Henry Felthoff and Lucas D. Tingley, Prince William, Ind.—*Mold for Making Drain Tiles.*—May 19, 1868.—The elongated slits are designed to admit air in the process of molding, and through the aperture in the lower tile water enters the drain, after having descended from a greater altitude than that where the drain is laid. Thus it flows into the drain along its entire length, and is in like manner carried off.

Claim.—The arrangement of the molds B and C with pin *p* and elongated slits *b b*, substantially in the manner and for the purpose as herein shown and described.

77,970.—William Footner, Chicago, Ill., assignor to William J. Footner, same place.—*Consolidating Coal Dust for Fuel.*—May 19, 1868.

Claim.—Consolidating particles of coal by mixing with a solution of glue, and compressing, substantially as and for the purposes specified.

77,971.—H. E. Fowler and W. W. Holmes, Wallingford, Conn.—*Manufacture of Plated Spoons, Forks, &c.*—May 19, 1868; antedated May 4, 1868.—An iron bank is placed in a solution of zinc, sal ammonia, and muriatic acid, and then heated in a cylinder; the iron being then thrown into tin, the latter combines with and enters the pores of the iron bank, so that when rolled it has a smooth surface, which may be plated.

Claim.—The improvement in the manufacture of spoons, &c., from iron, substantially as herein described.

77,972.—H. W. Fuller, New York, N. Y.—*Creasing Apparatus for Sewing Machines.*—May 19, 1868; antedated May 5, 1868.—This relates to the creasing or marking apparatus, composed primarily of nipping fingers or points, and it creases or marks the fabric by producing a succession of nips or pinches while it is fed along.

Claim.—1. The mode, substantially as described, of conveying motion to the creaser or marker.

2. The combination of the means herein described, or the equivalent thereof, for giving motion to the marker, with a marking device having a fixed fulcrum of vibration, as and for the purpose specified.

3. Placing the set screw for the adjustment of the said lever at the center of said fulcrum, for the purpose stated.

4. The combination, with the lever, having a fixed fulcrum or center of motion, of a spring, which may be adjusted in elasticity or power relatively with said fulcrum.

5. The arrangement of the spring with respect to the lever and its fulcrum, so that the act of adjusting the lever, long or short, will also adjust the power of the spring, substantially as and for the purpose specified.

6. So attaching the points to the lever which carries them, substantially as described, that they may be readily detached and renewed, or others substituted, as specified.

7. Guarding and protecting the points by a movable rest, substantially as set forth.

8. The combination with such rest of a removable key, to regulate the speed of the points, for the purpose specified.

77,973.—George L. Gerald, Thorndike, Mass.—*Horse-Shoe Calking Vise.*—May 19, 1868.—This tool is of the nature of a combined anvil and vise, which latter is operated by a foot treadle. In the top of the tool are arranged steel plates of peculiar conformation, called "sows." The shoe to which the calk or calks are to be applied can be grasped and held by the vise.

Claim.—A calking vise, having the dies *a* and *b*, with the shaping devices hereinbefore described, formed thereon; said dies *a* and *b* being opened and closed by means of the lever *k*, link *l*, and springs *w*, all constructed and operating substantially as herein described and for the purposes specified.

77,974.—E. F. Gerdon and C. W. Schindler, Albany, N. Y.—*Lubricator.*—May 19, 1868.—When the shaft to which the grease cup is applied rotates faster than usual, the grease is thereby melted and the shaft lubricated, but when the shaft revolves so as not to raise the temperature, the grease remains solid or "set."

Claim.—1. The stop *e*, in combination with the tubular conductor D, leg B, and top of cup A, substantially as and for the purpose set forth.

2. The disk *f* and spring *g*, in combination with the stop *e* and tubular conductor D of the cup A, substantially as and for the purpose described.

77,975.—Gouvion G. Griswold, New York, N. Y.—*Umbrella.*—May 19, 1868; antedated March 12, 1868.—The crown piece and runner are so constructed that a rib or stretcher may be easily removed when broken and its place supplied by another.

Claim.—1. The combination with a notch or crown piece or runner for umbrellas or parasols, having an annular groove and radial slots in it for the ends of the ribs or stretchers to work in, of a ring of rubber, or other suitable elastic yielding material, for fastening said ribs or stretchers in said groove, while at the same time one or more of the said ribs or stretchers may readily be removed for repairs, substantially as set forth.

2. The combination with a notch or crown piece or runner of an umbrella or parasol, having an annular groove and radial slots in it for the ends of the ribs or stretchers to work in, of a metal, leather, or other suitable ring, for fastening said ribs or stretchers in said groove, said ring having one or more slots in its side to permit of the introduction or withdrawal of one or more of the ribs or stretchers, substantially as set forth.

3. The combination with the runner E of the spring catches G G, operated in part or wholly by the India-rubber or other elastic ring I, substantially as set forth.

77,976.—William Hall, Georgetown, Ill.—*Sandal.*—May 19, 1868.—A number of iron bars, having their ends pointed and turned up so as to form spurs, are secured to the bottom of the shoe or sandal, to enable the wearer to walk upon the ice or roofs.

Claim.—The bars, spurred and affixed to the bottoms of the sandals or other covering for the feet.

77,977.—Harvey D. Haraden, Hartford, Vt., assignor to himself and C. W. Haraden.—*Hub for Carriage Wheels.*—May 19, 1868.—The central metallic part of the hub has two sockets to receive the two wooden end portions, and said central part consists of a pair of parallel disks united by radial connections, between which the tenons of the spokes are fitted.

Claim.—1. The improved supporter A, or arrangement of disks, socket rings, and radial connections, as set forth.

2. The combination and arrangement of the two separate cylinders or pieces of wood B B, with the disks, socket rings, and their radial connections, arranged together and cast in one piece, as set forth.

77,978.—T. C. Hargrave and W. B. Charlton, Boston, Mass.—*Low Water Indicator.*—May 19, 1868.—The valve lever of the whistle is connected to an arm extending from the indicating tube by means of a weighted rod, in such manner that, by the expansion of the tube, caused by the admission of steam into the same when the water falls below a certain level, the valve will be raised and an alarm sounded.

Claim.—The arrangement of the pipe I, expansion tube H, provided with the cock G, arm F, adjustable weight rod D, in connection with the lever C and whistle B, substantially as and for the purpose set forth.

77,979.—John Haseltine Methuen, assignor to Charles L. Wheeler, Cambridge, Mass.—*Pad for Horses' Hoofs.*—May 19, 1868.—The upper side of the cushion has radial ribs, between which air cells occur, the ribs bearing against the under side of the hoof of the animal, inside the shoe and partly under it, where there is generally sufficient space to admit the narrow flange. Vent holes admit air to the cells between the ribs.

Claim.—1. An elastic cushion, constructed substantially as described, for the purpose set forth.

2. The air chambers, formed as described, in combination with the air or vent holes C, for the purpose and substantially as described.

3. The narrow flange B, for the purpose and substantially as described.

4. The wires *g*, or equivalent, combined with the elastic cushion, in the manner and for the purpose substantially as specified.

77,980.—James H. Hollingsworth, Philadelphia, Pa., assignor to himself, Albert Bementer, and W. C. Rossell, same place.—*Refrigerator.*—May 19, 1868.—The refrigerator is designed to be kept cold throughout without ice or any chemical cooling or freezing compound.

Claim.—Coil of pipes C. P. and pipes C′ P′, water tank W, outer and inside boxes A and B, salt S S, the whole combined and constructed and operating for the purpose and the manner herein described and set forth.

77,981.—William H. Hovey, Holly, Mich.—*Securing Tires to Wheels.*—May 19, 1868.—The head of each bolt has a hole, through which the point of the other bolt passes, and the points of the two bolts being clinched or riveted at the outside of the heads, the tire is firmly secured upon the felloe.

Claim.—The securing of tire B to the rim A by inserting between the same parallel bolts D D, provided with heads or plates C C, perforated to receive the ends of the bolts, and secured by riveting the same, substantially as described and for the purposes set forth and shown.

77,982.—C. S. Hunt, parish of Terrebonne, and Jacob B. Knight, New Orleans, assignors to C. S. Hunt, William F. Pratt, and Peter M. Peterson, New Orleans, La.—*Apparatus for Collecting Marsh and other Gases.*—May 19, 1868.—The chamber is sunk into a gas-producing stratum, and the gas flows into it from all directions, the gauze preventing the intrusion of solid substances. Carbonaceous matter may be placed in the gas-conducting pipe to enrich the gas. The pump is employed to free the chamber of earthy and other matter accumulated therein.

Claim.—1. The chamber A, or its equivalent, in combination with a gas pipe C, and a pump D, when these several parts are constructed substantially as and for the purpose set forth.

2. The chamber A, or its equivalent, in combination with a pump, D, and a gas pipe, C, when the latter is partially filled with a hydrocarbon liquid or other agent, for carburetting or increasing the illuminating power of the gas, substantially as herein described, for the purposes set forth.

77,983.—C. S. Hunt, parish of Terrebonne, and Jacob B. Knight, parish of Orleans, assignors to C. S. Hunt, William F. Pratt, and Peter M. Peterson, New Orleans, La.—*Illuminating Gas.*—May 19, 1868.—Composed of marsh gas, (hydride of methyle.) Nitrogen and carbonic acid are produced spontaneously in certain southern sections of the United States.

Claim.—The gaseous composition or compound herein described, consisting of marsh gas, commonly so called, and carbon, when the latter is infused or incorporated into the former, substantially in the manner and for the purpose set forth.

77,984.—Melvin Jincks, Dansville, N. Y.—*Match Safe.*—May 19, 1868.—An oscillating floor is so arranged in the match safe that the slide which draws out the matches tilts the floor and insures its depositing a match upon the slide, which then returns the floor to its horizontal position. The striking hands ignite the match when the slide is withdrawn.

Claim.—1. The rocking floor B, arranged as described, so as to be tilted by the slide C in its withdrawal, and returned to its horizontal position after depositing the match.

2. The combination of the floor B, slide C, and striking hands D D′, when arranged and operating in the manner and for the purposes set forth.

77,985.—William H. Johnson, Springfield, Mass.—*Cutting Machine.*—May 19, 1868.—This invention relates to machines for embossing and cutting pieces to form from a web or sheet of cloth, paper, leather, metal, or other similar material, and is shown, as embodied in the machine, arranged for cutting paper collars from two webs of paper.

Claim.—1. The combination of a cutter having a cutting edge of the required form, with a plain, hard surface or plate, harder than the cutter, co-operating, substantially as described, as a device for cutting leather, cloth, paper, and other similar material.

2. The employment, in a cutting machine, of a duplex embossing die, in combination with two corresponding dies or matrices, placed opposite to each other, and co-operating, substantially as described, by which two sheets may be simultaneously embossed upon their contiguous surfaces by the same impression.

3. The employment in a cutting machine of two embossing dies, placed opposite to each other and facing toward each other, in combination with a central plate placed between the same, and co-operating, substantially as described, by which two sheets may be simultaneously embossed upon their exterior surfaces by the same impression.

4. The employment, in combination, of the cutting apparatus described, with two sets of embossing dies, as described, by which the several operations described can be simultaneously performed upon two sheets of material by the same impression.

5. The combination of the central plate with the two yielding pressers placed on opposite sides of the same, substantially in the manner and for the purpose described.

6. The method herein described for adjusting the length of the pitman, by means of the scarf joint, and the key inserted between the offsets therein, or substantially as described.

77,986.—Adoniram Kendall, Buffalo, N. Y.—*Cut-off Valve Gear.*—May 19, 1868.—An arrangement of devices constituting a valve gear which is connected with the governor by a link, and operates to produce a uniformity in the supply of steam, and an equal movement of the engine under a variable pressure of steam.

Claim.—1. The levers I I′, links K, and lever J, as constructed and arranged in combination with the pawls G, as herein set forth.

2. The arrangement of the lever L, in combination with the pawls G, substantially as herein described.

3. The arrangement of the oscillating valve N and walls Q Q′, as set forth.

4. The stop U or T, as constructed and arranged in relation to the valve N and arms S, so as to operate said valve by the pressure of steam, substantially as set forth.

77,987.—Carl Kuehn, Vienna, Austria, assignor to Joseph R. Von Wesselt, New York City.—*Utilizing Tin Scrap or Waste.*—May 19, 1868.—The object is to obtain from the scraps of tinned iron which accumulate around tin shops, and are usually thrown away, both tin and iron in such forms of respectively segerated purity that they may be again used.

Claim.—1. The method, herein described, of utilizing tinned iron waste by digesting the waste in hot water, in combination with muriatic and nitric acids, substantially as set forth.

2. The method, herein described, of collecting the metallic tin from the solution herein described, by means of zinc plates immersed therein, and exciting galvanic action, to cause the tin to be deposited on the plates, as set forth.

3. The method, herein described of segregating the tin and the iron by means of heat, water, muriatic and nitric acids, evaporation, crystallization, and galvanic action.

77,988.—T. T. S. Laidley, U. S. A.—*Tompion for Fire Arms.*—May 19, 1868; antedated May 1, 1868.—The tompion is made in two parts, a neck or projection on one entering a recess in the other. The neck is embraced by an annular packing which by bringing together the two parts of the tompion is made to fit the bore, and which, while effectively closing the latter, presents such limited contact surface that the tompion may be withdrawn with facility.

Claim.—In combination with a tompion, and means for expanding it, a tubular packing, substantially as and for the purpose set forth.

77,989.—Henry O. Lothrop, Milford, Mass.—*Steam Engine.*—May 19, 1868.—This invention has special reference to the method of connecting three cylinder pistons to the same driving shaft, the object being to simplify and lessen the expense.

Claim.—The arrangement, with the rods b^4 connecting the pistons A^1 A^2 with their crank or driving shaft, of the rods c^4 g^4, and sliding cross-head e^4, connecting the piston B^2 with said shaft, substantially as herein shown and described.

77,990.—Robert O. Lowrey, Salem, N. Y.—*Treating Leather, Cloth, and the like to render them water and fire proof.*—May 19, 1868; antedated May 12, 1868.—The object is to render leather and other material water-proof without closing the pores. The material is first saturated in a solution comprising gelatine or animal glue, soap, glycerine, or saccharine matter, dissolved in water. The fabric or material is then dried and pressed and afterward treated with an astringent solution consisting of alum and salt.

Claim.—The treating of fabrics, substantially as herein described, for the purpose of rendering them water-proof, either with or without the addition of the fire-proofing ingredients.

77,991.—Robert O. Lowrey, Salem, N. Y.—*Plastic Compound for Roofing and other Purposes.*—May 19, 1868; antedated May 12, 1868.—The compound of vegetable fiber and silicate of soda, after being molded into pipes, buckets, or other articles, or rolled into sheets of the desired size, is treated with a solution of chloride of calcium, which converts the soluble silicate of soda into an insoluble silicate, and thus cements the particles together in a firm mass.

Claim.—The compound produced by the admixture of silicate of soda with vegetable fiber, with or without the addition of sand, clay, and similar substances, and then treating the same with a solution of the chloride of calcium, substantially as described.

77,992.—Robert O. Lowrey, Salem, N. Y.—*Fibrous Compound for Roofing and other Purposes.*—May 19, 1868; antedated May 12, 1868.—The compound of vegetable fiber and silicate of soda is treated with a solution of alum, or alum and salt combined, which renders the silicate insoluble, firmly cements the fibrous particles, and renders the material fire and water proof.

Claim.—The material produced by the union of vegetable fiber, either alone or with sand and similar substances, with silicate of soda, and treated with a solution of alum, or of alum and salt combined, substantially as described.

77,993.—Robert O. Lowrey, Salem, N. Y.—*Producing Floor Cloth, Leather Cloth, and the like.*—May 19, 1868; antedated May 12, 1868.—A solution is first prepared as follows: Of gelatine, animal glue, soap, glycerine, or saccharine matter, or both combined, and dissolved in water. To this solution is added clay, plaster, or any substance adapted to form a pasty compound, which forms a water-proof body or coating to be applied to paper, cloth, or other fabric.

Claim.—The production of the new article herein described as a substitute for oil-cloth, rubber, leather, &c., when produced substantially as set forth.

77,994.—William Mantey, New Orleans, La.—*Tap for Cutting Screw Threads.*—May 19, 1868.—By partially removing the alternate threads they are prevented from acting, and ample space is afforded for the cuttings, thereby lessening friction.

Claim.—In the construction of taps for tapping nuts and the like, obliterating or diminishing every alternate cutting thread from the point of the tap back to near the termination of the cut portion, but leaving, in a space near said terminal portion, all the cutting threads full and perfect, as herein described and shown.

77,995.—C. K. Marshall, New Orleans, La.—*Article for Food from Potatoes.*—May 19, 1868.—The potatoes or yams are washed, sliced, and dried after the manner of drying fruits, so as to adapt them for transportation to foreign markets.

Claim.—As a new article of manufacture and commerce a desiccated yam, sweet, or other potato, prepared substantially as described and for the purpose specified.

77,996.—Elbridge G. Matthews, Boston, Mass., assignor to Frank F. Holbrook, same place.—*Plow.*—May 19, 1868.—The mold-board at the front is attached to the standard by a mortise and tenon, and at a point behind it rests upon a bracket secured to the standard. The hooked bolt and nut, together with the brace, admit of the ready attachment to, and detachment of, the mold-board.

Claim.—1. The combination and arrangement of the bracket or rest *c*, the tenon *b*, and the mortised projection *a*, with the mold-board D and standard A of the plow.

2. The combination and arrangement of the duplex-pointed dog or brace *g*, the hooked bolt *e*, the nut *f*, and the eyes or staples *h h* and *i*, with the bracket, standard, and the mold-board, connected by means substantially as set forth.

77,997.—E. W. Mathewson, Norwich, Conn.—*Gauge.*—May 19, 1868.—By turning the screw shaft the point of the scratch-awl may be elevated or depressed, and by withdrawing said awl nearly out to the point and turning it into a vertical position, the bent point will form a gauge for points higher than could otherwise be obtained by a device of the same size.

Claim.—The slotted support A B, in combination with the shaft, worm wheel H, screw F, and pointer C, arranged and operating substantially as set forth.

77,998.—E. B. McCoy, Winsted, Conn., assignor to himself and R. Cook & Sons, same place. *Carpenters' Bench Dog.*—May 19, 1868; antedated May 4, 1868.—By turning the central screw the hook or dog will be raised, and by turning either of the other screws the dog will be lowered; a slight reverse movement of the screw so turned causing the parts to bind, thereby retaining the dog in the desired position.

Claim.—The screw C, arranged with its gear *e*, and combined with one or more screws D of reverse threads, so as to operate together, and the one to bind the other, substantially as herein set forth.

77,999.—John McFadden, Cadiz, Ohio.—*Truss Supporter.*—May 19, 1868.—The radiating buckles receive and retain a waist strap, two thigh straps, and a shoulder brace, so adjusted that the pad may be brought to bear upon the afflicted part with more or less force.

Claim.—1. A truss pad A, provided with a series of radiating buckles *a b c d e*, and acting in combination with the straps B C D E, substantially as and for the purpose described.

2. The additional brace D′, in combination with the pad A, waist strap B, and thigh strap D, substantially as and for the purpose set forth.

78,000.—Rufus Spaulding Merrill, Boston, assigner to himself, Levi Liscom, and William Lincoln, Brookline, Mass.—*Bridge.*—May 19, 1868.—This bridge is of the kind which are built by projecting from the opposite shores or banks levers consisting of superposed layers of beams, projecting one in advance of the other. Angle-iron plates are used in lieu of wood.

Claim.—The construction of iron bridges, substantially in the manner herein described.

78,001.—Alfred Monnier, Philadelphia, Pa.—*Separating Cobalt and Nickel from other Ores.*—May 19, 1868.—Cobalt and nickel are separated from iron and manganese while in a state of solution by the use of any of the alkaline sulphurets.

Claim.—The treatment of a solution of cobalt, nickel, iron, and manganese, for the purpose of separating either one or both of the two former from either one or both of the two latter metals, substantially as herein set forth.

78,002.—George W. Myers, Hartleton, Pa.—*Knife for Removing the Skins from Animals.*—May 19. 1868.—An additional blade with a rounded edge is applied to the cutting blade in such a manner as to act as a guard between the cutting edge and the hide of the animal, the cutting or scouring of the hide being thereby prevented.

Claim.—The combination and construction of the guard C, that is movable and adjustable, with the knife blade A, as herein described, and for the purposes set forth.

78,003.—William F. Newcombe, Cleveland, Ohio.—*Wheelbarrow.*—May 19, 1868.—The iron arch or bridge supports the bottom and strengthens the front of the wheelbarrow, and adapts the wheel to be set at or near the center of the load, an opening being made in the bottom and front end to accommodate the wheel.

Claim.—The application of the iron bridge to strengthen the front part of a wheelbarrow, substantially as shown and described.

78,004.—James M. Peirce, Mokena, Ill.—*Blind Slat Fastening,*—May 19, 1868; antedated April 30, 1868.—The button or fastener is pivoted to the bottom piece of the blind, and the slats are locked in a closed position by the button being set against the lower end of the connecting-bar of the slats. A pin or spring catch on the inside detains the button at a point below its pivot and prevents the opening of the slats from the outside.

Claim.—The use of a fastener or button, A, also the spring E and the pin B, as herein described, to prevent blind slats or blinds from being opened on the outside.

78,005.—Henry Pemberton, Alleghany City, Pa.—*Manufacture of Sulphate of Alumina.*—May 19, 1868.—Hydrate of alumina is mixed with sulphuric acid and water, to form the neutral or slightly basic sulphate of alumina, which results speedily in the production of the desired salt of alumina.

Claim.—The employment, in the manufacture of the sulphate and other salts of alumina, of the improved process hereinbefore described.

78,006.—John Ponton, Buffalo, N. Y., assignor to himself and Jacob F. Hayen, same place.—*Gas Apparatus.*—May 19, 1868.

Claim.—1. An automatic machine, substantially as above described, for the purpose of making fixed illuminating gas, which will regulate itself and maintain any desired degree of heat, and supply itself with petroleum or other fluid hydrocarbon, in exact proportion as the gas generated by such machine is used or consumed from the gasometer.

2. The use of a retort, arranged with an inclination, together with a movable screw, or its equivalent, in the interior, substantially as described, arranged in such a manner that the gas generated from petroleum or other hydrocarbon, will have to travel over the whole interior surface of said retort previous to its being let free.

3. The application of any mechanical device attached to said retort, in the manner substantially as above described, whereby the expansion or contraction of said retort will regulate the supply of fuel to the furnace.

4. The application of any pyrometer to any retort, in connection with any mechanical device, which will automatically regulate the supply of fuel to any furnace used in the manufacture of gas.

5. The application of a gas furnace, substantially as above described, for the above purpose, the chief principle of which consists in utilizing the waste heat of the furnace for the purpose of causing the gas and atmospheric air, which are used as fuel, to be mixed at any high temperature before ignition.

6. A sub-reservoir in the above connection, substantially as described, the chief principle of which consists in its being hermetically sealed and entirely submerged, and so connected with the retort that the pressure of gas will drive the oil or other fluid hydrocarbon from the sub-reservoir to the retort, in lieu of atmospheric pressure.

7. The application of a float-valve, substantially as described, in connection with a reservoir, the chief principle of which consists in admitting only sufficient oil to said reservoir as will maintain any fixed level.

8. In connection with said reservoir, a ball, check,

or other valve, substantially as described, the chief principle of which is to prevent the return of any fluid or gas from said reservoir to the main source of supply from any undue pressure in said reservoir.

9. The application of an air mixer, arranged upon the principle of the old wet meter, substantially as above described, in connection with said apparatus, the chief principle of which consists in having any desired number of compartments, and each compartment having buckets running in one and the same direction, so that air or gas can be admitted to either compartment by a movable piston, or its equivalent, thereby mixing the gas and air in metrical proportions, as required. I do not claim a meter or air mixer in which the buckets are reversed.

10. That the said mixer may be worked by power other than the pressure of gas, which will then answer the purpose of exhausting the gas from the retort, and relieving it from pressure, as well as mixing the air and gas.

11. The application of a feed pipe to the retort, substantially as above described, the chief principle of which consists in being totally submerged in cold water to the very point of ingress to said retort.

12. The application of a spring or other valve, substantially as above described, attached to the said feed pipe, and arranged in any manner similar to that above described, so that the rise or fall of the gasometer will regulate the supply of oil to the retort.

13. In connection with the above apparatus, a tank or tanks, arranged in any manner, so as to protect the different parts of the above apparatus from heat.

14. A condenser, substantially as above described, arranged in such a manner that the distillate will return to said reservoir.

78,007.—William P. Prickett, Philadelphia, Pa.—*Furnace for Melting Metals, Glass, &c.*—May 19, 1868.—In the rear of each pot is made an aperture leading into a surrounding flue obstructed at one end and communicating with the stack or chimney at the other. The apertures increase in size as they approach the obstructed end of the flue, the draught being thereby equalized around each pot.

Claim.—The application to furnaces of the base upon which the pots or crucibles rest, and the small apertures opposite each, that lead into the surrounding flue, and from thence into the main stack or chimney, substantially as herein described and set forth.

78,008.—William C. Ray, Pleasant Run, and Gideon Leigh, Clinton Station, N. J.—*Fanning Mill.*—May 19, 1868.—The shoe has a lateral shaking motion imparted to it by a pitman attached to a crank on the fan shaft, by which motion is also imparted to a frame carrying a riddle and connected to a screen, the latter having an up-and-down motion as well as a longitudinal one.

Claim.—1. The combination, substantially as set forth, of the cranked fan shaft, the pitman O, the bell-crank lever P, which sustains the rear end of the pitman, the laterally vibrating shaking shoe D, the longitudinally vibrating screen frame G, and the horizontally oscillating balance lever S, for the purposes specified.

2. The combination substantially as set forth, of a longitudinally vibrating screen, F, suspended centrally from short radius bars *f*, with a longitudinally vibrating frame, G, suspended at its forward end by long radius bars *g*, and hinged at its rear end, *f'*, to the screen F, whereby an opening and shutting or rising and falling, as well as a longitudinally vibrating movement, is imparted to the latter, and the grain thereby thoroughly sifted.

3. The combination, substantially as set forth, with the pitman O, of the depending bracket R, the balance lever S, and the longitudinally vibrating frame G, for the purposes set forth.

4. The removable deflecting board L, arranged and operating as set forth.

78,009.—Adam Reichert, Cogan Station, Pa.—*Spring Wagon Seat.*—May 19, 1868.—The slides are intended to elevate either end of the seat so as to keep the same level when persons of unequal weight are riding thereon.

Claim.—The combination of the ordinary wagon seat A, of the springs C, constructed of iron, steel, brass or other material, of the supports B fastened to said seat by hinges, and of the slides E E, for the purpose of elevating either end of the seat.

78,010.—Charles H. Reynolds, New York, N. Y., assignor to himself and Albert Bridges, Jersey City, N. J., and said Reynolds assignor to Edwin Ray.—*Knife Sharpener.*—May 19, 1868; antedated May 7, 1868.—The knives are laid successively in grooves in the bed, and the stock being folded over so as to bring the file to bear upon the blade, is reciprocated upon the guide rod, drawing the file longitudinally along the edge of the blade.

Claim.—1. A knife-grinding machine, having a guide, A^3, and file-carrying piece B, arranged to serve relatively to each other, and to a bed for holding the blade in position, substantially in the manner and for the purposes specified.

2. The within-described compound bed $a\ a^1\ a^2\ a^3$, adapted to hold the blades both of knives and scissors, and to allow them to be acted upon by the file C, or its equivalent, substantially in the manner and for the purpose herein set forth.

78,011.—E. D. and J. P. Rhoads, Dayton, Ind.—*Trace Fastener.*—May 19, 1868.—The spring acting upon the fastening pin through the pivoted lever, retains the pin securely in the position in which it holds the trace.

Claim.—1. The arrangement of the ferrule B, with its perforated jaws *h h*, and the lever C, with its spring D, and pivoted pin *g*, said lever being pivoted to the outer end of the ferrule, and curved to the rear of the swingle-tree, to operate substantially as set forth.

78,012.—George Richards, Boston, Mass.—*Throttle Valve for Locomotive Engines.*—May 19, 1868.—In starting the engine, the lever of the main valve first actuates a smaller valve which admits steam to the under side of the main valve and enables the latter to be opened with facility to any desired extent by the continued motion of the lever.

Claim.—The arrangement of an additional or supplementary valve with the throttle valve of a locomotive engine, when both are operated by one and the same lever, substantially as and for the purpose specified.

78,013.—John Richards, Cincinnati, Ohio.—*Bearing for Spindles.*—May 19, 1868.—The adjusting screw may be made to adjust the spindle, together with the socket sleeve, to different heights, and by the same adjusting screw—the step screw being backed out and the spindle fixed—the spindle can be tightened in its socket.

Claim.—1. The adjustable sleeve *b*, in combination with the screw *e*, for adjusting the spindle *c* to different positions in the socket, substantially as and for the purposes specified.

2. The oil-cell *n*, in combination with sleeve *b* and screw *e*, operating together in the manner and for the purposes set forth.

3. The adjusting screw *d*, in combination with the sleeve *b* and screw *e*, for adjusting the sleeve *b* and spindle *c*, substantially as specified.

4. The sleeve *b*, screws *e* and *d*, together with the lubricating cell *n*, when combined and operating in the manner and for the several purposes as specified.

78,014.—Edmond Richardson and James H. Cole, Adrian, Mich., assignors to James H. Cole.—*Device for Rolling Roofing.*—May 19, 1868.—A bed of sand inclosed by a rectangular frame forms a ground work upon which to form the sheets. The plastic material is poured upon the sand bed, and the felting material being wound upon the upper roller of the movable frame and passed around under the larger roller, said frame is moved along so as to pay out the felting and spread it upon the upper surface of the plastic material. The cutters on the sand bed frame shear off the felting to the proper width.

Claim.—1. The method herein described of making sheets of Egyptian case-hardened marble, or sheets of any similar material, by the application of the felting simultaneously with the rolling and pressing of the sheets, substantially as described.

2. The construction of the rolling instrument shown

in *Fig.* 1, having the rollers A and B, the former being provided with shoulders, *m* and *n*, and scrapers. *o o*, substantially as and for the purposes set forth.

3. In combination with said instrument, the frame E E, when provided with the cutters *i i*, substantially as described and for the purpose set forth.

78,015.—Thomas L. Rivers, St. Louis, Mo.—*Animal Trap.*—May 19, 1868; antedated May 13, 1868.—The trigger is hung by its hooked end upon the wire of the trap, and to set the trap the edge of the hinged door is placed upon the catch.

Claim.—The trigger A, with its rounded shoulders F F and catch C, in combination with the door, as above described, and for the purposes set forth.

78,016.—Benjamin Robinson, East Gloucester, Mass.—*Obtaining Gelatine from Fish Heads.*—May 19, 1868.—The fish heads are subjected to the action of steam in a close vessel, and then placed in and compressed by a powerful press, from openings in which the gelatine exudes.

Claim.—The process described, for obtaining gelatine from the heads of fish.

78,017.—Levi Rogers, Morehouse Parish, La.—*Medical Compound.*—May 19, 1868.—This compound consists of green swamp palmetto root, finely divided, placed in distilled water, and boiled slowly until considerably reduced by evaporation. While warm white sugar is added and afterward fifty drops of nitric acid.

Claim.—The medical compound herein described, when made of the ingredients herein mentioned, in the proportions and by the method stated, for the purpose set forth.

78,018.—Levi Rogers, Morehouse Parish, La.—*Medical Compound.*—May 19, 1868.—To a gallon and a half of distilled water is added one pound of finely divided green swamp palmetto root which is boiled slowly until evaporated to dryness. The residuum is then pulverized ready for use.

Claim.—The medical compound herein described, when composed of the ingredients herein mentioned in the proportions stated, and compounded by the method and for the purpose set forth.

78,019.—Albert E. Ross, Hollis, Me.—*Sawing Machine.*—May 19, 1868.—A slide works in a groove in an upright and is connected at its lower end to a fixed spring. To the upper end of the slide are attached two cords passing over rolls, one of the cords having a hand-piece and the other passing down the opposite side of the upright. The saw is thrown upwardly by a spring and levers, and the wood is thrown out automatically when sawed.

Claim.—The combination of the slide *o*, lever *z*, lever *a′*, cords *q r*, spring 8, and slide *v*, as and for the purposes set forth.

78,020.—Edward C. Ryer, Burlington, Vt.—*Watch, Clock, and Lock Key.*—May 19, 1868, antedated May 7, 1868.—Upon a split spring-barrel is placed a sliding sleeve to which is added a winding ring that adjusts the key to the proper size. Another ring is applied to the barrel to strengthen the key when used at its largest size.

Claim.—1. The manner of applying the sleeve C to the barrel of an adjustable watch, clock, or lock key, all as herein described and shown, and for the purpose specified.

2. The ring A, or its equivalent, as applied to the sleeve C, all as herein shown and described, and for the purpose specified.

3. The ring G, as applied to the barrel B, all as herein shown and described, and for the purpose specified.

78,021.—James Shepard, Bristol, Conn.—*Machine for Wiring Pans.*—May 19, 1868, antedated May 7, 1868.—A square roller, die, or swage is fitted to revolve in a suitable frame, immediately beneath a round roller with a narrow edge like the upper roller of a common wiring machine.

Claim.—The combination of the roller-die D with the revolving-die A, constructed and operating as described.

78,022.—A. D. Smith, Grafton, Ohio,—*Loader for Locomotive Tenders.*—May 19, 1868.—Attached to the bottom of a box is a frame suspended by spring rods which operate latches attached to doors on the box. The box being loaded is swung over the tender, the doors opened and the load deposited.

Claim.—The frame D, its sustaining rods *f f*, the latches C C, in combination with the box A and trap-doors B B, all constructed and arranged to operate substantially as and for the purpose set forth.

78,023.—Alfred Starr, New York, N. Y.—*Solder for Aluminum.*—May 19, 1868.

Claim.—The alloy specified, forming a solder for aluminum.

78,024.—Edward Steinel, Amsterdam, N. Y.—*Mosquito Bar.*—May 19, 1868.—To the upper end of a bedstead is hinged a frame, from the cross-bar of which extend cords secured to a top-bar suspended from hooks in the wall. The frame is raised and lowered by the occupant pulling the cords.

Claim.—The hinged frame B, and top-bar C. in combination with cords *b*, and with a mosquito net, substantially as and for the purpose described.

78,025.—Benjamin F. Stover and Abram H. Stover, Ladoga, Ind.—*Churn Dasher Head.*—May 19, 1868.—The dasher head is concave on its under side and provided with a socket extending upward and downward sufficiently to brace the head upon the staff.

Claim.—The concave head A, of finely perforated or reticulated metal, having a socket B, as and for the purposes specified.

78,026.—Jay C. Taylor, Ann Arbor, Mich.—*Spring Bed Bottom.*—May 19, 1868.—The slats are shorter than usual and are suspended by springs of rubber webbing, secured to an adjustable bar provided with hangers, which act and partially rotate upon journals in a transverse bar attached to the head and foot rail of a bedstead.

Claim.—The combination of slats A, buckles B, rubber springs D, adjustable bar E, hangers I, journals F, and transverse bar G, when arranged and operating substantially as and for the purposes herein set forth.

78,027.—Edwin Thomas, Philadelphia, Pa.—*Neck Tie.*—May 19, 1868.—Various colored pieces of any material are held together by a catch so as to form a tie of ordinary length that will be reversible or changeable to any colored bow and ends desired.

Claim.—As a new article of manufacture, a neck tie composed of sections of material of different colors or quality, said sections being detached from each other, substantially in the manner specified, and for the purpose set forth.

78,028.—Joseph M. Thompson, Rome, N. Y.—*Salt and Sugar Evaporator.*—May 19, 1868.—Object is to cause the consumption of the gas and perfect combustion throughout.

Claim.—The admission of air by jets into the flame under the pots or pans, at points equidistant from each other.

78,029.—James Trainer, Vinton Station, Ohio.—*Animal Trap.*—May 19, 1868.—The compartments, levers, tilting platform, and catches are so arranged that by one operation the animal is securely imprisoned and the trap reset.

Claim.—In combination with a trap having the above-named devices, the tilting platform *d*, arm K, crank *l*, and the described connections, all arranged to operate in connection with the levers *e e′*, as and for the purpose set forth.

78,030.—Charles S. Tyson, Old Point Comfort, Va.—*Gun Carriage.*—May 19, 1868.—The recoil is taken up by means of springs, running back between bars or other surfaces inclining toward each other rearward, forming a wedge-shaped space in which the springs move, so that the recoil force will encounter a regularly increasing resistance.

Claim.—1. A mechanism for taking up the recoil of heavy guns, consisting of a spring or springs working against or between inclined surfaces, so that the spring or springs will be more and more compressed as the carriage runs back, opposing a regularly increasing resistance to the recoil force, substantially as described.

2. In combination with the springs C C, and the inclined bars B B, the crank E on the forward axle of the carriage, the link-bar *e*, and the hinged coupling of the springs, all constructed, arranged, and operating substantially as described.

3. In combination with the inclined bars and springs, the intermediate sliding bars I I, as and for the purpose set forth.

4. In combination with the side-rails of the carriage pressing against the outer sides of the bars B B, and the cross-bar G and plates *g g* pressing against the upper and lower sides of said bars, and the springs C C, said bars B B, with their outer, upper, and lower sides parallel, and their inner sides inclined, substantially as and for the purpose set forth.

5. In combination with the inclined bars B B, springs, hinged coupling, and intermediate sliding bars, substantially as described, the transom plates D and D′, to hold all the parts in place, as set forth and described.

78,031.—John Vaughn, Miami County, and Eli Chamness, Grant County, Ind.—*Subsoil Plow.*—May 19, 1868.—The earth upon being plowed up is spaded, broken up, and thrown upon plowed ground, and any earth that may cling to the spades is removed by the jack or cleaner. The dash-board inclines at a suitable angle toward the under rim of the spade wheel to prevent the earth from falling back in the furrow.

Claim.—1. The construction and arrangement of the wheel B, substantially in the manner and for the purpose as herein set forth.

2. The combination of the frame A and dash-board *d* with the wheel B, substantially in the manner and for the purpose as herein set forth.

3. The combination of the plow D with the wheel B, substantially in the manner and for the purpose as herein set forth.

4. The combination of the jack or cleaner C and frame A with the wheel B, substantially in the manner and for the purpose as herein set forth.

78,032.—Edward Wadhams, Yorkville, N. Y., assignor to himself and A. Wadhams, same place.—*Metallic Tags for Straps.*—May 19, 1868; antedated December 28, 1867.—The end of a strap for skates, harness, or other purpose is encased within a thin strip of sheet metal, whereby the end of the strap is readily passed through the loop or buckle.

Claim.—As a new article of manufacture, a tag for straps, consisting of the metallic plate B, when provided with the two rectangular openings *a*, and strips *b*, and adapted to be bent over the end of the strap, as herein set forth for the purpose specified.

78,033.—John L. Wait, East Cambridge, assignor to himself and George J. Sutton, Cambridgeport, Mass.—*Composing Stick.*—May 19, 1868.—The shoulder is provided with a clamp which clasps the ledge of the composing stick and retains the shoulder in the position in which it may be set, the cam lever being adapted to close the clamp with greater or less force.

Claim.—1. As my invention, the clamp C, as combined with the cammed lever E and the adjustable shoulder B, and formed to straddle or embrace opposite sides of the ledge of the composing stick.

2. The combination and arrangement of the screw *d* with the clamp *c*, the cammed lever E, and the adjustable shoulder B, arranged and applied together, substantially in manner and so as to operate as specified.

78,034.—Harvey Webster, Cambridge, Vt.—*Whiffle Tree.*—May 19, 1868.—The grooves are employed respectively to inclose or guard the spring lever trigger, and obviate the impairing of the operation of the cast-off by the swelling of the wood. The cast-off, when released, detaches the hame tug from the draught pin.

Claim.—The plate A with its grooves B and C, the spring lever E, cast-off D, the spring F, the draught pin G, all arranged and operated as shown and described.

78,035.—Harvey Webster, Cambridge, Vt.—*Thill Coupling.*—May 19, 1868.—To uncouple the thills from the vehicle, the flange of the wedge plate is pulled forward until the cap or bolt holder uncovers the thill-fastening bolt, then push the bolt out of the socket of the thill iron.

Claim.—The wedge plate A, bolt holder or cap B, and the spring C, as applied to thill couplings, and operated either by draught or pressure, all for the purpose herein specified.

78,036.—William H. White, New York, N. Y.—*Hat.*—May 19, 1868.—The crown is detachable so that various crowns can be used on the same hat brim or cap frame; the crown may be worn independently of the brim. An imitation band can be printed, pressed, or sewed on the crown so as to enable it to be packed in a small space.

Claim.—1. A hat or cap in which the crown is detachable or removable from the brim, substantially as and for the purposes herein shown and specified.

2. A hat composed of a brim, brim-former, or frame and crown, arranged substantially as herein described, so that each of said parts may be readily detached from or combined with the others, as set forth.

3. In a hat or head-covering in which a brim of suitable material is combined with a brim frame or former, as herein described, the combination with the brim and draw casing formed in the outer edge of the fabric of which the same is made, of draw strings or a draw string passing twice around the brim, under the arrangement and for operation as shown and set forth.

4. The combination of a detachable or adjustable and removable crown with a cap visor and head band when the two latter are permanently fastened together or formed in one piece, substantially as and for the purposes herein shown and specified.

78,037.—David F. Wilcox, Greenville, N. Y.—*Hop Pole.*—May 19, 1868.—The object is to provide a simple branching pole for so supporting and dividing the hop vines as to expose them effectively to the rays of the sun.

Claim.—The arrangement of the curved bars B B, passing through the pole A, arms C C C C, and cords D and *e*, all constructed and used substantially in the manner specified.

78,038.—Lucius Leander Woolley, Medford, Mass.—*Door Lock.*—May 19, 1868.—The bolt is slid endwise by the circular tumbler. The lock is designed for the doors of stoves of railway carriages, the same being prevented from becoming accidentally unlocked, should the carriage be overturned.

Claim.—The combination and arrangement of the tooth-notch *a*, and the arcal stop-notches *b c*, of the bolt C, with the segmental tumbler D, provided with the tooth *d*, and the two notches *e e*, arranged as specified.

78,039.—J. M. Allison, Cranberry, Pa.—*Corn Planter.*—May 19, 1868.—The supporting wheel has attached to it a cog-wheel which meshes with another on a shaft carrying arms or tappets which actuate in one direction the slide or slides whereby the corn is dropped; the return movement of the slides being effected by springs.

Claim.—The combination of the gear wheels O and N, shaft J, cams or arms I, slotted slides G, and springs L, with the drive wheel C, frame A, and hoppers E, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the adjustable slide bottom F with the hoppers E and slotted slide G, substantially as herein shown and described, and for the purpose set forth.

78,040.—Hans Heinrich Andresen and Hans Asbahr, Davenport, Iowa.—*Venetian Blind.*—May 19, 1868.—The upper or outer edges of all the slats are hinged to supension chains, and lifting chains are applied to the front or inner edges of the slats so that when the slats are hung up by their suspension chains they can be opened or closed more or less by raising their front edges by means of pull cords.

Claim.—1. Hinging the slats *a* by their edges to the suspension chains C C, in combination with a lifting chain or chains and pull cords, arranged substantially as described.

2. In combination with slats which are hinged and hung, substantially as described, attaching the free edges of the slats together by means of separate lifting chains D D′, substantially as and for the purposes described.

3. A Venetian blind which is constructed and operates substantially as described.

78,041.—Fritz Asthöwer, Witten an der Ruhr, Prussia, assignor to Joseph R. Von Wessely, New York, N. Y.—*Manufacture of Steel.*—May 19, 1868.—The materials are smelted in close crucibles in a furnace, the construction of each being such that the metal can be readily inspected during the process, and the crucibles removed from or placed in the furnace at any stage of the process without interrupting the operation of the furnace.

Claim.—1. The combination of the fire chamber A and crucible chambers C E, as and for the purposes set forth.

2. The construction of the dome of the furnace with vertical plugged openings, as described, to afford a view of the interior.

3. The crucibles, having plugged covers arranged beneath the openings in the dome, as and for the purpose described.

78,042.—David Bartholomew and David C. Dinsmore, Kirkville, Iowa.—*Churn.*—May 19, 1868.—The hinged brace permits the convenient removal of the barrel from its inclosing frame.

Claim.—The combination of the churn and the frame A, constructed with a removable brace, A′, and the arm D, for giving a reciprocating revolution to the dasher, and so adjustably connected with the pitman, E and driving mechanism that the churn may be removed from the frame, substantially as set forth.

78,043.—J. O. Belknap, Mobile, Ala.—*Propelling Pleasure Boats.*—May 19, 1868.—Designed for moving pleasure boats in a circle around a central standard planted upon a circular or polygonal wharf surrounded by water.

Claim.—The employment of a revolving frame, working on a vertical standard, and having arms or sweeps, to which pleasure boats may be attached, for the purpose of propelling such boats on the water, substantially in the manner above set forth.

78,044.—Samuel S. Bent, Portchester, N. Y.—*Chicken Coop.*—May 19, 1868.—The coop is provided with a metallic open-work end-piece, provided with sliding doors connected together so as to be operated simultaneously. The broods are protected by closing these sliding doors at night.

Claim.—A chicken-coop, formed with an open-work metallic plate, in the lower portion of which there are openings, closed when desired, by a range of doors or covers, substantially as and for the purposes set forth.

78,045.—Douglas Bly, Macon, Ga.—*Piston Rod Adjuster.*—May 19, 1868.—The connecting rod is adjusted vertically to any extent, and a joint is provided so that the rod may adapt itself to the proper vertical position as the beam works up and down.

Claim.—The clamp A, combining both a free vertical adjustment of the rod and a joint for connecting with the walking-beam for insuring a free play, substantially as herein set forth.

78,046.—William W. Boyington, Chicago, Ill.—*Pavement.*—May 19, 1868.—The pavement is composed of blocks arranged in rows which rest alternately directly upon the foundation boards and upon plate boards nailed to the foundation boards, the blocks upon the plate boards being of less height than the others.

Claim.—A foundation for a wood and concrete pavement formed with a layer of boards, A, lengthwise with the street, and a layer of plates, B, transverse, and nailed fast thereto, said plates being of equal widths, and with spaces between equal to the thickness of the blocks composing the wooden portion of said pavement, substantially as described.

2. The combination of the foundation A B, constructed as described, with the blocks C and C′, and concrete filling, in the manner and for the purpose herein set forth.

78,047.—James L. Brierly, Auburn, Mass.—*Pipe-Wrench and Cutter.*—May 19, 1868.—A sharpened disk within a block is fastened to the end of the screw rod, and the pipe, being clamped between the disk and the hook, is cut by turning the instrument around the pipe.

Claim.—1. The slotted hook C, when pivoted to the lug *a*, formed upon the side of the nut B, and held against the pipe by means of the spring E pressing against its back, and secured at one end to the end of the lug *a*, all constructed, arranged, and operating as described, for the purpose specified.

2. The cutter block F, when provided with the lateral pin *c*, fitting through the slot in the spring hook C, whereby the cutter is guided and prevented from turning upon the rod A, as herein described, for the purpose specified.

78,048.—B. Briody, Detroit, Mich.—*Artificial Limb.*—May 19, 1868.—Relates to the construction of the ankle and toe joint with a view to simplify the the appliances and render them durable.

Claim.—1. The combination of the parts A and B, by means of a hinge joint, constructed substantially as and for the purpose described.

2. The combination of the parts A and C by a hinge joint, substantially as and for the purpose described.

3. The combination with the hinge joint *d d*, constructed substantially as described, of the rubber or other yielding washer springs *f f*, as and for the purpose described.

4. The combination with the parts A and B, and the hinge joint as described, of the India rubber or other yielding springs D D, substantially as and for the purpose described.

5. The combination with the parts A and C, and their hinge joints d^2 d^3, of the rubber or other yielding springs F, substantially as and for the purpose described.

6. The combination, with the parts A and B, jointed together as described, of the semicircular spring *h*, substantially as and for the purpose set forth.

78,049.—W. P. Brooks, Bloomington, Ill.—*Draught Attachment for Vehicles.*—May 19, 1868.—The evener is a flat bar, so that while either of the outer horses may be favored by adjusting one of the end hitching hooks on the bar lengthwise, the central horse may be favored by shifting its attaching loop higher on the central upright bar.

Claim.—A draught attachment or evener, composed of a bar, A, provided with bars C, having hooks *d′ d″*, either or both, at its ends, in connection with the central bar B, with adjustable eye or loop *d*, attached, all constructed and arranged substantially in the manner as and for the purpose set forth.

78,050.—Edmund Brown, Burlington, Vt., assignor to himself and George D. Wright, same place.—*Vegetable Masher.*—May 19, 1868.—A perforated inclined frame and a smooth presser, sliding or swinging thereon, are so arranged that the mashed body or pulp of the potato, or other article will be forced through the meshes of the frame, while the peels will fall into a special receptacle.

Claim.—1. A vegetable masher, consisting of a perforated stationary frame, and of a smooth swinging and sliding presser, as set forth.

2. The perforated frame of a vegetable masher, when composed of the stiff bars *a a*, and of the wire rods *b b*, arranged in front of and crossing the bars *a*, substantially as herein shown and described.

3. The sliding and turning presser E, provided with hooks *e*, in combination with the pins *h* on the posts B, and with the perforated fabric *a b*, or its equivalent, all operating as set forth.

4. The device set forth in the foregoing clauses, in

combination with the sliding follower F, operating as specified.

5. The notched fixed scraper J, in combination with the frame D and with the presser E, all operating substantially as herein shown and described.

6. The combination of the frame A B and frames C D with the smooth swinging and sliding presser E, with the hooks *e* and pins *h*, with the follower F and scraper J, all made and operating substantially as herein shown and described.

78,051. — Jonathan Bundy, West Liberty, Iowa.—*Construction of Peat Cars.*—May 19, 1868.—The side-rails and tier of the transferable railroad upon which the car is run form molds for the peat when it is discharged from the car. When the car arrives upon the molding track the crank is released and the trap doors deposit the peat into the mold, and as the car advances, when the first mold has been filled, the front board of the car will force the peat forward to the next mold, and so on until the car is exhausted of its contents.

Claim.—The car A, provided with hinged bottom E E, when combined with the shaft G, cords or chains *s s*, bar *m*, and lever H, all arranged as and for the purpose set forth.

78,052.—Isaac S. Bunnell, Carbondale, Pa., assignor to himself, Otis Reynolds, and George W. Reynolds. — *Corn Husker.*—May 19, 1868.—When the knife is pushed down past the end of the trough so as to separate the corn-cob from the stock, the outer arm of the rectangular lever will strike the standard, causing the other arm to throw the corn from the husk.

Claim.—The combination of the cast-iron gate, O, steel knife A, lever C, spring S, trough D, with bench B, as herein described, and for the purpose set forth.

78,053.—Charles Burnham, Philadelphia, Pa. —*Gas Heater.*—May 19, 1868.—The outer cylinder has a perforated disk within it near the top and the cylinders slide one within the other in order to raise or lower the perforated disk.

Claim.—The two cylinders arranged to slide telescopically, one within the other, to adjust the height of the plane of combustion or the length and capacity of the mixing chamber, substantially as described.

78,054.—E. P. H. Capron, Springfield, Ohio.—*Road Scraper.*—May 19, 1868.—By raising the handles, the rear end of the scraper is also raised, causing its forward end to catch against the ground, and by then moving the pivoted lever laterally the scraper is released, when it revolves and dumps its load.

Claim.—The combination of the scraper A, provided with the plate O, having the stop *c* and notch *n*, with the frame B, provided with the lever C, and pawl *h*, all constructed and arranged to operate as shown and described.

78,055.—Alexander Carbnow, Potsdam, N. Y.—*Bolt Cutter.*—May 19, 1868.—The handles acting in conjunction with the knuckle joint and the cam upon the slide, force it toward the stationary cutter with great power.

Claim.—The devices as arranged and shown in combination, as and for the purposes set forth.

78,056.—William B. Cargill, New Haven, Conn.—*Fastening for Corsets.*—May 19, 1868.—A steel busk is, as usual, applied to each side of the corset, but one is made wider than the other and provided with a series of clips which receive between them, and hold, the narrow busk.

Claim.—1. The combination of the busk B with the recessed clips *a* of the busk A, substantially as described.

2. The recessed clip or female fastening device, formed with projecting lip or lips, substantially as described, and for the purpose set forth.

78,057.—D. M. Church, Birmingham, Conn., assignor to himself, William T. Beard, and T. E. Beard, same place—*Shuttle for Sewing Machines.*—May 19, 1868.—The bobbin is constructed without the pointed ends and turned like an ordinary spool, but smaller, corresponding in size to the ordinary bobbin. The points which are at the ends of the ordinary bobbin are turned on detached caps between which the bobbin is placed.

Claim.—A bobbin for sewing-machine shuttles, provided with detachable ends or caps C C, having center points *b*, substantially in the manner as and for the purpose set forth.

78,058.—P. J. Clark, West Meriden, Conn.—*Lantern.*—May 19, 1868.—The lower ends of two of the guards are bent below the ring in such a manner as to form shoulders, and the upper and lower parts of the lantern are connected together by passing the guards through the notches of the base flange, and the base is then turned.

Claim.—1. The ring E, formed as shown, with the lower ends of the guards D passing through it, and two or more of said guards provided with shoulders *d*, in combination with the flange *b* on the upper edge of the base C, with notches *c c* made in it, all arranged substantially as and for the purpose set forth.

2. The spring catch F attached to the under side of the flange *b*, when said spring catch is used in connection with the ring E and guards D, and all constructed and arranged as set forth.

78,059.—John Clarke, Redditch, England.—*Wrapper for Needles.*—May 19, 1868. — When the wrapper is opened, exposing the needles, by the opening out of the tail-piece of the wrapper, the needle sheath is caused to assume a vertical position, when the needles may be readily extracted.

Claim.—The sheath *a*, applied to the wrapper *b*, to operate in the manner and for the purpose substantially as set forth.

78,060.—William F. Cobb, Whitestown, Ind. —*Tenoning Machine.*—May 19, 1868.—The racks and pinions serve to adjust the chisels with their holders and guides toward or from each other, the adjustment being effected by turning a crank. The piece of lumber is held by the set screw upon the table with the end upon which a tenon is to be made longitudinally placed between the chisels, when the movement of the treadle will cause the chisels to descend and cut away a portion of the wood.

Claim. — 1. The adjustable chisel-bar guides 4, rack-bars 3, crank 5, and pinions 6, in combination with central block D and its plates 11, arranged and operating conjointly, as and for the purpose described.

2. The construction of the chisel, consisting of the blade Q^4, attached to the blade Q^3 by the hinge joint *r*, and adjustable by means of screw *t* and link *f*, working in the arm *e*, whereby the chisel may cut a tenon at a right angle or less, all constructed and arranged to operate substantially as described.

78,061.— John Commins, Charleston, S. C.—*Treating Mineral Phosphates for the Manufacture of Fertilizers.* — May 19, 1868.—The phosphate is heated and plunged into gas liquor from the gas-house, such liquor having been combined with sulphuric acid.

Claim.—1. Treating mineral or earthy or natural phosphates, while in a heated state, with gas liquor and sulphuric acid, when such phosphates have previously been treated with a solution of chloride of sodium.

2. Treating such phosphates, when in a heated state, with gas liquor, when such liquor is combined with sulphuric acid or any other acid or salt, whether such phosphates have been previously treated with a solution of chloride of sodium or not, substantially as and for the purposes described.

78,062.—Peter Compton, Sullivansville, N. Y., —*Bee Hive.*—May 19, 1868.—Various guarded openings are provided for ventilating the hive, the bottom being made of a webbing of fine wire cloth. A tube is used to transfer the bees from hive to hive. The comb-supporting bars are separated by metallic strips so that the honey adhering to each bar may be taken out separately.

Claim.—1. The herein-described improved bee hive, when constructed and arranged substantially as and for the purpose described.

2. In combination with the boxes D D, provided

with the detachable portions *h h*, and metal strips *i i*, the metallic perforated covers *k*, substantially as and for the purpose described.

78,063.—Daniel T. Conde, Beloit, Wis.—*Sad-Iron Holder.*—May 19, 1868.—The two parts of the holder are clapsed upon the handle of the sad-iron, the holder being adapted for long or short handles by the adjustable slotted pieces of iron.

Claim.—A sad-iron holder, having lid A, adjustable irons B, pin C, bottom D, springs E, and shield G, adjusted, combined, and arranged substantially as specified.

78,064.—Freeman N. Corbin, Champlain, N. Y.—*Whiffle-Tree Evener.*—May 19, 1868.—When one horse pulls more than the other, the end of the double-tree to which the strongest pulling horse is attached will be drawn forward, and the clevis at the forward end of the double-tree moved toward the draught pole, while the other clevis will be moved outward therefrom.

Claim.—The combination of the double-tree B, clevises F F, bars E E, all arranged and applied to the draught pole A, to operate in the manner substantially as and for the purpose set forth.

78,065.—F. W. Coy, Boston, Mass.—*Carpenters' Gauge.*—May 19, 1868.—The part which forms the guide may be set at any desired angle, so as to fit the bevel of the stock being worked.

Claim.—A carpenters' gauge, the guide L of which is capable of angular adjustment, in the manner and operating substantially as described and for the purposes set forth.

78,066.—Emerson F. Crawford, Canaan, Ind.—*Combined Sender and Cultivator.*—May 19, 1868.—The running and operative gear are so constructed and combined that the several implements, viz, harrow, corn planter, young corn plow, seed drill, and meadow cultivator may be operated successively, receiving their motion from, and acting in combination with, the same running gear.

Claim.—The construction and arrangement of the framework and operative gear of the machine in such a manner that the different machines can be used together or successively, substantially as and for the purposes specified.

78,067.—John C. Crawford, St. Charles, Ill.—*Washing Machine.*—May 19, 1868.—The clothes, after being washed by the combined rolling and reciprocating motion of the large and heavy rollers, have the water expressed from them by the follower in the compartment at the end of the wash-tub.

Claim.—The combined washing machine and clothes presser, constructed as described, and consisting of the box A, having corrugated bottom B and partition *c*, the frame *a*, provided with plain rollers C, connecting rod *b*, and lever D, perforated bottom G, follower F, and lever E, all arranged and operating as and for the purpose set forth,

78,068.—A. J. Creel, Hopkinton, Iowa.—*Liniment.*—May 19, 1868.—Turpentine and fish-oil are mixed together in one iron vessel, and oil of vitriol is then poured into the mixture gradually.

Claim.—A liniment, formed of the ingredients and in the proportions substantially as herein described, and for the purposes set forth.

78,069.—Joseph D. Davenport, North Providence, R. I., assignor, by John D. Thurston, his trustee, to himself, Horace M. Curtis, and Henry Martin.—*Clothes Drier.*—May 19, 1868.—The clamps consist of the upper thumb nut and the flanged sections of pipe which surround the central support and fill the spaces between the sets of bars.

Claim.—The application of a clamp, E D, to the slats B of a clothes horse, radiating from a common spindle, substantially as described for the purposes specified.

78,070.—V. R. David, Sandwich, assignor to himself and D. R. Pomeroy, Plano, Ill.—*Inserting Artificial Teeth.*—May 19, 1868.—The wings or extensions of the plate are designed to aid the wearer in retaining the lower plate in proper position. The air is exhausted by the operation of the mouth.

Claim.—The wings C C, constructed substantially as and for the purposes specified.

78,071.—Andrew J. Davis, Hartford, Mich.—*Mop Wringer.*—May 19, 1868.—The sliding frame with the twisting device is drawn up near the handle when the mop is to be wrung.

Claim.—1. The sliding frame D, the shaft and gear wheels E, F, and H, arranged substantially as shown and described, in combination therewith, and with the mop B and frame A, for the purposes set forth.

2. In combination with the above, the holder G, constructed, arranged, and operating as described for the purpose set forth.

78,072.—James E. Dean, Canaan, Conn.—*Milk Can.*—May 19, 1868.—The milk can is enveloped in a case having a lining of felt, intended to keep the milk in a cool condition. The case may be readily detached or applied.

Claim.—The adjustable metallic case A, lined with felt or other non-conducting substance adhered to it, or without the lining, and the adjusting of it with the movable clasp C D D, substantially as and for the purpose set forth.

78,073.—Edward Denmead, Marietta, Ga., and Wendel Bollman, Baltimore, Md.—*Bridge.*—May 19, 1868.—The bolt is suspended from the top chords by the suspension rod, so as to make a better bearing for the angle iron and relieve the chords. The cushions interposed between the angle iron and chords are intended to ease the suddenness of the strain without allowing the two iron surfaces to come in contact.

Claim.—1. Supporting the angle irons E upon a bolt instead of upon the chords, substantially as and for the purpose described.

2. In combination with angle irons supported upon a bolt instead of upon the chords, the interposing, between said irons and chords, of an elastic cushion, substantially as and for the purpose described.

78,074.—Isaac Dripps, Fort Wayne, Ind.—*Railway Car Stove.*—May 19, 1868.—The grating at the bottom of the draught opening prevents the coals from falling through the draught opening into the car, in case of accident. The stove-pipe hole is guarded by a perforated diaphragm, and the upper ventilating door, when open, exposes only a perforated portion of the stove cylinder.

Claim.—1. The grating O placed in the bottom of the draught opening M, and over the ash box, substantially as and for the purpose set forth.

2. The arrangement of the perforations P and door N, substantially as and for the purpose set forth.

3. A stove constructed with the grating O, perforations P, and perforated diaphragm R, arranged substantially as and for the purpose set forth.

78,075.—Alexander Dunbar, New York, N. Y.—*Horse Collar and Hame.*—May 19, 1868.—A folding horse collar, having the draught bar attached to the rear inner corner of the hames, so that it passes through the body of the collar.

Claim.—1. The draught hook *e*, attached to the staple *d*, and passing through the collar A, and a slotted plate *f*, attached to the hames, said plate *f* having its part G bent into the collar, all constructed and arranged to operate as herein described for the purpose specified.

2. In combination with the hames B and collar A, the adjustable link *b*, as herein described for the purpose specified.

78,076.—Charles Durant, Jersey City, N. J., assignor to George F. Durant, same place.—*Relay Magnet.*—May 19, 1868.—The armature or armature lever constitutes the only spring for effecting the recoil; the flexible joint in the extended armature, or armature lever, enables the platina point commonly used to open and close the local circuit, to be retained so as to move and operate over any space, however small, while the armature below the joint is free to move over greater or less space incident to varying currents, and a shifting bolt moving freely through and upon the extended armature is substituted for the fixed platina point used for opening and closing the local circuit.

Claim.—1. The jointed armature, or armature lever, A or G, in combination with the magnet cores E or E′, or Ex Exx, or either of them, substantially as herein shown and described.

2. The flexible joint, in extended armature or armature lever, substantially as and for the purpose herein fully set forth and described.

3. The shifting or sliding bolt in the extended armature or armature lever, substantially as and for the purpose herein fully set forth and described.

78,077.—Philip Esser and Franklin A. Steere, North Providence, R. I.—*Machine for Setting Button Hooks.*—May 19, 1868.—A metallic button head is set upon a crooked neck and furnished with three prongs. The prongs being passed through the material are clinched.

Claim.—1. A machine for setting button holes, consisting of a revolving block, B, with acting faces as described, in combination with the spring pawl *d*, and jaws A A, operating substantially as set forth.

2. Constructing the jaw A with a receptacle, E, for the button hook, so as to hold and sustain the same while it is being inserted and its prongs clinched, substantially as shown and is worked.

78,078.—Jules Fougerat, New York, N. Y.—*Manufacture of Iodine.*—May 19, 1868.—The muscles or shells are first calcined, then pulverized and boiled in water. Sulphuric acid and protoxide of iron are then added to the mixture, in sufficient quantities to dissolve the crystals of the iodine, which are then precipitated by a current of chlorine gas, or by sulphide of carbon.

Claim.—1. Producing iodine from muscles, as set forth.

2. The process herein shown and described of producing iodine from muscles.

78,079.—M. H. Gardner, New York, N. Y.—*Machine for Enameling Paper.*—May 19, 1868.—The enameling mixture is automatically and evenly distributed upon the paper, and blended and smoothed over the surface as the paper is fed through the machine.

Claim.—1. The arrangement, within the mixing vessel or chamber A, of the revolving brush B and stationary brushes C C, for operation together, substantially as described.

2. The combination, with the revolving brush B and stationary brushes C C, of the mixing vessel or chamber A, screen D, and slide or gate E, essentially as specified.

3. The traveling endless belt or apron J, constructed with thickened sides or edges *n*, and divided into sections by openings *l*, having fingers or grippers *i*, at or near their edges, as herein set forth.

4. The drums L, grooved at or near their one end, and provided with detachable rings M, in combination with the endless belt J, formed with thickened sides *n*, for operation together as described.

5. The combination of the trunk G, cylinder H, provided with openings *c* and *d*, revolving brush I, and valves or faucets *b*.

6. The rotary brush I, constructed substantially as described, with its rows of bristles, or certain of them, attached to or carried by sliding bars of less length than the brush stock, and adjustable along the same, to vary the width or length of the operating surface of the brush, to adapt it to different widths of paper, as herein set forth.

7. The angularly arranged brush or brushes N, adjustable as described, for operation on or over the surface of the paper or other material, essentially as and for the purposes herein set forth.

8. In combination with the distributing or leveling brushes N, the blending brush or brushes P, for action together, as specified.

78,080.—Henry A. Gaston, Stockton, Cal.—*Cultivator.*—May 19, 1868.—When a "bit" or cultivator tooth needs to be turned end for end, the key is driven out and the bit slipped forward.

Claim.—1. In combination with an inclined reversible bit for a cultivator, the method of securing such bit to its standard, substantially as set forth.

2. The combination of the series of bits (so applied to their vertical standards) with the cultivator frame or carriage, substantially as described.

78,081.—George W. Goodwyn, Petersburg, Va.—*Churn.*—May 19, 1868.—The vertical reciprocating movement of the dasher is produced by the motion of the wheel connected to the treadle.

Claim.—The combination of a rocking wheel or lever I, with the straps G J, treadle F, dasher D, and spring E, the whole constructed and operating in the manner and for the purpose described.

78,082.—S. L. Gray, Chillicothe, Ohio.—*Harness for Vicious Horses.*—May 19, 1868.—This harness is so arranged as to prevent the horse from kicking, rearing, and running away.

Claim.—The strap D and rings *c*, in combination with the strap C, pulley *b*, and straps F F, as herein described, for the purpose specified.

78,083.—C. C. Hare, Louisville, Ky.—*Cornice for Buildings.*—May 19, 1868.—Cast iron is placed inside the brackets, so as to render the cornice fireproof.

Claim.—A cast iron or other metal bracket or look-out for receiving a sheet metal cornice, substantially as described.

78,084.—E. K. Haynes, Hanover, N. H.—*Lamp Shade.*—May 19, 1868.—The screen is connected by staples to the two upright portions of the wire, so as to be adjustable vertically thereon.

Claim.—A lamp shade, made of a screen, supported upon two uprights, bent and joined at their lower ends to connect them, and to support the screen at proper distance from the chimney, and bent and made hook-formed at their upper ends to suspend the screen from the top of the chimney; the screen sliding upon the frame, and being supported relatively thereto, substantially as described.

78,085.—Frederick Haythorn, Philadelphia, Pa.—*Spinning Frame.*—May 19, 1868.—The ring-spinning frame is provided with a series of pivoted guards, there being one guard between each adjacent spindles to prevent the yarn of each bobbin or cop, while being spun, from coming into contact with that of the adjacent bobbin or cop.

Claim.—The guards E, in combination with the fingers D and shaft C, substantially as described for the purpose specified.

78,086.—Watson A. Heath, Apalachin, N. Y.—*Horse Hay Rake.*—May 19, 1868.—The lever extending from the main frame to the rake is made to force apart the upper ends and draw together the lower ends of two stop levers pivoted to the rear of the rake standard, thereby permitting the rake to revolve.

Claim.—1. The combination of the hand lever T, shaft S, standard R, and lever Q with each other, and with the frame E, standard M, and lever stops O, substantially as herein shown and described, and for the purpose set forth.

2. Pivoting the draught bars D, of the rake, to the frame E at points a short distance from the ends of said draught bars so that they may serve as levers in raising the rake-head from the ground, substantially as herein shown and described.

3. The combination of the hand lever K, shaft I, and arms J with the frame E and forward ends of the pivoted draught bars D, substantially as herein shown and described, and for the purpose set forth.

78,087.—G. A. Hein, Waterford, Pa.—*Water Spout Fastening.*—May 19, 1868.—The rain spout or conductor is fastened to the building by a jointed clasp driven into the wall, so that the pipe may be attached or removed without removing the fastening.

Claim.—The conductor-fastening C, composed of two or more circular parts jointed together, and fastened to each other and to the building, substantially as herein shown and described.

78,088.—L. Henderson, Manson, N. C.—*Cotton Cultivator.*—May 19, 1868; antedated May 12, 1868.—Two plowshares are attached to a forward hinged frame, held in working position by a spring-catch, but turned back upon the main frame when not in use. The hoes or thinners are rotated by gearing driven by the main axle, and, as they pass along the row, cut out a portion thereof.

Claim.—The adjustable hinged plows E E, in combination with the gear wheels D and E, shaft F, and hoes G and H, constructed substantially as described and operating as and for the purpose set forth.

78,089.—Joshua Hendy, San Francisco, Cal.—*Concentrator.*—May 19, 1868.—The apparatus is used for saving finely-divided quicksilver, amalgam, and gold from the sands, and for concentrating and saving the sulphurets contained in ores. The connecting rod from the driving shaft accommodates itself to the circular line of direction in which the pan is reciprocated.

Claim.—1. The annular groove I, declining from a certain point to an opposite or discharging point, in combination with a vibrating or oscillating pan or concentrator, whose surface is convex or curvilinear, as described.

2. The discharge valve or gate M, when constructed and arranged to operate substantially as described.

3. The T-shaped distributers K K, pierced with holes *b b b*, and having slots *b′ b′*, said distributers being either stationary or movable, and when movable the notched edge *c c c*, with pawls, or their equivalents *d d*, operating therein for driving the said distributers, substantially as and for the purpose described.

4. The agitators or stirrers *a a a* attached to stationary or movable radial arms I′ I′, or their equivalents, with an oscillating pan, as described.

5. The peculiar construction of the frame A A, it being triangular in form, the projecting ends B B, for the crank shaft, the point A′, in combination with an oscillating pan, substantially as described.

6. The overreaching supports or braces F F connecting at the point F′, and in which the upper end of the vertical shaft turns, in combination with the frame A A, with the projecting ends B B and oscillating pan, substantially as described.

7. The peculiar construction of the ball crank pin N′, when employed on an oscillating pan, substantially as described.

8. The oil groove H, either in the hub of the pan or on the shaft G, and the oil cavity J′ above the hopper, for lubricating the sleeve and step, with an oscillating pan, substantially as described.

78,090.—Ralph D. Hine, Matteawan, N. Y.—*Facing Wool Hat Bodies with Fur.*—May 19, 1868.—The wool hat body, taken directly from the carding machine, is covered with fur upon its outer surface and under brim, and it is then placed between cloths and laid under a flat board or jigger, or other suitable device, in which a short, rapid, vibratory motion is combined with a slight pressure.

Claim.—In the manufacture of soft hats, applying a bat of fur to a bat of wool, taken directly from the carding machine, before either has been shrunk, basined, planked, or felted, and after causing them to adhere together by slight pressure, shrinking and felting them down to the required dimensions to form a solid, even fur surface upon the outer side and under brim, substantially as herein described.

78,091.—Austin D. Hoffman, Minneapolis, Minn., assignor to himself, H. M. Carpenter, G. F. Townsend, and Frederick Brackett.—*Churn.*—May 19, 1868.—The pitman and segment are oscillated and reciprocated vertically, so as to give the dasher a compound reciprocating motion.

Claim.—The combination of the winch and crank, the pitman E, segment E′, and pinion G, for communicating both a vertical and rotary reciprocating action to the dasher, substantially as set forth.

78,092.—James Hoffman, Belvidere, N. J.—*Gage Frame for Slitting Raw Hides.*—May 19, 1868.—The tail of the hide is drawn beneath the slotted end of the spring, which holds the hide while the slitting knife is being used.

Claim.—1. Grooving the upper edge of the frame or plank A upon which the raw hide is suspended longitudinally, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the slotted spring C with the grooved frame or plank A, substantially as herein shown and described, and for the purpose set forth.

3. Slitting raw hides by suspending them over a frame A, grooved longitudinally along its upper edge to guide the slitting knife, substantially as herein shown and described, and for the purpose set forth.

78,093.—Henry O. Hooper, Diamond Springs, Cal.—*Machine for Polishing Wood.*—May 19, 1868.—The rotary and reciprocating polishing plates are mounted in an adjustable frame, which adapts them to the size of the work, and a set of feed-rollers carry the article to the plates.

Claim.—The circular rotary polishing plates E, and the reciprocating polishing plates H, arranged with and attached to the adjustable framing B′, all constructed to operate as described, for the purpose specified.

78,094.—Isaac A. Horn, Cincinnati, Ohio.—*Plate for Artificial Teeth.*—May 19, 1868.—The vacuum chambers, together with the sharp ridge on the outer rim of the plate, are intended to prevent food, especially hard particles, from passing over the upper edge of the plates.

Claim.—The suction or vacuum chambers, operating against the cheek and alveolus, and the sharp ridge on the outer rim of the plate, these to be made of any material used in dentistry, substantially as and for the purposes above set forth.

78,095.—Van Rensselaer W. Horton, Palmyra, N. Y.—*Farm Gate.*—May 19, 1868.—The gate is slid back until the cleat on its end meets the loop of the movable support, when the gate balances upon a pin or other fixed support, and may be turned thereon as upon a hinge.

Claim.—1. The combination, with a sliding and swinging gate, of a movable support, provided with a roller or rollers, and loosely attached to the bottom rail of the gate by a loop or its equivalent, the whole so combined and operating substantially as herein shown and described, that the gate, when closed, rests centrally upon the support, and has a free sliding movement through or upon it in being opened and shut, and lifts it and carries it out of the passage when swung to one side.

2. The movable support K, consisting of the body represented by Fig. 3, the rollers *b b*, and the loop *e*, shown in combination with body at Fig. 2, the whole combined operating substantially as herein shown and described.

78,096.—J. P. Humes, Winnebago City, Minn.—*Medical Compound.*—May 19, 1868.—A remedy for lung diseases. The stalk, leaves, and root of the "resin weed" are prepared by separate distillation, after which the resin and liquid are boiled together. Equal parts of the stalk and root syrup are then put together, and when cold alcoholic extract of the weed or root is added.

Claim.—The medicinal combination formed of the ingredients and in the manner substantially as herein described.

78,097.—Gottlob Kaiser, New York, N. Y.—*Permutation Lock.*—May 19, 1868.—The adjustable finger-pieces in the rings enable the setting of the latter to be accomplished in the dark as well as in the daytime.

Claim.—The thumb-pieces *e*, in combination with the rings C, bolt B, stumps *a*, and case A, arranged, constructed, and operating substantially as and for the purpose set forth.

78,098.—Joel F. Keeler, Pittsburg, Pa.—*Scale Beam.*—May 19, 1868.—A number of movable poises are attached to the scale beam, and provided with stops, so as to determine the amount which the several poises shall each weigh.

Claim.—A polypoised scale beam, provided with adjustable or variable weights and stops, and constructed and operating substantially in the manner and for the purposes as described.

78,099.—C. F. Keller, Nevada, Ohio.—*Machine for Taking the Toll from Grain in Grist Mills.*—May 19, 1868.—The whole quantity passing through the spout is first separated into two halves, one of which is the subjected to successive dividing processes, until the desired proportion is attained.

Claim.—A machine for tolling grain as it passes through it, and composed of a series of divided passages, and guiding and directing partitions, as and for the purpose described and represented.

78,100.—Michael Kirkham, Eminence Post Office, Ind.—*Shield Plow.*—May 19, 1868.—This device is designed to prevent clods (in plowing young corn) from falling upon the plants, and at the same time to deposit the loose soil around the roots.

Claim.—The above-described shield, when made of rigid vertical bars, having both their lower and upper ends united by rigid horizontal bars, substantially as set forth.

78,101.—John George Kriechbaum, Youngstown, Ohio.—*Safe Door Lock.*—May 19, 1868.—The bolts are arranged in pairs, moving in opposite directions, so that there will be always one bolt out, which locks the door, unless one bolt is, at the proper time and by the proper motion, thrown out of gear. The keyhole is opened by moving a plate on the under side of the safe.

Claim.—1. The screw *a*, when operating as herein shown and described, in combination with the bar I, all made and operating substantially as herein shown and described.

2. The bar *f*, bar I, and plate K, when arranged as described in combination with the spring *l*, shank *k*, and plate J, (or stem *k* of key, and head J of the same,) all made and operating substantially as herein shown and described.

3. The bolts M and N, when the same are so arranged in one lock that when one bolt is moved out the other is drawn in, and *vice versa*, as set forth.

4. The rack *o*, when hinged to the bolt M, so that it can be turned up and thrown out of gear, as and for the purpose set forth.

5. The pin *t*, on the plate *o*, in combination with the slotted partitions 2 and 3, and hinged spring-plates P and R, all made and operating substantially as herein shown and described.

6. The plate P, when provided with a slot *w*, and when combined with the pin *t*, and bar I, all made and operating substantially as herein shown and described.

7. The plate P, when arranged in combination with the catch S, so that a full turn of the key will not keep it up, as set forth.

8. The plate R, when provided with a slot or recess, *y*, and when combined with the pin *t* and bar I, all made and operating substantially as herein shown and described.

9. The bar I, when provided with reccesses *g*, *h*, and *x*, in combination with the plates K, *f*, R, and P, all made and operating substantially as herein shown and described.

78,102.—Louis F. Lannay, Indianapolis, Ind.—*Machine for Washing Bristles, &c.*—May 19, 1868.—The bristles, which are subjected to frictional contact with the rubbing blocks, are clamped between the two sliding, toothed frames, one of which frames has movement within the other, and is lowered to clamp the bristles, and raised to release the same by the cam and its accessories.

Claim.—1. The combination of the vertical grooved frame B, crank shaft E, and pitman F, with the sliding frames G and D, for the purpose of holding and operating the said frames, substantially as shown and described, and for the purpose set forth.

2. The adjustable convex corrugated rubbing blocks K, in combination with the frames G and D, and cam H, substantially as herein shown and described, and for the purpose set forth.

78,103.—Isaac W. Legg, Long Eddy, N. Y.—*Pulling Hop Poles.*—May 19, 1868.—The block serves as a fulcrum for the levers, which being made to grasp the hop pole, and then depressed, draw the pole out of the ground. The plate applied to the under side of the levers prevents them from turning sidewise.

Claim.—The levers A, when hinged to the upper edge of the wedge-shaped block C, by means of the pin B, and cross-bar *e*, said levers also provided with the plate *f* upon their under sides, as herein described for the purpose specified.

78,104.—Leopold Lehmann, Monee, Ill.—*Tin Ware.*—May 19, 1868.—Tinned wire is applied to the bottoms of tin ware.

Claim.—The application of round tin wire to the bottoms of tin ware, in the manner and for the purposes substantially as herein specified.

78,105.—N. C. Lombard and Mellen Bray, Boston, Mass., assignors to Mellen Bray.—*Machine for Forming Sheet Metal Ware.*—May 19, 1868.—Improvement on patent granted to M. Bray, December 12, 1865, and relate to the mechanism by which the dies are operated and controlled, and to a device relieving the toggles from a portion of the strain and shock attending the downward movement of the shell and plunger.

Claim.—1. Imparting the motion of the vibrating shaft V to the side toggles that operate and control the motion of the cutting and holding dies by means of the vibrating cranks W W, and the oscillating slotted levers X X, substantially as described.

2. So constructing the oscillating levers X X that a portion of the slot or path may be adjusted, substantially as described.

3. The combination of the vibrating cranks W W with the central crank B′, by means of adjustable dogs or stops, Y Y, substantially as described.

4. The yielding stop bars, for arresting the downward motion of the shell and plunger, substantially as described.

5. The spring fingers *d′*, or their equivalents, for removing the dish from the male forming die, substantially as described.

6. We do not claim, broadly, wedges placed under toggles for adjusting the same, for we are aware that such have been used before; but what we claim is the use of wedges under toggles for adjusting the pressure of the same when they are so attached to the toggles, and to the base in which they slide, that they may be freely moved out or in, while at the same time they hold the toggles firmly in their proper relation to the base, and prevent them from being disconnected from the same.

7. Fitting the plunger G to the shell E in such a manner that the plunger shall rest upon the shell, and be moved with it when the shell is moved up by the action of the side toggles, substantially as described.

78,106.—S. Howard Lombard, Winona, Minn.—*Dough Kneader.*—May 19, 1868.—The frame carrying the kneading roller is secured to the end section of the kneading board when it is desired to cut up the dough, form loaves, &c. When the instrument is not in use, the roller frame is secured to the middle section, and the end sections are folded up against it.

Claim.—The sectional hinged board A, having a detachable frame B and roller C, arranged for use therewith, substantially as shown and described.

78,107.—Joseph Lorenz, Cincinnati, Ohio.—*Organ Pipe.*—May 19, 1868.—The device is applied to a *vox-humana* pipe; the wind tube inclosing the customary reed being surmounted by a pipe composed of two conic frusta, joined base to base, and being open at its lower end to afford the usual communication with the reed, and closed at top by a dome-like apex instead of the usual open summit. At the widest part of the pipe is an elliptical ventage for the sound, and where a symphonic note is desired, an additional but smaller orifice is provided above.

Claim.—The *vox-humana* organ pipe A B C *c* D, formed as and for the purpose set forth.

78,108.—R. O. Lowrey, Salem, N. Y.—*Manufacture of Water-Proof Fabrics.*—May 19, 1868.—The several fabrics are rendered water proof by a gelatinous or saponaceous compound, and are subsequently treated with a solution of alum and salt.

Claim.—1. The new water-proof fabric, produced by the combination and treatment of paper, cloth, and leather, or similar articles, substantially as herein described.

2. The process, as herein described, of combining and treating paper, cloth, and leather, or similar articles, for producing a new water-proof fabric, substantially as described and for the purposes set forth.

78,109.—John H. Mabbett, Jersey City, N. J. —*Chicken Coop.*—May 19, 1868.—The mode of connecting the sides of the coop adapts them to be folded together when the ends are removed, so that the coop may be compactly stowed away when not in use.

Claim.—1. The coop, having its sides hinged, hooked, or otherwise connected, in such manner that they may be folded together when the ends of the coop are removed, substantially as herein set forth.

2. The combination of the detachable slatted end frame with the sides of the coop, substantially as and for the purpose herein set forth.

3. The shelf or ledge provided within the coop, substantially as and for the purpose specified.

78,110.—Osborne McDaniel, New York, N. Y.—*Fruit Basket.*—May 19, 1868.—The side flaps are separated from the end flaps so that the former can bend with the grain freely upon a full curve, with an excess of wood, when green or wet, to allow for shrinkage in drying.

Claim.—1. The improved fruit basket or box made of one piece of veneer, having the flaps cut out at the corners, substantially as described, and bent in a curve with the grain of the wood, so as to prevent splitting in bending, and to provide for shrinkage, as herein set forth.

2. In a fruit box made of a single piece of veneer, as described, bending two sides with the grain of the wood, when green or wet, in such manner that there shall be an excess of wood in the curve, to provide for the shrinkage of the wood in drying or seasoning.

78,111.—George W. Manuel, San Francisco, Cal.—*Gang Plow.*—May 19, 1868.—The lever crank arms, and their accessories, enable the frame and plows to be adjusted vertically. The outermost plow may be made to work close up to a fence, stump, or stone.

Claim.—1. The arrangement of the crank arms *d e f*, under the hounds or bars, and in relation thereto, as and for the purposes set forth.

2. In a gang plow, having a series of plows arranged on bars or hounds parallel to each other, placing the one plow on the bar *g*, outside of the wheel *a*, and in front of the axle, as and for the purposes recited.

3. The combination of the extended crank arms *d* and *e*, with the lever *l* and curved bar *o*, as and for the purposes herein set forth.

4. The crank screw *r* and plates *s* and *t*, for elevating and depressing the tongue, as described.

78,112.—George A. Mariner, Chicago, Ill., assignor to himself and John B. Turchin, same place.—*Preserving Powder.*—May 19, 1868.—When the ingredients composing the powders are exposed to the air, or moistened by water or the juices contained in substances treated, or when dissolved in liquids containing said substances, free sulphurous acid gas is generated so as to form neutral mineral or vegetable salts of such a nature that when the powders are used by direct application to food, the salts thus formed are not injurious to health.

Claim.—The powders, composed of sulphites, bisulphites, or hyposulphites, or any compound evolving the sulphurous acid gas, when acted upon by acids or acid substances, in combination with vegetable or mineral acids, or with vegetable or mineral acid salts, or desiccated vegetable juices, with or without the absorbents herein specified, for the purpose of generating the sulphurous acid gas, and applying the same to various uses, substantially as and in the manner herein set forth and specified.

78,113.—Charles Mellinger, Cornwall, Pa. —*Furnace for Roasting Ores.*—May 19, 1868.—The damper regulates the passage of the heat and products of combustion from the smelting furnace to the desulphurizing furnace here represented. The ore to be desulphurized is placed on the grated arch through which the heat rises, and the larger lumps roll into the chamber adjoining the exit opening, through which chamber the heat passes from that beneath the grated arch.

Claim.—1. In combination with a desulphurizing furnace or oven for preparing iron ore for smelting, the sliding door or damper B, arranged and operated substantially as described.

2. In combination with a desulphurizing furnace, for the purposes mentioned, the grated or perforated arch F, substantially as described.

3. The combination of the arch F, the chambers E and H, the apertures J and L, and the damper B, substantially as and for the purposes described.

78,114.—John Milholland, New Concord, Ohio.—*Horse Hay Fork.*—May 19, 1868.—When the fork is loaded the handle falls below the upper eye, and is thus protected from any blow which might casually discharge the load.

Claim.—The construction and arrangement of the handle C, connected with the sliding bar B by the arm E, turning on the pivots *e e'*, the lower ends of said handle pivoted to the stud *c* upon the bar A, the bent trigger F *f* pivoted upon the pin *e* of the bars E and handle C, all operating as described, for the purpose specified.

78,115.—William J. Miller, Washington, D. C.—*Sash and Shutter Fastening.*—May 19, 1868.—By turning the operating rod at the inside of the sill the locking bar which holds the shutter catch is raised, and at the same time the hook which fastens down the sash is turned so as to release the same.

Claim.—The combination of the shutter catch *b*, look C, rod *h*, hook *k*, and plates *i* and *j*, or the equivalents of said plates, constructed, arranged, and operated in the manner substantially as shown and described, and for the purpose of locking or unlocking shutters and sash from within the room.

78,116.—Marquis D. Moore, Brooklyn, N. Y. —*Button.*—May 19, 1868.—The larger part of the button is recessed, dovetailed, and notched, and the smaller interlocking part has a corresponding form, the two parts being stitched to the respective portions of the garment and made to hold the same together.

Claim.—1. The fastener formed in two sections, A B, fitted to each other, substantially as shown and described, for the purpose set forth.

2. The lateral spurs a^* of the piece B, arranged to act in connection with the notches b' at the sides of the recess in the piece A, substantially as and for the purpose specified.

78,117.—Enoch R. Morrison, Pittsburg, Pa.—*Machine for Casing Tobacco.*—May 19, 1868.—Tobacco leaves and a liquid compound are placed in a receiver which is rotated for a short time for casing or sweetening tobacco.

Claim.—The method of casing tobacco by means of a hollow revolving vessel, receiver, or its equivalent, working on a shaft, journals, or rollers, the receiver being made of any required shape or dimensions for the purposes set forth.

78,118.—E. A. Muller and Theodor Stock, Chicago, Ill.—*Doubler for Stills.*—May 19, 1868.—An upright cylinder is closed at both ends and provided on the interior with a series of pans and abutting plates which detain the ascending vapors and arrest the products of condensation, so that the lower degrees of spirits will be separated from the finer, while the pure alcoholic vapors are allowed to escape to the cooler, and the low wines reconducted to the mash.

Claim.—1. Arranging around the outside of a rectifier or doubler, A, a series of annular cooling vessels, D D, which communicate with the upper part of the vessel A, substantially as and for the purpose herein shown and described.

2. The arrangement and combination, within the

cylinder A, of the dishes E, plates F, and combined dishes and plates G, all made and operating substantially as herein shown and described.

78,119.—Barak T. Nichols, Newark, N. J.—*Manufacture of Cart Saddles.*—May 19, 1868.—The bridge is bent so as to play freely in the groove of the bridge pieces and apply the main pressure to the upper part of the same, and the under side of each bridge piece resting on the back of the pad is rounded in order to turn without causing the pad to chafe.

Claim.—The bridge *a*, bridge pieces *c c*, pads *f*, tugs *i*, and tug straps *j*, all combined, constructed, arranged, and connected, substantially in the manner and for the purposes specified.

78,120.— William R. Nichols, Philadelphia, Pa.—*Car Spring.*—May 19, 1868.—The layers at the top and bottom of the spring are fitted to a sleeve and are secured at the lap joints. The saddles assist in maintaining the component parts of each spring in their proper lateral position.

Claim.—One or more springs, each of which is composed of one or more layers, in the manner described, in combination with saddles constructed and adapted to the said spring or springs, substantially as specified.

78,121.—P. O'Brian, Philadelphia, Pa.—*Mop and Scrubbing Brush Holder.*—May 19, 1868.—The holder is adaptable to scrubbing brushes of different size, and may serve as a mop head.

Claim.—1. Cross-bar B, cast on shank A, with opening *c c*, and projections *d d*, for the use and purpose as specified and herein set forth.

2. The swinging clamp E, made of wire or other material, in the shape shown, and for the use and purpose as specified and herein set forth.

3. A "mop and brush holder," constructed of shank A, cross-bar B, nut N, swinging clamp E, and hook F, as connected, combined, and adjusted, for the use and purpose specified and herein set forth.

78,122.—Volney O'Brian, St. Johns, Mich., assignor to DeWitt C. and Amelia O'Brian.—*Fireman's Elevator.*—May 19, 1868.—A telescopic arrangement of frames supported upon a wheeled truck and projected upward by a crank and gearing.

Claim.—The arrangement, in a machine for the purpose set forth, of the wagon B, stationary frame C, movable frames, ropes, and sheaves, and lateral supports G H, and screws L, substantially as described.

78,123.—George T. Palmer, Brooklyn, N. Y.—*Crib and Bedstead.*—May 19, 1868; antedated May 5, 1868.—For clamping the sides of the covers of a bed so as to hold them in place.

Claim.—A bedstead, provided with a clamp, composed of the part B, having spring bolts *a*, and racks *b*, or their equivalents, substantially as and for the purpose shown and set forth.

78,124.—Charles B. Payne, Bloomington, Ill.—*Harness Buckle.*—May 19, 1868.—A double buckle having curved wings and a central loop, arranged to be self-attaching to the straps and other parts of the harness.

Claim.—A double buckle, constructed with a central plate, A, wings, B B, and loop, D, cast in one piece, and with both ends alike, substantially as and for the purpose described.

78,125.—William Perkins, London, and Geo. Granger Tandy, Penge, England.—*Material for Insulating Telegraph Conductors.*—May 19, 1868.—The sulphur and rubber are combined by being passed between rollers, or by mastication, and then the anthracene and napthaline are added by a similar process.

Claim.—The combination of anthracene or paranapthaline and napthaline, with India-rubber, gutta percha, gum ballata, and other analogous vulcanizable substances, and sulphur, for the purpose of producing a preparation or compound applicable to the uses or purposes above mentioned, or any analogous purposes.

78,126.—Adolph Philippi, Elizabethport, N. J.—*Railway Switch Plate.*—May 19, 1868.—A cast iron bed, with upward projecting flanges around all sides, serve to prevent a wrought iron plate and an interposed wooden layer from sliding off the bed; a series of T-shaped blocks being arranged on the wrought iron plate to hold the rails down.

Claim.—Switch plate, consisting of bed plate A, elastic bed B, and plate C, and of the removable blocks D and E, all made and operating substantially as herein shown and described.

78,127.—J. S. Pierson, Brooklyn, N. Y.—*Machine for Cutting and Stamping Soap.*—May 19, 1868.—The stamps are first brought down upon the slab by depressing the lever, and, while holding down the stamps, the treadle is depressed to bring down the knives. The stamp frame rises by the action of its sustaining springs.

Claim.—1. The combination of stationary knives F, sliding slab table G, stamps I, and cross knives P, for operation together, substantially as specified.

2. The cross knives, frame, and stamp frame arranged independently of each other, in combination with devices for separately operating the same by foot and hand, as herein set forth, and whereby the slab may be held by the stamps while the cross knives are entering and receding, essentially as described.

3. The combination of the knives F, made of a sloping character, as shown and described, and sliding slab table G, for action in concert, as specified.

78,128.—Clark Polley, Sinking Spring, Ohio.—*Mole Trap.*—May 19, 1868.—The mole in attempting to effect a passage underneath the cross-bar on the lower end of the trigger staff, actuates the trigger, and releases the tube carrying the prongs, and is consequently impaled by the latter.

Claim.—The combination of one or more pointed stakes A, with a cross piece, B, the tubes, *e* and *d*, the spring *g*, trigger staff *n*, lever *l*, crutch head *b*, having points *f f*, all constructed and operating together substantially as shown and described, and for the purpose set forth.

78,129.—A. C. Rand, Westfield, Mass.—*Covering Whips.*—May 19, 1868.—To a whip stock is applied thread which has been saturated with a waterproofing solution, the thread being applied to the stock before such solution is dry upon the same.

Claim.—The process of covering whips, substantially as herein specified.

78,130.—Warren Richards, Jr., Cincinnati, Ohio, assignor to himself and Shipley and Smith, same place.—*Gauge for Embossing Presses.*—May 19, 1868.—The gauge is attached to presses for embossing and stamping initials, monograms, &c., upon paper, envelopes, and cards, the impression being made at any desired part of the article.

Claim.—1. The arrangement, substantially as described, of the slotted plate C, stops H, and springs I, or their equivalents, as and for the purpose specified.

2. The combination of the longitudinal slot F and branch slot G, for the object explained.

78,131.—Peter Richmond, Aberdeen, and Abner McFarland, Allensville, Ind.—*Boot Crimper.*—May 19, 1868.—The leather to be crimped is adjusted to a crimping form, which is placed in or against the mouth or upper ends of the upright jaws. The cam lever at the end of the table is drawn outward at the top, thereby causing the forked rod to force the form and leather downward between the jaws.

Claim.—1. The lever E, in combination with the hook *j*, when constructed, used, and operated substantially as and for the purpose set forth.

2. The arrangement of the jaws B B, bolt *g*, eccentrics, C and D, lever E, and forked rod *j*, the several parts being constructed and operated substantially as and for the purpose specified.

78,132.—Charles H. Riggs, Windsor Locks, Conn.—*Planer Chuck.*—May 19, 1868.—The chuck is arranged upon the bed plate so that the work can be quickly secured, and the chuck rotated with facility, the work being thereby brought at any desirable angle to the action of the tool.

Claim.—1. In a milling or planing chuck, the combination of the bed plate *a* and angle iron *b*, chuck *g g'*, screw bolts *e*, and nuts *f*, substantially as and for the purpose described.

2. The combination of the round or dovetail adjustable nuts *s*, screws *s'*, with the jaws *m*, with the index *u*, substantially as showh and set forth.

78,133.—CONRAD FREDRICK LUDWIG RIECH, Huntingburg, Ind.—*Heliometer.*—May 19, 1868.—This device enables the exact degree of latitude at which an observation is made to be ascertained with facility, and it also serves to indicate date and time when the latitude is known.

Claim.—1. A heliometer, constructed and arranged to operate in the manner herein shown and described.

2. The plate E, when arranged as herein shown and described, and when provided with a pointer, K, in combination with the curve *d*, on the stationary frame A, all made as set forth.

3. The plate F, when arranged as set forth, in combination with the curve L and pointer *l*, on the stationary frame A, all made and operating substantially as herein shown and described.

4. The sun dial H, on the revolving block C, when combined with the plates E and F, all made and operating substantially as herein shown and described.

5. The sun dial D and gnomon *f*, in combination with the semi-cylindrical dials H and H', and their gnomons *g*, all made as described.

6. The manner herein shown and described of making, dividing, and arranging the plate E.

78,134.—HENRY R. ROBBINS, Baltimore, Md., assignor to himself, J. J. MORAN, and G. COLTON, same place.—*Steam Pipe Coupling for Railroad Car Heaters.*—May 19, 1868.—A flexible and self-adjustable joint, for connecting the ends of the steam pipes in a train of cars, so as to admit of the heating of the cars by steam or hot air from the locomotive.

Claim.—1. The combination of the pipe D with the sleeve E, sliding pipe F, having the opening *f*, and the spring G, substantially as and for the purpose specified.

2. The cap I, composed of one piece, and operating in connection with the spring M and pipe C, substantially as and for the purpose described.

3. The cap J, composed of two parts, *j j'*, and operating in connection with the pipe F, springs *n n*, sleeve E, and cap I, substantially as and for the purpose set forth.

4. The combination of the pipes C and E, and sliding section F, with the spring G, when the parts are constructed to operate in the manner and for the purpose described.

5. The combination of two sliding caps I and J, with connecting steam pipes C F, to prevent the escape of steam from the joint formed where they connect, substantially as specified.

78,135.—ALBERT J. ROOF, Peoria, Ill.—*Rolling Pin.*—May 19, 1868.—The hollow of the rolling pin is enlarged at each end to receive the blocks forming part of the two detachable instruments. The disk on the stem of the masher forms an abutment for the masher block at one side, while the springs serve a similar purpose at the opposite side, when the masher is in use.

Claim.—A rolling pin, constructed in the form herein shown, and having combined therewith, in the manner described, a cake cutter and vegetable masher, the latter working with the springs B, substantially as specified.

78,136.—JOHN RUHL and ELIAL S. HERRINGTON, Defiance, Ohio.—*Hay Raker and Loader.*—May 19, 1868.—The lever and its accessories are employed to raise and lower the teeth which follow the hind wheels and gather the hay, so that it may be reached by the slatted toothed conveyer that elevates and deposits the hay upon the wagon,

Claim.—The lever N, slide *m*, bar L, and rod *p*, combined, as and for the purpose set forth.

78,137.—GEORGE O. SANDERSON, Boston, assignor to himself and FREDERICK M. BAKER, South Reading, Mass.—*Cake Cutter.*—May 19, 1868.—The spring plunger will, if permitted, withdraw the cutter from the dough, leaving the cake or biscuit upon the board, but in case it be desired to lift the biscuit from the board the disk may be held by the crooked end of its stem until the cutter is moved to the place of deposit.

Claim.—In a biscuit cutter, the combination and arrangement of the disk B, spring D, and stem C C', substantially as described and for the purpose set forth.

78,138.—JAMES SANDERSON, Fredericksburg, Ohio.—*Hoisting Apparatus.*—May 19, 1868.

Claim.—The arrangement of the ways A A, the tilting frame I, car E, with its rollers *g g*, hooks *x x*, windlass C D, and cord *m*, the whole combined and operated as specified.

78,139.—LEVI SCOTT, Burgettstown, Pa.—*Churn.*—May 19, 1868.—The two vibrating arms carrying rollers upon their extremities, and operating in conjunction with the polygonal wheel and the pendulum, serve to regulate the motion of the churn dasher.

Claim.—The combination and arrangement of the wheel P, rollers N N, segment-head L, pendulum J K, horizontal lever G, weight C, dasher rod S, pitman H, and brake F, with the gearing D D D D, and frame A, constructed substantially as described.

78,140.—THOMAS SHIPTON, Newark, N.J.—*Feed Water Heater.*—May 19, 1868.—The cylinder, suspended from the lever, is caused to descend by the water within it when that within the reservoir rises to a certain point, the valve of the water supply pipe being thereby closed.

Claim.—1. The cylinder *h*, suspended from the lever *g* of the valve *f*, and connected with the reservoir *a* by the flexible pipe *j*, substantially as and for the purpose herein set forth.

2. In combination with the reservoir *a*, the elbow *b*, having a flat lower surface, the exhaust pipe *c*, and water supply pipe *d*, provided with a broad flange, *e*, around its top, forming a seat for the valve *b*, all constructed and arranged to operate as and for the purpose herein specified.

78,141.—SILAS SHIRLEY, Santa Clara, Cal.—*Tire Tightener.*—May 19, 1868.—The metallic tip on the end of the spoke incloses an adjusting screw having a central head and right and left threads, which latter work in nuts on the extremities of the felloe for the purpose of drawing together or spreading apart the same. The covers for this adjusting device are kept closed by a screw, but may be readily removed to admit of the application of a wrench.

Claim.—In the tip B, having sockets for the felloes, the covers F F, substantially as and for the purpose herein described.

78,142.—CHARLES A. SIECKE, Philadelphia, Pa.—*Apparatus for Bundling Cigars.*—May 19, 1868.—Designed to facilitate the packing of cigars in bundles, the parts being adjustable to accommodate cigars of different sizes.

Claim.—The base A, back B, permanent frame C, and adjustable frame C', in combination with the adjustable rods G G', or their equivalents, the whole being constructed and arranged substantially as and for the purpose herein set forth.

78,143.—ANSELMO B. SMITH, Plattsmouth, Neb.—*Carriage Wheel.*—May 19, 1868.—The dovetail form of the inner end of the spokes in connection with the concave collar prevents the shifting of the spokes in the direction of their length, and in case of shrinkage, the spokes may be adjusted outward to tighten them and the tire by placing a thicker band on the hub.

Claim.—1. The wheel, consisting of the beveled and dovetailed spokes *b*, with the inner inclined end sresting upon the collar *d*, surrounding the tube C, and secured in place against the concave collar G by means of the loose collar F and nut E, all constructed as described, for the purpose specified.

2. The securing of the hub on the axle be means o

the slot *s* in the axle G, the key or slotted disk H, and the screw cap I, all arranged substantially as and for the purpose specified.

78,144.—EDWARD A. SMITH, St. Albans, Vt., and HASKELL G. SMITH, Goshen, Conn.—*Harvester.* May 19, 1868; antedated May 9, 1868.—A movable bush of brass or other similar metal is introduced into the bar which is attached to the inner end of the cutter bar and connects the latter with the pitman rod from the driving crank.

Claim.—The bush *e*, made as set forth, and introduced in the end of the cutter bar, to receive the journal of the connecting rod, in combination with the oil receptacle *i*, as and for the purposes set forth.

78,145.—H. B. SMITH, Essex, Conn.—*Fan.*—May 19, 1868.—The wings are all connected together by means of a central pin, and when the fan is folded up the handles can be turned so as to rest on the wings to which they are attached.

Claim.—As a new article of manufacture, a fan, whose handles C are pivoted to the outer ends of the extreme wings of the same, substantially as described, for the purpose of allowing them to be folded out of the way, as set forth.

78,146.—MATTHEW D. SMITH, Independence, Iowa.—*Seeder and Cultivator.*—May 19, 1868.—By a lateral movement of the first-mentioned lever the distributing rod and slide are simultaneously moved longitudinally, thereby uncovering the exit passages for the seed and throwing the rod into gear with its driving wheel.

Claim.—1. The combination of the pivoted lever J, distributing rod C, and slide E, when arranged and operating as and for the purpose set forth.

2. The combination of the lever F with the rod G and shovel arms H′, substantially as described.

78,147.—MOORE SMITH, Worcester, Mass., assignor to himself and T. W. WELLINGTON, same place.—*Horse Rake.*—May 19, 1868.—The rake head is released from the stop bar, and at the same time the grooved ring is thrown into engagement with a ratchet sleeve on one of the wheel hubs, thereby causing the rake to be raised by power derived from the wheel.

Claim.—1. The combination, with lever P, chain or cord *j*, and stop piece S, of the stop bar R, said parts being arranged in relation to each other substantially as and for the purposes set forth.

2. The combination, with axle or head A, of the foot-piece T, arm *m*, and treadle U, substantially as and for the purposes set forth.

3. The combination of the unlocking piece G with the grooved ring F and its inclined tooth or projection *e*, substantially as and for the purposes set forth.

78,148.—WILLIAM SPRAGUE, Lynn, Mass.—*Water Closet.*—May 19, 1868.—The supporting lever is forced downward and the concave cover connected thereto is thus carried downward and sidewise, so as to be out of the way.

Claim.—In combination with the casing A, having outlet F and hinged seat B, the concave cover D, rock shaft a^1, link *e*, pivoted lever E, having extension a^2, and spring G, all constructed and arranged to operate in the manner and for the purpose substantially as herein shown and described.

78,149.—GEORGE STACKHOUS, Mount Washington, Pa.—*Bread, Meat, and Vegetable Cutter.*—May 19, 1868.—The box has a sliding top, permitting the cut substance to be placed in front of the spring-actuated plunger, which feeds it forward to the knife, the latter being operated by the hinged end of the box.

Claim.—1. The inclined actuating surfaces *f f*, connected with a hinged end, D, by rods *d d*, all substantially as described, for the purpose of operating the knife *n*, all as set forth.

2. The movable partition *b* operated by spring tension, substantially as and for the purpose described, in combination with the inclined rods *f f*, hinged end D, and knife *n*, all as set forth.

3. The box A A A C, having a sliding top, B, hinged end D, and slots *j*, in combination with the spring G, partition *b*, and knife *n*, all as set forth.

4. The concave and convex strips *g g*, substantially as described, in combination with the inclined surface *f f*, rod *d d*, hinged end B, and knife *n*, for the purpose of imparting a lateral movement to the latter all as set forth.

78,150.—H. P. STAFFORD and J. A. LEFORGEE, Decatur, Ill.—*Regulating the Supply of Water to Steam Generators.*—May 19, 1868.—When the float rises by the increase of water in the boiler, the elliptical valve in the supply pipe closes correspondingly, and at a certain point entirely shuts off the water.

Claim.—The arrangement of the float A, stem B, solid ball R, spindle C, valve E, box D, perforated arm F, adjustable connecting rod J, slotted arm H, stem *s*, and elliptical valve G, in the supply pipe P, all constructed and operated as herein shown and described.

78,151.—ELI T. STARR, Philadelphia, Pa.—*Articulator.*—May 19, 1868.—This device being free from regular hinges and moving on cone-shaped pivots retained in position by springs, admits of a ready detachment of the parts and self-tightening or close working of the joints, and the upper plate, which is bent or crooked, may be reversed so as to change the distance between the two plates to suit both upper and lower dentures.

Claim.—1. The attachment of the lower plate A to the upper plate B, or its bracket, by cone-shaped pivots *a*, arranged to fit V-shaped grooves *b*, and retained in position by springs, substantially as specified.

2. Constructing the reversible upper plate B with a crook, as at *d*, essentially as and for the purpose herein set forth.

78,152.—JOSEPH STEGER, New York, N. Y.—*Scuttle Cover and Ladder.*—May 19, 1868.—The lever extends from a hinged ladder to a hinged scuttle cover of a house or vessel, so that by turning down the ladder the scuttle cover is raised, and by raising the ladder the scuttle cover is closed and locked.

Claim.—The arrangement of a lever, *e*, connecting the ladder A and cover B, substantially as and for the purpose described.

78,153.—FRANCIS A. STERRY, Canton, Mass.—*Anti-Friction Roll.*—May 19, 1868.—Raw hide saturated with oil, is used as a substitute for wood and metal.

Claim.—As a new article of manufacture, a self-lubricating wheel for pulleys, sheaves, &c., constructed as described, consisting of the plates of raw hide C soaked in oil, revolving upon the shaft A, and held in position by means of the rivets D and metallic plates B, as herein described, for the purpose specified.

78,154.—STEPHEN STOUT, Tremont, Ill.—*Trace Holder.*—May 19, 1868.—The traces when detached from the whiffle-tree are hooked to the device which is attached to the harness directly above the horse's hips, or at the point where the hip straps are attached to the back strap.

Claim.—The device B E F, formed by forming the hooks E and guard loops F upon or attaching them to the ring B, constructed substantially as herein shown and described, and for the purpose set forth.

78,155.—MICHAEL H. SULLIVAN, Providence, R. I.—*Cribbing Preventer.*—May 19, 1868.—The head of the animal is flexed back against the neck, and the end of the spindle, impinging against the jaw, thrusts the pricking points into the neck, causing the animal to desist from cribbing, &c.

Claim.—1. The combination of the pricking points *g*, screw shank *b*, hollow spindle *a*, spring *s*, and plate B, substantially as described, for the purpose specified.

2. The plate B, in combination with the longitudinally sliding pricking points *g*, substantially as and for the purpose shown and described.

78,156.—WILLIAM SWAN, New York, N. Y., assignor to himself and LOUIS DUHAIN, Jr., same place.

—*Ornamenting Fabrics.*—May 19, 1868.—A series of small beads or drops, made of gum arabic or other gum, is secured to the fabric, said beads being translucent, presenting the appearance of drops of water or particles of crystal.

Claim.—An ornamental fabric, provided with drops or beads *a a*, that are composed of the material, and are made and applied in the manner, substantially as herein shown and described.

78,157.—ISAAC C. TATE, New London, Conn.—*Brace for Bits.*—May 19, 1868.—Secured to each arm of a brace which has a slotted socket, is a cast-steel spring jaw, which clamps the round portion of the bit, and on which is formed the shoulder for sustaining the head or shank of the bit.

Claim.—The combination of the spring jaws C with the socket of the bit stock, substantially as herein shown and described.

78,158.—EDWIN J. TOOF, Fort Madison, Iowa.—*Pencil Holder.*—May 19, 1868.—A pencil holder has an erasing pad near the point, the rubber or sponge being thus always in a convenient position for use.

Claim.—1. The combination of the case *b* and its erasing pad B with the inner case *a* and finger rest *d*, all constructed and operated substantially as shown and described, and for the purpose set forth.

2. The attachment of an erasing pad, B, to the pencil end of a pencil case or holder, substantially as shown and described, and for the purpose set forth.

78,159.—JEAN BAPTISTE TOSELLI, Paris, France.—*Apparatus for Freezing.*—May 19, 1868.—The liquid to be congealed or cooled is contained in a metallic cylinder inclosed by another cylinder and surrounded by the chemical refrigerating substances, the apparatus being rotated or oscillated to thoroughly agitate the liquids.

Claim.—1. The method of congealing and cooling liquids by the application of the chemical refrigerating substances, substantially as herein described.

2. The successive mixture and combination of water and subcarbonate of soda with nitrate of ammonia, as and for the purpose herein described.

3. The apparatus herein described, or its substantial equivalent, for congealing and cooling liquids with chemical refrigerating substances, substantially as described.

78,160.—JOHN JACKSON WAIT, Oreana, Nevada.—*Lamp Chimney Cleaner.*—May 19, 1868.—The instrument consists of a wooden handle, to which are attached a spring and cushion connected with a guide and thumb piece, by which the spring is expanded to press against the inner surface of the chimney.

Claim.—The combination of the cushion G and the spring E, the thumb piece F, at the lower end of the spring, and the slide D, operating on the guide plate C, the whole constructed and made to operate substantially as and for the purpose herein described.

78,161.—W. Y. WARNER, Wilmington, Del.—*Snow Plow.*—May 19, 1868.—This car, with its steam-boiler and arrangement of steam pipes, is employed for the purpose of melting snow or ice upon or between the rails.

Claim.—1. The steam pipes F arranged beneath the body of the car, parallel to the track, in combination with a pipe or pipes, E, having nozzles so arranged that steam may be discharged in a series of jets on the track between the rails, as and for the purpose described.

2. The combination of the above and the water reservoir D, as and for the purpose specified.

3. A casing, surrounding a track-cleaning apparatus, in combination with a flue or flues, H, arranged to conduct the vapors from the casing, substantially as and for the purpose set forth.

78,162.—SETH WAY, La Porte, Ind.—*Sled.*—May 19, 1868.—The bolts which fasten the runners and side pieces of the sled to the knees, also serve to secure those parts to the cross-beams and fasten the shoes to the runners.

Claim.—The combination of the knees E E, head-block C, thimbles I I, braces J J, and tongue K, respectively, constructed and arranged substantially as set forth.

78,163.—WILLIAM WEBSTER, Morrisania, N. Y.—*Weaving Pile Fabrics.*—May 19, 1868.—The support of the wire head serves to push the wire forward, the head being transferred to a point quite or nearly opposite to the fell of the cloth, or where a wire is left on being bent up by the reed.

Claim.—1. In combination with the pusher, the spring A^2, sliding block A^3, and spring A^4, all constructed and arranged substantially as described.

2. The herein-described apparatus for operating pile wires, when constructed and arranged substantially as described.

78,164.—DAVID WEISER, Philadelphia, Pa.—*Hammer Handle.*—May 19, 1868.—The beveled ends of the cheek-pieces are introduced into the recess of the hammer head, and the handle being then driven into its place wedges apart the ends of the cheek-pieces.

Claim.—The handle D, collar B, its cheek-pieces *d d′*, with beveled ends, adapted to the dovetailed recess *e*, in the head of a hammer or other tool or implement, the whole being constructed and arranged substantially as and for the purpose herein set forth.

78,165.—WILLIAM WHARTON, Jr., Philadelphia, Pa.—*Railroad Switch.*—May 19, 1868.—The switch rails and the main rails are brought into contact with each other by the lever, and the wheels of a car passing from the main track to the turnout, or *vice versa*, will gradually mount the inclination of the movable switch rail so as to raise the flanges over the permanent main rail.

Claim.—The permanent rail A, and laterally flexible rail A′, of the main track, in combination with the movable switch rail D, forming a continuation of the rail B of turnout, and the fixed rail B′ of the same, the whole being arranged and operating substantially as and for the purpose herein set forth.

78,166.—THOMAS J. WHITNEY, Whitpain Township, Pa.—*Car Brake.*—May 19, 1868; antedated May 9, 1868.—When the engine is checked and the buffer-bars come together, the brakes are applied to the cars by power derived from the sliding motion of the buffer-bars and transmitted through the medium of the devices claimed.

Claim.—1. The buffer-bar A, rod C, band O, rock-arm H, rods *c c′*, lever D, bolt T, and the rubber block or spring S, when constructed and combined as shown.

2. The notched rod C and the rod N, in combination with a clamp fixed to the axle K of a car, as shown.

3. The notched rod C, in combination with the rock-arm H, rods *c c′*, lever D, rod G, and the brake-bars E and F, as shown and described.

78,167.—JAMES WILKINSON, Bowling Green, Mo.—*Lifting Jack.*—May 19, 1868.—A movable fulcrum is actuated in a vertical direction by the lever that moves the weight, at each successive stroke of said lever, so as to maintain the fulcrum at a uniform distance from the weight to be raised.

Claim.—1. The posts A A, when provided with the segmental serrated grooves a^1 a^2, and combined with a movable fulcrum, B, substantially in the manner and for the purpose herein shown and described.

2. The fulcrum head B, when provided with the spring bearing pins *b*, and otherwise arranged, as herein set forth and described.

78,168.—ZABDIEL A. WILLARD, Boston, and WILLIAM G. ADAMS, Franklin, Mass.—*Treating Metals and Minerals.*—May 19, 1868.—Immediately after the stream of melted metal leaves the orifice of the crucible, it encounters a jet or blast of air or gas, which is projected across the jet of metal with considerable force.

Claim.—1. The process of dispersing or subdividing melted metals or minerals into fine particles, by means of a blast of highly compressed air or other gases, which impinges upon one or more fine streams thereof, the gases present, and the temperature of the metal, being respectively such that chemical action shall be thereby prevented, substantially as described.

2. The process of converting metals or minerals into other products, by means of a jet or blast of air or gas, acting upon one or more fine streams of said metals or minerals in a melted state, as described, which jet or blast subdivides and disperses the material, and also acts chemically upon the same, substantially as described.

3. The process of converting metals or minerals into other products by means of a blast of air or other gas applied thereto, when said metals or minerals are continuously supplied in regulated quantities to said blast in a subdivided and highly heated condition, substantially as described.

4. The treatment of metals or minerals, by either of the methods before claimed, in a chamber filled with an atmosphere chemically so composed that by means of the same, in combination with the gas introduced by the dispersing blast, the desired chemical reaction may be produced or prevented, substantially as described.

5. An apparatus, (for the performing some of the operations described,) consisting, substantially, of the combination of a crucible or reservoir with one or more delivering jets, a furnace for heating the same, and one or more blast pipes, corresponding to said jets, co-operating substantially as described.

6. An apparatus, consisting of the combination last claimed, in combination with the converting chamber, substantially as described.

7. Combining with the converting chamber, as described, a means for supplying gas thereto separate from the disbursing blast, substantially as described.

78,169.—**Linus Woodworth**, Troy, Pa.—*Horse Hay Fork.*—May 19, 1868.—One bow is pivoted within the other, and after their pointed extremities have been forced into the hay, the lower ends of the bows are spread apart by the depression of the slide bar, which latter is raised by the tripping cord so as to close the bows and discharge the hay.

Claim.—The two bows, pivoted together, and having their extremities pointed, and furnished with lateral spurs or shoulders, in combination with the toggle bar, slide bar, and shank, substantially as and for the purpose specified.

78,170.—**O. H. Woodworth**, Columbia City, Ind.—*Winding Stop for Weight Clocks.*—May 19, 1868; antedated May 7, 1868.—The upward impingement of the weight against the elevating rod throws the stop pawl into engagement with the teeth on the disk which is made fast upon the winding shaft, the winding up of the shaft being thereby stopped at the desired point.

Claim.—1. The application of the ascending motion of the weights of weight clocks, when such weights are being wound up, to the stopping of the winding of the clock at any desired point in the ascent of the weights, for the purposes specified.

2. The construction and application of a weight clock winding stop, operated by the ascending motion of the clock weights when they are being wound up, substantially in the manner and for the purposes described and illustrated.

3. The combination and arrangement of the elevating rod *e*, the connecting rod *r*, the stopping pawl *u*, and the stops *o*, when used in connection with the winding shaft *n*, and weight W, in the manner described, and for the purposes mentioned.

78,171.—**Jacob J. Wright** and **John H. Penny**, Harrison, Ohio.—*Corn Planter.*—May 19, 1868.—The hinge joint and adjusting chain adapt the plow to any desired position in relation to the dropping device, the ground wheel runs in the furrow made by the forward share, and the covering shovels are loosely hung to the shaft of said wheel so as to override obstacles.

Claim.—1. The hinge joint F and adjusting chain G, when used in combination as a means of giving mobility and adjustment to the plow and seed box for the purpose specified.

2. The covering shares J, when swiveling on or near the axle of the ground wheel or wheels as described, and for the purpose specified.

3. The gravitating round headed plug R, for the purpose described.

78,172.—**John Zimmer**, Pittsburg, Pa.—*Furnace for Boiling and Puddling Iron and other Metals.*—May 19, 1868.—The chamber or basin of the puddling furnace is provided with boshes or water spaces which are connected with an elevated tank by supply and return pipes, so that the same water is used continually.

Claim.—A cast iron puddling basin or chamber, having a bosh or water space cast therein around its sides, in combination with an elevated water tank, and communicating with each other by means of supply and outlet pipes, the whole being constructed, arranged, and operating substantially as and for the purposes herein set forth.

78,173.—**John W. Adams**, Spring Creek, Wis.—*Car Coupling.*—May 26, 1868.—The coupling pin is sustained by the engagement of one of its projections with the top of the lever pivoted within the frame upon the draw head. The rod projecting toward the opposing bumper receives the thrust which releases the pin, the latter being quickly thrown downward by the spring within the draw head.

Claim.—The arrangement of the lever *h* and rod *j*, with the pin C and spring D, when constructed as described, and operated by the link D, secured substantially as set forth and for the purposes specified.

78,174.—**M. Christopher Andrews**, Lawrence, Mass.—*Railroad Car Ventilator.*—May 26, 1868.—This device is designed to open or close simultaneously all the alternating shutters on one side of the turret of "monitor cars." All the shutters may be closed at once, yet it is the practice to have one-half of the shutters open while the carriage is moving in one direction, and to reverse the position of the shutters, *i. e.*, open those which are closed and close the open ones, when the carriage moves in the opposite direction.

Claim.—1. The arrangement of the hinges of each two consecutive shutters of a series thereof, so that such two shutters shall open in opposite directions, as explained, and the combination therewith of mechanism, as specified, or its equivalent, whereby such shutters may be operated in manner as set forth.

2. The combination or mechanism for operating shutters, arranged as specified, each consisting of the slide bar H, and its operative lever I, or the equivalent thereof, a series of slotted and bent levers, F, and their connecting links, the whole being arranged together substantially as explained.

3. The arrangement of my shutter operating mechanism with the inner surface of the shutters and the side of the car, whereby such mechanism is al brought within the car, when the shutters are closed

78,175.—**Wilber F. Arnold**, New Britain, Conn.—*Lock Snap Hook.*—May 26, 1868.—The book is detached from its mooring by pressure upon the thumb latch, which unlocks the latch proper and at the same time presses open said latch.

Claim.—The lock thumb latch *d*, with the latch *c* and hook *b*, substantially as and for the purpose described.

78,176.—**Joshua B. Barnes**, Fort Wayne, Ind.—*Wrench.*—May 26, 1868.—The jaws present three grasping edges the more firmly to seize the object to be held or turned, and the jaws are readily adjustable to objects of different diameters.

Claim.—The combination of the jaws A and B, straps C C, and spiral spring F, arranged and operating as and for the purposes set forth.

78,177.—**Elwin E. Berry**, Farmington, N. H.—*Table Leaf Support.*—May 26, 1868.—On elevating the table leaf to a horizontal position, the gravitating lever drops, and by bearing against the yoke or staple serves, in conjunction with the curved arm, to support the leaf.

Claim.—The combination of the lever catch D, or its mechanical equivalent, with the arm or strut B, and the staple C, so as to operate therewith, as described, when they are applied to a table or other like article, substantially in manner as specified.

78,178.—George W. Bishop, Stamford, Conn., assignor to Lafayette Farrington, same place.—*Carpet-Cleaning Machine.*—May 26, 1868; antedated May 12, 1868.—The two sets of brooms act alternately upon the carpet, which is wound from the lower feed roller onto the upper roller and subjected to the action of the beaters and brushes as it is moved along within their field of motion.

Claim.—1. In a carpet-cleaning machine, the arrangement, on a divided shaft, of the brooms J J′, operating substantially as herein specified.

2. The weighted beaters *b c*, attached to and in combination with the roller H, when arranged spirally around said roller, substantially as herein specified.

3. The arrangement and combination of the rollers C F G E for feeding, guiding, and winding up the carpet, in combination with the beaters *b c* and brooms J J′, substantially as herein specified.

78,179.—Cornelius Bollinger, Harrisburg, Pa.—*Steam Engine Piston.*—May 26, 1868; antedated May 14, 1868.—The cone, working through the head of the piston, acts on the sectors which tighten the packing, and the lugs on the cone, in conjunction with lugs on the cylinder head, hold the cone while the piston is turned to screw in the same.

Claim.—1. The conical nut H, constructed with a female screw on the inside, to fit the piston rod, and a male screw on the outside, to fit the piston head, in combination with the piston head and rod, as described.

2. In combination with the conical nut H, provided with lugs I I, the corresponding lugs on the head of the cylinder.

78,180.—Thomas H. Brady, New Britain, Conn.—*Lantern.*—May 26, 1868.—The bands or rings being of cast metal, adapt the vertical guard rods to be attached to them by riveting or by countersinking and soldering, thus making a strong, durable guard.

Claim.—A lantern guard, having the upper and lower rings, or either of them, made of cast metal, as described, as a new article of manufacture.

78,181.—Charles Brown, Buffalo, N. Y.—*Hay and Straw Cutting Machine.*—May 26, 1868.—The hay is cut, winnowed, and crushed consecutively. The heavier and better hay passes over the separating plate as it is discharged from the crushing rollers, while the light chaff passes under the same. The feed table is composed of a series of narrow slats with intervening spaces, through which small stones and trash may pass.

Claim.—1. The combination of the cutting and crushing mechanism, substantially as described, and for the purpose set forth.

2. The combination of the cutting and cleaning mechanism, substantially as described, and for the purpose set forth.

3. The vertical cleaning chambers, with air apertures in the front and back sides thereof, and exhausting fan combined therewith, substantially as described, and for the purpose set forth.

4. The dividing and separating plate L, arranged in the manner and for the purpose set forth.

5. The feed table G, constructed and arranged as described, for the purpose set forth.

6. The rotary feeder K, arranged and operating as set forth.

78,182.—Morgan W. Brown, New York, N. Y.—*Making Transparent Soap.*—May 26, 1868.—In carrying out this invention, one hundred pounds of settled curd or grained soap may be melted in a digester, and then twenty-five or thirty pounds of sal-soda, previously melted without water, are added to the hot soap. The paste is thoroughly incorporated at a low degree of heat. A hundred to a hundred and twenty-five pounds of glycerine are poured into the digester, and after the whole has been subjected to a moderate heat and agitated until it forms a thin transparent fluid, it is allowed to settle, and then drawn off into cooling molds or soap frames.

Claim.—The means and mode of treating and settling a soluble hard soap, as herein described, to render the same transparent, substantially as specified and set forth.

78,183.—William C. Burch, Gloucester, N. J.—*Hand Drill.*—May 26, 1868.—Within the bore of the lever head the drill shaft is encompassed by the helical spring or brake, which is employed in lieu of the pawl and ratchet usually seen in hand drills.

Claim.—The combination and arrangement of the helical brake with the drill shaft and the head of the operative lever, the whole being to operate substantially as described.

78,184.—William A. Chamberlin, Alexander, N. Y.—*Bed Bottom.*—May 26, 1868.—The rubber blocks constitute elastic fulcra, which, by yielding slightly, produce at the ends of the long arms of the levers, where the slats are supported, the most ample vertical play.

Claim.—1. The hinged levers B B, supporting cross-pieces C C, India-rubber blocks *s s*, and slats A A, arranged and operating substantially in the manner and for the purpose set forth.

2. Hinging the ends of the levers to the cross-piece by means of hook or eye bolts *f*, and extended key rod *g*, in the manner and for the purpose shown and described.

78,185.—Charles H. Childs, Cleveland, Ohio.—*Gas Apparatus.*—May 26, 1868.—As the gravitating cover or float descends, air is forced from the upper central chamber downward through the perforated tubes which are surrounded with fibrous material, and thence into the lower central chamber, from which it passes off for use, in the form of gas, through the exit pipe. The textile material becomes saturated with the fluid and evolves the gaseous and volatile elements thereof, which are disseminated above the bulk of the fluid in the lower central chamber.

Claim.—1. The perforated tubes H, surrounded with textile or fibrous material, and chamber C′, in combination with the chamber E and annular space F, substantially as and for the purpose specified.

2. The pipes M N and chamber C′, in combination with the diaphragm G, annular chambers C, and cover D, arranged as and for the purpose set forth.

78,186.—Charles A. Cogswell, Maquoketa, Iowa.—*Cultivator.*—May 26, 1868; antedated May 12, 1868.—The rod has free vertical play in the eye which attaches it to the plow beam, and in hilling up potatoes and other crops, the rod raises the stems and leaves of the plants to prevent them from being covered.

Claim.—The attachment of the curved rod A to the standard and beam of the ordinary shovel plow or cultivator, in the manner and for the purpose above specified.

78,187.—Thomas Crane, Fort Atkinson, Wis.—*Washing Machine.*—May 26, 1868.—The stationary, perforated partition serves as an abutment against which the articles are forcibly compressed and beaten by one end of the oscillating box, while the other end of it forces the water through the partition upon the articles after every beating stroke.

Claim.—1. The construction of the oscillating cradle with a bottom *c*, which is independent of the tub, in combination with the stationary partition C, arranged with said cradle, substantially as described.

2. The cradle, constructed with a bottom, and with its back board closed, and its front board perforated, in combination with a perforated removable partition C, arranged within the cradle, but connected to the outer tub, substantially in the manner described.

3. The cradle, having a bottom and ends, substantially as described, and a top which is hinged and fluted or roughened on its under surface, in combination with the board A′ of the tub, substantially as described.

78,188.—Martin M. Crooker, Rutland, Vt., assignor to himself and Azro B. Allen, same place.—*Railroad Car.*—May 26, 1868.—The flexible doors are fitted to slide in grooved ways, and occupy a hitherto useless space under the roof when open. Pulleys and cords for opening and closing the doors are to be applied when desired.

Claim.—A rail car, in which its doors are flexible.

and are arranged to pass up under the roof and over one another, substantially in the manner and for the purpose described.

78,189.—T. E. Curtiss, Titusville, Pa.—*Lubricating Compound.*—May 26, 1868.—This is made from the residuum of crude petroleum or coal oil, as a base, with the addition of finely-bolted rye flour.

Claim.—The within-described lubricating compound, composed of the materials and substantially in the proportions set forth.

78,190.—Albert H. Daniels, Hartford, Conn.—*Eye Glasses.*—May 26, 1868.—The studs, in conjunction with the method of applying the nose-spring, are designed to increase the energy and adjustability of the same.

Claim.—1. The spring *a*, constructed and applied to the frames of the eye glasses, substantially as described.

2. The studs *c c*, made and applied to the frame of the eye glass, and the spring, substantially as described, for the purpose specified.

78,191.—D. G. Daniels, Cincinnati, Ohio, assignor to himself and F. Mortimer Atkinson, Chicago, Ill.—*Car Spring.*—May 26, 1868.—This method of constructing the spring is designed to secure a uniform distribution of resistance over the entire area of both plates when they are subjected to pressure.

Claim.—A spring, which is composed of plates A A, bent in the form of segments of a cylinder, and put together at right angles to each other, substantially as described.

78,192.—Charles B. Dickinson, Brooklyn, N. Y.—*Combined Arm Rest and Paper Cutter.*—May 26, 1868.—When the instrument is used as an arm rest, to facilitate writing near the bottom of a book page, it is held in place by slipping the metallic plate into the book. Said plate may be also used as a paper cutter.

Claim.—The combined arm rest and paper cutter, made substantially as and for the purposes set forth.

78,193.—Charles F. Dodge, Williamsport, Pa.—*Sash Supporter.*—May 26, 1868.—The roller binds between the inclined plane and the window sash, and prevents the latter from shaking or from falling when raised. By raising the lever the roller is made free and the sash permitted to descend.

Claim.—The combination and arrangement of the pivoted double inclined plane B, roller C, lever A, and stop or cam D, in a suitable box or casing, substantially as shown and described, for the purpose specified.

78,194.—James W. Drew, Stockbridge, Mich.—*Regulating Common Lumber Wagon.*—May 26, 1868.—The resistance of the wheel to the force which has a tendency to make it rotate, and which is due to the striking of one of the wheels against an obstacle, causes the wheel to override the obstacle, and thus is avoided the sudden lateral motion of the tongue, which frequently injures the horses.

Claim.—1. The use and application of the wheel B to common team wagons, for obviating the knock and jerk of the tongue or draught pole F, on rough roads, as substantially shown and described.

2. The bar D, pinion C, combined and operating in the manner as herein shown and described.

78,195.—John L. Duffee, Washington, D. C.—*Mounting Photographs and Engravings.*—May 26, 1868.—The paper, glass, wood, or other material is made smooth and white by painting, enameling, or other process, and covered with a mixture of clarified beeswax, balsam of fir, and spirits of turpentine, heated to such consistency that it will flow off the surface, leaving a thin film thereon. The picture to be mounted is rendered translucent by wax, varnish, or other substance, and applied to the prepared surface before the film of the mixture has hardened. The tint of the background is designed to influence the appearance of the picture.

Claim.—The mode of mounting photographic or other pictures produced upon paper, substantially as herein described.

78,196.—Rufus Dutton, New York, N. Y.—*Manufacture of Finger Bars for Harvesters.*—May 26, 1868.—The blank or plate is formed, as stated, by machinery, and when cut longitudinally produces two finger bars, the process avoiding the usual forging and shaping.

Claim.—Constructing the finger bars of harvesters, substantially as described, that is, forming, by suitable machinery or mechanism, a metallic plate of the required thickness for a finger bar, and of a width sufficient for two bars, and having both of its edges or sides turned up or raised above the general surface or plane of the plate, and then dividing or cutting such plate obliquely lengthwise, so that when so divided there will be formed two separate plates, each suitable for a single bar of tapering form, and each having a raised or turned up edge, for the purpose set forth.

78,197.—Rufus Dutton, New York, N. Y.—*Constructing Finger Bars of Harvesters.*—May 26, 1868.—The double ribs are designed to strengthen the bar at both sides.

Claim.—Constructing the finger bars of harvesters substantially as described, that is, forming a metallic plate of a breadth sufficient for two bars, such plate having its edges raised or turned up, and also having ribs or raised portions toward its center and parallel with its edges, so that when such plate is divided diagonally lengthwise, into two parts, it will form two bars, each having two parallel ribs or raised portions, substantially as set forth.

78,198.—T. B. Fagan, Mendon, Ohio.—*Ditching Machine.*—May 26, 1868.—The shaft carrying the ditching wheel is attached to the arms or supports, and adapted for adjustment thereon by clips or eyes. The side pieces of the chute are inclined so as to prevent the dirt, after leaving the shovels, from falling back into the ditch.

Claim.—1. In combination with the wheel F, the arms or supports D D, provided with adjustable holes, as and for the purpose described.

2. In combination with wheel F and supports D D, the chute E, constructed and employed substantially as and for the purpose specified.

3. The combination of the ditching wheel F, chute E, supports or arms D D, and shaft J, furnished with pinions *j j*, arranged and operating substantially in the manner and for the purpose set forth.

78,199.—J. H. Fleming, Groton, Ohio.—*Churn.*—May 26, 1868.—The hinged cover affords ready access to the inside of the churn, and when thrown back it relieves the shaft of the dasher, allowing it to be withdrawn.

Claim.—The dasher D′ constructed as set forth, in combination with the hinged cover B, with the gearing arranged in connection therewith, substantially as and for the purpose set forth.

78,200.—John Flory, Flicksville, Pa.—*Machine for Rounding the Corners of Slate Frames.*—May 26, 1868.—The cutter has a progressive and a rapid rotating motion, and as its shaft is supported in a frame which vibrates automatically, the corner of the slate frame presented to it is cut off and rounded, the teeth of the cutter being curved in such a manner as to give the edge of the frame the desired shape.

Claim.—In combination with the disk or arm G, with its crank pin, the connecting rod H and the arm I on the shaft J, for vibrating the frame K and cutter V, substantially as described.

78,201.—A. H. Ford, Williamsfield, Ohio.—*Upsetting Tires.*—May 26, 1868.—The heated tire is placed in the grooves and held by driving keys into the mortises; the wheel attached to the screw is turned so as to bring the arms together sufficiently to give the tire the desired set, the adjustable support affording a bearing for the inside of the tire, thus preventing it from kinking.

Claim.—The combination of levers A A, pivoted together by an eccentric joint, with adjustable support E, and screw I, substantially as described.

78,202.—Edward Hamilton, Chicago, Ill., assignor to himself and Mathew D. Rapp, same place.—*Bridge.*—May 26, 1868; antedated May 9, 1868.—The chords consist of a combination of thin but wide sheets of metal, iron, or steel, arranged edgewise with wood or iron bracing between the sheets to prevent them from bulging or buckling.

Claim.—1. In combination with the sheets A of metallic plates, placed edgewise to sustain the incumbent weight, a system of cross braces, B, to support the same, substantially in the manner set forth.

2. In combination with the metallic plates, disposed as set forth, and wooden cross braces for supporting the same, plates for inclosing the spaces between the edges of the sheet, substantially as set forth.

78,203.—George D. Hart, Muncy, Pa.—*Cultivator.*—May 26, 1868; antedated May 11, 1868.—This is designed as an improvement on the cultivator described in letters patent No. 63,384, dated April 2, 1867, and special reference to the method of connecting the plow standard to the frame.

Claim.—The above, as set forth, whether used in combination with this machine or separate in any other, reference being had to letters patent above referred to.

78,204.—William C. Hart, Nantucket, Mass., assignor to himself and Charles S. Jones, same place.—*Lounge.*—May 26, 1868.—The back may be turned over from one side to the other of the seat and of the head or arm rest, adapting the lounge to be used either as a right or left lounge.

Claim.—The improved lounge, as made with the reversible back, and with the connections and supports thereof, applied to and arranged with the two extremes of the body of such lounge, substantially in manner as specified.

78,205.—James Hemphill, Pittsburg, Pa.—*Steam Engine Slide Valve.*—May 26, 1868.—The steam exerts an upward counter pressure against the plate attached to the stem of the valve cover, the valve being relieved of pressure in a corresponding degree.

Claim.—The combination of the valve cover *e*, with its stem *e'*, and the diaphragm *s*, and plates *o o'*, arranged substantially as described for the purpose set forth.

78,206.—Robert Heneage and F. W. Breed, Buffalo, N. Y.—*Railroad Car Ventilator.*—May 26, 1868.—The coupling of the air supply pipe is so constructed that both halves may be used indifferently as males and females, thus conforming to the adaptability of each car to be connected to either end of any other car. The windwheel and suction screw or fan arranged within the pivoted case exhaust the vitiated air from the car.

Claim.—1. The coupling E, when constructed and operating substantially in the manner shown and described.

2. The pivoted case H, provided with wings *n n* and vane *l*, in combination with the windwheel I, screw or fan J, and register *p*, the whole arranged and operating substantially as and for the purpose set forth.

3. The combination of the two devices, herein described, for supplying pure air, and withdrawing the impure air, from railroad coaches, substantially as set forth.

78,207.—Robert Hewson, San Francisco, Cal.—*Parlor Skate.*—May 26, 1868.—The axles are kept in place and in contact with the friction rollers by the straps or boxes in which they turn.

Claim.—In a parlor skate, the use of the wheels B, having their axles D turning upon the friction rollers C C C, the whole constructed and arranged as herein described.

78,208.—Sidney Hudson, Milford, Mich.—*Grain Register.*—May 26, 1868.—The "striker" is moved by a crank so as to alternately close and open the two apertures through which grain flows from the threshing machine into the measures. Said crank is connected by a worm with cogs on the register shaft, so that every time a measure is filled and the "striker" shifted, the fact is recorded upon the tallying register.

Claim.—1. The construction of the striker C, and its connections, working over the apertures B, in the receiving box A, substantially as described for the purpose designed.

2. The combination and arrangement of the striking and tallying machines, substantially as described for the purposes indicated.

78,209.—David H. Ireland, Fayette, N. Y.—*Apparatus for the Manufacture of Coal Gas.*—May 26, 1868.—The soot which is carried up from the retort is caught in the ash pan within the elevated condensing cylinder, containing water below the pan. Passing through the condensing cylinder the gas is relieved of its aqueous elements before reaching the lime purifier.

Claim.—The interposed condensing cylinder B, constructed with the elevated ash pan D, and water chamber G, and employed in connection with the retort A, purifier H, and gasometer K, substantially as and for the purpose herein set forth.

78,210.—David Jewett, Lynn, Mass., assignor to himself and Albert Leach, same place.—*Axle Box for Railroad Cars.*—May 26, 1868.—Spherical balls are confined in corresponding recesses or chambers and revolve in contact with the journal or axle, thereby reducing friction.

Claim.—The construction and arrangement of an axle box, when composed of the parts C C, A A, and combined with the rollers D, D, and grooved axle D, in the manner and for the purpose herein described.

78,211.—Arza B. Keith, North Bridgewater, Mass.—*Machine for Cutting Heel Seats.*—May 26, 1868.—The function of this machine is to cut out the concavity in the heel to fit upon the convexity caused by the filling piece of the shank. The invention combines with a reciprocating gouge-like shank, means for relative adjustment between the knife and heel holder, adapting the same machine to cut heel seats to fit upon different shanks.

Claim.—1. So combining, with a reciprocating or vibrating knife, *d*, a heel support, *k*, that relative adjustment may be made between the two, substantially as and for the purpose specified.

2. Pivoting the piece *k* to the slide *i*, and combining therewith means for changing the angle of *k*, substantially as and for the purpose described.

3. In combination with the piece *k*, a side-adjusting screw, substantially as set forth.

78,212.—Edwin H. Keith, Bridgewater, Mass.—*Machine for Molding Wood Screws.*—May 26, 1868.—The machine is for producing molds for casting screws from screw patterns, and is designed to enable a large number of molds to be formed from a very few patterns. Provision is also made for the ready removal of patterns and the substitution of others for the purpose of forming screw molds of different sizes.

Claim.—1. The combination, with the perforated table C, of the screw patterns *g g g g* and the mold board E, provided with the perforations as described, substantially as and for the purpose set forth.

2. The detachable spindles *h*, provided with the pattern screws *g* and corresponding guide screws *i*, substantially as and for the purpose specified.

3. The perforated table or plate C, provided with the adjusting strips or gauges *e e' e'' e'''*, as and for the purpose described.

4. So forming the molds of the runners, leaders, and sprues, and connecting them with the molds for the screws, that the breakage of the metal will be at or near the center of the screw heads, as set forth.

78,213.—John Le Ferre, Charlestown, Mass.—*Forming Carriage Axles.*—May 26, 1868.—The axle is composed of two or more pieces of metal welded together in such a manner as to mutually strengthen each other, the object being to avoid the breakages which occur in consequence of the defects which sometimes exist in the single piece which constitutes the common iron axle.

Claim.—The method herein described of constructing a carriage axle, A, namely, by placing two or more steel or iron bars longitudinally, one upon the other, welding the same thoroughly together, then turning down the taper *b*, with the shoulder *m* thereon, and then adjusting on said taper *b*, and against the shoulder *m*, a suitable collar, 6, and washer, 7, all in the manner substantially as set forth.

78,214.—DAVID C. LINCOLN, North Vassalboro', Me.—*Soap.*—May 26, 1868.—The combination of the nitrate of potash with the soap is designed to improve the detergent quality of the latter, and the former also acts as a bleaching medium and a curative of cutaneous affections.

Claim.—The combination of nitrate of potash with a fat, or oil and an alkali combined, to form a soap, as set forth.

78,215.—JOHN S. LOOMIS, Brooklyn, N. Y.—*Machine for Polishing Wood.*—May 26, 1868.—The sand block or rubber is attached to a reciprocating bed which also carries a reciprocating brush. These parts, in conjunction with the rotating brushes, operate to sand-paper and polish the wooden molding as it is moved forward upon the adjustable bed by the yielding feed rollers.

Claim.—The sand block or rubber B, cup D′, pipe T, revolving brushes W W, dusting brush N, stationary rubber F, emery cup D, and adjustable bed G, all combined and operating in the manner and for the purpose substantially as described.

78,216.—HALSEY B. LUCAS, Middletown, Conn. —*Skate Fastener.*—May 26, 1868.—This fastening affords a leverage to assist in tightening the straps about the feet, and it also forms a shield to protect the instep from bruising or pinching. An adjusting strap is employed in connection with the fastener, as it is not of itself adjustable.

Claim.—1. The heel strap buckle for a skate, shaped to conform to the curve or instep of the foot, as shown at *a a a*, and constructed with the loop *b b′*, and with a curved locking lever *c g*, all substantially in the manner and for the purpose described.

2. The two curved portions *a c*, constructed as described, in combination with the curved loop *b*, having a curved portion *b′*, and with the adjusting strap B, substantially in the manner described, and for the purpose of facilitating the fastening of a skate upon the foot, as set forth.

3. A curved self-locking skate buckle, such as described and shown, as a new article of manufacture.

78,217.—JOHN MAGEE, Chelsea, Mass., assignor to the MAGEE FURNACE COMPANY.—*Cooking Stove.* —May 26, 1868.—The object of the auxiliary flue is to collect heat radiated from the bottom of the stove, such heat being conducted to the oven in order to increase the heat of and ventilate the same. The current of air created also effects the consumption of the gases arising from the fuel in the fire box.

Claim.—The auxiliary flue L placed below the bottom of the return flue K, and provided with suitable perforations or openings *e*, in combination with one or more tubes or conductors M, and one or more perforated trunks N O, or perforated plates, substantially as and for the purpose described.

78,218.—C. K. MARSHALL, New Orleans, La.—*Metallic Door and Shutter.*—May 26, 1868; antedated May 14, 1868.—This mode of constructing the metallic door or shutter is especially designed to render the same light and cheap so as to be available wherever wooden doors and shutters are employed.

Claim.—A double cased and double panneled metallic door or shutter, when the same is constructed and arranged substantially as described.

78,219.—DAVID MARSHALL, Pittsburg, Pa.—*Socket Board for Reed Instruments.*—May 26, 1868. —The ordinary socket board is faced with another slotted or socketed board, the sockets in the facing board being shorter than those in the main board, so that the currents of air in passing through the reeds impinge against said facing board, causing the parts to vibrate in unison and producing an effect akin to that of a sounding board.

Claim.—The board *i*, placed immediately below and in contact with the socket board *b*, and having an opening or openings *s s′*, under each reed, coinciding with but shorter than the openings or sockets *a* in the socket board, substantially as and for the purpose described.

78,220.—NORMAN and ABRAHAM MAYBEE, Monroe, Mich.—*Scraper.*—May 26, 1868.—The front of the bottom of the scraper is corrugated and forms a cutting edge, and cutting blades are situated at the points between the corrugations. The bail also carries share blades operating in conjunction with cutting edges at the sides of the scraper, the object being to cut away roots and other obstructions which would otherwise impede the operation of the scraper.

Claim.—The combination of the scraper A, draught bail C, and handle B, all constructed and arranged substantially as described, and for the purposes specified.

78,221.—B. J. MCAFEE, Delphi, Ind.—*Brick Machine.*—May 26, 1868.—The mold beneath the spout is filled with concrete, and the rotation of the table then brings the mold beneath the former, which is screwed down so as to press the brick. The table is further rotated, and the brick is expelled by raising the plunger by means of a lever.

Claim.—The combination of the frame A and table C with the molds D D, spout I, former G, screw H, plungers E, and lever F, all arranged and operating substantially as and for the purpose described.

78,222.—WILLIAM MCALLISTER, Lawrence, Mass.—*Machinery for Printing Yarn.*—May 26, 1868.—The desired number of skeins are stretched upon the wire netting so as to be firmly held thereon, the coloring matter being allowed to penetrate the yarn, so as to leave an even impression upon both sides of the fold.

Claim.—The holder D, made of wire netting, or its equivalent device, for holding skeins of yarn during the process of printing the same, substantially as set forth.

78,223.—STEPHEN B. MCCRACKEN, Detroit Mich.—*Spring Bed Bottom.*—May 26, 1868; antedated May 12, 1868.—A wooden button or disk is affixed to the upper and smaller end of the conical coiled spring to adapt the webbing or cover to be attached thereto by a screw.

Claim.—The button-headed half spring fastened to the webbing or other cover by the use of a common screw and convex washer, as shown in Fig. 3, substantially as and for the purpose herein described.

78,224.—HENRY MCGANN, Cleveland, Ohio.—*Feeding Boilers.*—May 26, 1868.—The pendulum with the float attached is suspended within a chamber wherein the water descends as that in the boiler descends, and being connected with the plug of the supply cock the pendulum turns the latter to admit water to the boiler, the water being stopped off by the reverse operation.

Claim.—The arrangement of the pendulum B, shaft C, case A, segmental arm E, wheel F, and cock H, substantially as herein specified.

78,225.—ALANSON H. MERRIMAN, New Britain, Conn.—*Press Spindle Adjustment.*—May 26, 1868.—By loosening the nuts and turning the collar the tool stock or spindle can be easily and quickly adjusted.

Claim.—The combination of the tool stock or spindle A A with the sleeves B and E, and collar C, arranged and operating substantially as and for the purpose described.

78,226.—F. C. MILLER, Evans Center, N. Y.—*Portable Oven.*—May 26, 1868.—When a pan is not needed it is withdrawn, but the front section thereof is reinserted into the outer case to prevent the heat from escaping.

Claim.—The combination, with the chamber B, provided with central heating space *i*, and surrounded by jacket A, of the pans, made up of two parts C D, the latter being detached, and in skeleton or open form, for allowing a free passage of air or steam, and covered by slides F, the whole operating in the manner and for the purpose herein set forth.

78,227.—William Miller, John J. Becker, and Abraham Simcox, Fort Wayne, Ind., assignors to themselves and Jacob Miller, same place.—*Peg Float.*—May 26, 1868; antedated May 15, 1868.—This device is for rasping pegs from boots and shoes, and the cutter, instead of being worked directly by hand, is reciprocated by a crank wheel, connecting rod, and elbow lever.

Claim.—The elbow lever D and connecting link *d*, in combination with the reciprocating cutter A and guides B, the whole being constructed and operated in the manner and for the purposes specified.

78,228.—Marshal Morse and P. W. Sawyer Grey, Me.—*Cheese Cutter.*—May 26, 1868.—The knife is depressed by the action of a segmental gear upon a rack, so that when the knife reaches the table, having cut the cheese, the blank part of the gear is presented to the rack, which, together with the knife, is then elevated by the spring.

Claim.—1. The combination of the coil *h*, rack *g*, slide *k*, and knife *l*, as and for the purpose described.

2. The slide stop *m*, in combination with the self-retracting knife *l*, as and for the purposes described.

78,229.—Elias A. Paine, Sutton, Mass.—*Shuttle.*—May 26, 1868.—After the yarn has been woven from the bobbin the operative raises the spindle, and the bobbin, being released from the spring catch by this motion, is removed and a full one put upon the spindle, which is turned back into shuttle. The catch engages the notch of the bobbin, and is held therein by the pressure of the coiled spring.

Claim.—The combination with the spindle head, formed between the points 1 and 2 and the points 1 and 3, in the manner specified, of the lever *b* and its cam 4, and the spring for actuating said lever, with or without the bobbin-holding catch, the said parts being constructed and arranged for operation as herein shown and set forth.

78,230.—Joseph Palmer, Concord, N. H.—*Welding the Ears of Elliptic Springs.*—May 26, 1868.—On the 3d day of September, 1867, United States letters patent No. 68,464 were granted to the same party for a die for making heads of elliptic springs, by which die are punched ears to be fixed on the ends of the springs preparatory to welding. The present invention has reference to a machine for welding the ears upon the main leaves, for the purpose of producing what are styled "French heads."

Claim.—The combination of the wedges F F, the drop A, the upper and lower dies C D, the slides *a b c d*, and end pieces I I, all constructed and arranged as shown, and by means of which vertical and lateral blows are given at the same time, for the purpose set forth.

78,231.—James Perry, Brooklyn, N. Y.—*Combined Oven and Bath.*—May 26, 1868.—The bake oven and furnace are connected by suitable pipes or ducts with a room in which the temperature is raised to the required degree for the administration of hot-air and other baths, by the diffused or wasted heat resulting from the baking process.

Claim.—1. The method of utilizing the heat from the interior of a baking oven or furnace for the purpose of warming apartments, substantially as herein specified.

2. The spaces under or by the sides of bath rooms, with their pipes communicating with the open furnace or oven, when the arrangement of the several parts is substantially as and for the purpose of operating in the manner shown.

3. The combination of the boilers O O, located in an inclosed space, with one or more conductors of the waste heat from a baking oven, whereby the said waste heat is caused, without coming in direct contact with said boilers, to warm the water required for use in the manufacture of bread and the administration of baths, substantially as herein specified.

4. The combination, with a system of radiating pipes located in an apartment, of a series of waste-heat conducting pipes, and a series of steam-conducting pipes, so that either the waste heat or the steam, or both together, may be employed at such time as may be required for warming the apartment, substantially as herein specified.

78,232.—James Perry, Brooklyn, N. Y.—*Apparatus for Apportioning, Expanding, and Shaping Dough for the Manufacture of Bread.*—May 26, 1868.—This consists, primarily, in combining with a kneader, in which dough is prepared under pressure of gas, a valve, so arranged that the dough may be delivered into the atmosphere with such diminished pressure as shall not exceed the tenacity of the dough, thereby preventing the rupture of and the escape of gas from the dough.

Claim.—1. The combination, with a kneader, A, of the valve I and its chamber, substantially as herein specified, whereby the expansion of dough, prepared under pressure of gas, can be regulated as desired.

2. The double-head valve I, constructed and operating substantially as herein specified.

3. The combination, with the kneader A, of the perforated plate or strainer *a'*, substantially as herein specified, for preventing lumps of unmixed dough, or other hard substances, impeding the perfect operation of the valve I.

4. The combination of the hollow arm D with one or more chambers and pistons, substantially as herein specified, whereby the dough may be apportioned and shaped as desired.

5. The movable cross-head F, in combination with the wheel E and rack bars S S, substantially as described, whereby the capacity of the chambers H H may be increased or diminished as desired.

6. The combination, with the valve I, of the balance lever *b*, and its appendages, substantially as and for the purpose herein specified.

7. The combination, with the arm D and table J, of the arcs *e' e'*, substantially as specified, whereby the pans are brought under and away from the chambers H H, for filling and discharging them.

78,233.—Philip Poullain, Greensboro, Ga.—*Cultivation of the Cotton and other Plants.*—May 26, 1868.—When the plants are set out, the cups in which they have germinated are placed in a hole, with the top about level with the surface of the ground. The sides are gently tapped to loosen the cup from the earth, when the cup is drawn upward over the plant, which is left standing in place without injury to the root.

Claim.—1. The improved cup, having taper sides, and both ends open, when adapted and employed for germinating and transplanting cotton and other small and tender plants, in the manner and for the purpose herein described.

2. The improved method herein described for transplanting cotton and other plants, by means of the device, in the manner and for the purpose herein set forth.

78,234.—Charles Lowell Ridgway, Boston, Mass.—*Water Gauge for Steam Boilers.*—May 26, 1868.—The lever, when vibrated on its center, will open and close the inlet passages of the gauge simultaneously, thus affording a ready means of cutting off the connection with the boiler in case of the breakage of the tube, or when otherwise required. The lever may also be removed into a position to close the lower inlet passage, admit the steam at the top of the gauge, and open a passage at its lower end when it is desired to blow off to clear the gauge.

Claim.—1. The water gauge D, attached to a lever or bar, B, provided with passages *g i*, and arranged, in relation to the inlet passages or tubes through which the water and steam are admitted from the boiler, substantially as described.

2. The passages *h*, *n*, *i*, *o* in the bar A, and lever B, in combination with the adjustable stop *m*, or its equivalent, so arranged as to allow the steam to be blown through the gauge, substantially as set forth.

3. The passage *i* in the lever B, in combination with the passage *l* in the bar A, and the stop pin 6, arranged so as to allow the water in the glass tube D to escape when the connections with the boiler are cut off, substantially as described.

78,235.—Lewis S. Robbins, New York, N. Y.—*Agricultural Steam Boiler.*—May 26, 1868.—The parts cited in the claims are improvements to be applied to boilers used for boiling or steaming feed for cattle, horses, &c., heating water, and generating steam for agricultural purposes generally.

Claim.—1. The corrugated plates H in the fire box, substantially as and for the purposes described.

2. The protecting sleeve K on the pipe J, substantially as described.

3. The supply pipe J, provided with the cocks *n*, *o*, and L, and connected with the water reservoir *m*, substantially as described.

4, The method of forming the joint between the cap C and the boiler, substantially as described.

5. The combined vacuum and safety valve, constructed and operating substantially as shown and described for the purposes specified.

78,236.—Samuel Rockafellow, Muscatine, Iowa.—*Harvester.*—May 26, 1868.—The object is to afford better facilities to the operator for guiding and controlling the cutter-bar during the operation of the machine.

Claim.—The double hinge G, constructed substantially as described, in combination with the frame A, cutter bar B, links *g'*, crank *g''*, and levers H and I, the said parts being arranged to operate substantially as and for the purpose described.

78,237.—Orestes Sampson, Petersburg, Ill., assignor to Sampson and Frackelton.—*Corn Planter.*—May 26, 1868.—This machine is controlled by two men, a driver and a dropper, and when it is desired to go from field to field or turn at the end of the row, the dropper dismounts and the driver bears with his feet upon the cross-bar of the levers, thereby raising the seeding mechanism so as to balance it upon the axle.

Claim.—1. A corn planter, consisting of an axle mounted on wheels, and having the inclined bars B attached thereto, with their rear ends provided with seed hoppers H, shares *u*, and covering wheels *h*, or their equivalents, arranged to operate substantially as described.

2. The levers E, arranged as described, in combination with the frame carrying the seeding mechanism, and pivoted to the axle or front frame, for the purpose of elevating the seeding devices, as described.

3. Providing the bars B with a flat surface on their under side, where they rest upon the ground, in front of the shares *u*, for the purpose of pulverizing and smoothing down the earth to form a seed bed, as herein set forth.

78,238.—Sylvanus Sawyer, Fitchburg, Mass. *Rattan Machine.*—May 26, 1868.—The stick of rattan is split by a series of radial, rotating disk cutters, to which it is presented centrally by a series of adjustable guides, which adapt themselves to the varying size of the stick. The pith or central portion of the stick passes through the annular cutter.

Claim.—1. The combination of the series of revolving splitting cutters with the series of guides, substantially as described.

2. Combining each revolving cutter and its guide with the other cutters and guides of the series, by means of the gears I, so that they shall be made to simultaneously approach and recede from the center of the stick, substantially in the manner and for the purpose described.

3. The combination of the series of revolving splitting cutters with the annular or tubular cutter, substantially as described.

4. The combination of the revolving splitting cutters, the tubular cutter, and the guides, substantially as described.

5. The combination of the splitting apparatus, before described, with a suitable feeding mechanism for carrying forward the stick, substantially as described.

78,239.—John Seely, North Java, N.Y.—*Horse Rake.*—May 26, 1868.—The ends of the rake teeth are curved in such a way that they slide over the ground with but little friction, and do not plow into the earth.

Claim.—A revolving rake, formed of three ranges of tines, with their ends inclined or curved as specified, so that the rake can be drawn along upon the points of two of the ranges of tines, and the forward range of tines pass at an inclination beneath the hay, as specified.

78,240.—Alfred B. Sheafer, Ephrata, Pa.—*Main Bolt or Goose-neck Stay on Carriages.*—May 26, 1868.—This consists in providing a pocket or socket under the fifth wheel and around the main bolt, for the introduction of gum-elastic to act as a follower and prevent rattling.

Claim.—The socket *a* in the enlarged curve B of the main bolt stay A, when made substantially in the manner and for the purpose specified.

78,241.—J. F. Single, Painesville, Ohio, (William Pettingell, administrator.)—*Implement for Harvesting Grapes.*—May 26, 1868.—The pads, owing to their position and elasticity, begin to hold the stem just before the cutting blade operates, and the jaws retain their hold upon the cluster after the stem is severed until released by opening the handles. The serrated blade holds the stem firmly while the cutter blade operates.

Claim.—1. Constructing the described implement in the manner of forceps or pliers, and providing the broad jaws thereof with correspondingly broad pads or cushions, of an elastic nature, as India-rubber, so as to operate substantially in the manner and for the purposes herein specified.

2. The shear-edge blade *d* and serrated blade *e*, in combination with the jaws *b b* and handles *c c*, operating so as to sever the stem of the cluster with certainty, as herein set forth.

3. The combination of the several parts of the described implement, to wit, pads *a a*, jaws *b b*, shear-edged blade *d*, serrated blade *e*, slotted stop plate *f*, and handles *c c*, all arranged so as to effect the purposes herein set forth.

78,242.—George H. Spaulding, Norwich, Conn., assignor to American Molded Collar Co., Boston, Mass.—*Machine for Molding Collars.*—May 26, 1868.—The elastic bed serves to firmly hold the collar throughout its entire length, and insures the application of an even pressure to the entire molded surface thereof.

Claim.—The combination with an expanding former of an elastic bed or cushion, C, against which the collar is pressed, substantially as shown and for the purpose described.

78,243.—Orrin Stone, Ionia, Mich.—*Cultivator.*—May 26, 1868.—The lower frame carrying the cultivator teeth or plows may be raised by the driver by means of a lever, and, when raised, the lower hinged frame is supported and carried by the fixed frame.

Claim.—The combination of the fixed and the yielding frames, when united together by flexible connections, and the under or yielding one is made capable of being raised and carried by the fixed one, in the manner and for the purpose herein described and represented.

78,244.—Matthew Thornton, Macon, Ga.—*Journal Box for Railroad Cars.*—May 26, 1868.—The upper section of the collar constantly maintains its proximity to the axle, but the under section is adjustable by the gland and screw bolts; and in the act of adjusting the same the packing is forced against the under section, and thus the joints, where oil might waste or dust enter, are kept closely packed.

Claim.—The packing of a journal box by means of a divided collar, the fibrous packing, and the gland, arranged to operate in conjunction with the axle, substantially in the manner and for the purpose described.

78,245.—Godfrey Weiland, Buffalo, N. Y., assignor to himself and Ira R. Amsden, same place.—*Harvester.*—May 26, 1868.—A self-acting clutch coupling, applied to the driving shaft of a mowing machine, to prevent motion of operative parts when machine is backed. One half of the clutch coupling is movable on a square shank carried by the loose pinion or by the driving wheel, while the other half is keyed to the driving shaft, and forms a shell which covers the first-mentioned half, the parts being held in contact by a spiral spring.

Claim.—The combination of the pinion C or the driving wheel hub, having a square shank D, the movable part E, fixed part B, with covering rim *a'* and coiled spring F, constructed, arranged, and operating in the manner and for the purpose described.

78,246.—Joseph Wharff, Bangor, Me.—*Machine for Boring Hubs for Wagon Wheels.*—May 26, 1868.—The hooked bar and its accessories confine the wheel hub upon the platform, toward which the boring tool shaft is advanced by a weight.

Claim.—Improved arrangement and application of the hooked bar F', the screws E' H, and the lever nut *c*, with respect to each other.

78,247.—H. Whisler and J. S. Berry, New Market, Ohio.—*Still.*—May 26, 1868.—A constant stream of water descends upon the apex of the channel, and passes down in the convolutions of the spiral, thereby condensing the vapor formed inside of the cap. The condensed vapor flows out through the pipe and the water passes off by the conduit.

Claim.—The cap C, when constructed with the spiral channel *e*, pipe *g*, and conduit *f*, in the manner substantially as set forth.

78,248.—Eli F. Wilder, Lowell, Mass.—*Implement.*—May 26, 1868.—This instrument combines the several tools necessary to make or repair a belt, namely, a belt punch, awl, lacing stripper, knife and square.

Claim.—The belt punch, when constructed and arranged to operate as and for the purpose set forth.

78,249.—E. P. Williams, Yorkville, S. C., assignor to himself, W. L. Hopson, and A. R. Homesley.—*Ventilating Portable Churn.*—May 26, 1868.—Two of the blades upon the inclined dasher shaft act as beaters, while a third blade is so applied as to merely penetrate or cut through the cream.

Claim.—The beater arm B, blades C. C, and D, in combination with the driving wheel F, and dasher or pinion wheel E, when the whole is constructed and arranged so as to operate substantially as described, and for the purpose specified.

78,250.—Jerome B. Withey, Lexington, Mich.—*Penman's Arm Rest.*—May 26, 1868.—The device is made adjustable to suit the thickness of the book, or the height of the folio to be written upon, from the table upon which the book may be spread open.

Claim.—The planes A B, the adjustable supporting connections C C, the supporting brace D, the rack E, the check brace F, and the stop G, when arranged substantially as described and for the purposes set forth.

78,251.—Thomas K. Bacon, Norwich, Conn., assignor to himself, George A. Pratt, William T. Norton, and Hiram B. Crosby, same place.—*Drill Holder.*—May 26, 1868.—One end of the screw is adapted to a wrench or screw driver, and by turning the screw the jaws are moved together or apart, and thus made to firmly clamp or release the drill or drill holder.

Claim.—The combination of the jaws *d* with the washer *a*, the right and left thread screw *e*, and the bar *x'*, the same being constructed and operating conjointly with and in the socket *b*, in the manner and for the purpose herein set forth.

78,252.—F. B. Batchelder, Prairie du Chien, Wis.—*Broom Holder.*—May 26, 1868.—The device is secured to a wall or other fixture, and constitutes a place of deposit for brooms, &c., when not in use.

Claim.—The blocks A B, each formed with a semicircular recess in its inner face, and connected together by the spring D, all constructed and arranged to operate in the manner and for the purpose substantially as set forth.

78,253.—Henry Baughman, Columbus, Ohio.—*Bee-Hive.*—May 26, 1868.—The covered way by which the bees enter is surrounded on three sides by another covered way designed to entrap the miller. The small tubes supply the food to the feeding troughs, and the gauze covering protects the bees from being crowded into the troughs. Each outside frame has a face of wire gauze, which, when the comb frames are put together, forms inclosed chambers, the comb frames being entirely surrounded by an air space.

Claim.—1. The projecting entrance for the bees, surrounded by the false entrance to the air chamber, as arranged and described.

2. The feeding troughs, with their connecting tubes and wire gauze covering, as shown and described.

3. The combination of comb frames with the wire gauze covering, as arranged and shown.

78,254.—John W. Boughton, Appleton, Wis.—*Sign for Tobacconists.*—May 26, 1868.—An automaton smoker, appropriate as a sign for dealers in cigars, tobacco, &c.

Claim.—1. The combination, with an image figure, of the mechanism for automatic smoking, substantially as and for the purposes set forth.

2. The application of the air bellows A, provided with the tubes B C, and their valves, to an inanimate figure, for simulating the operation of smoking, substantially as shown and described.

3. In combination with the air bellows A, the reciprocating piston *k*, bar *h*, pitman *g*, and crank *f* of the clock movement D, arranged and operating in the manner and for the purpose described.

4. As an improved tobacconists' sign, the mechanical or automatic smoking image herein described.

78,255.—Alfred B. Buel and George W. Root, Pittsfield, Mass.—*Shears.*—May 26, 1868.—These shears are especially intended to cut around or sever transversely tin or sheet iron pipes, and they have four cutting corners or edges, whereby a narrow ribbon or strip of metal is removed, and an opening made for the progress of the shears.

Claim.—The shears, consisting of blade A, with its two cutting edges *o o'*, blade A', with its jaws *a a'*, slot *e*, and cutting edges *p p'*, constructed as described, as a new article of manufacture.

78,256.—F. J. Burcham, Racine Wis., assignor to himself and L. S. Blake, same place.—*Tanning Hides and Skins.*—May 26, 1868.—The hides are first soaked, then fleshed and beamed. A vat of water is supplied with salt and sulphuric acid, and the hides are introduced. The hides are handled and they remain up over night, an addition of sulphuric acid and salt being made at the end of two days. They are then hung up until they become "sammed," or half dry, after which they are subjected to repeated swabbings with an astringent solution, and then softened and dressed by machinery. They are further swabbed with strong tan liquor containing alum, also with kerosene oil. Finally they are stuffed, dried, softened, and dressed, and depilated by lime and potash dissolved in rain water.

Claim.—The herein-described process for tanning hides and skins, substantially as and for the purpose described.

78,257.—John W. Burnham and Wilson Conlon, Middletown Point, N. J.—*Potato Digger.*—May 26, 1868.—These devices are for raising the apron and scoop and the scoop alone. As the machine is drawn forward the scoop raises the potatoes and dirt, and conducts them to the apron, by which they are deposited upon the shaking frame, which separates the dirt from the potatoes.

Claim.—1. Connecting the oscillating frame D, which carries the lower apron roller F and the scoop H, by means of a rod and crank, with a lever, L, so that the position of the apron and scoop can be adjusted at once, as set forth.

2. The arrangement and combination with each other of the roller C, oscillating frame D, roller F, apron G, scoop H, rods *l m* and *r s*, and levers L and M, all made and operating substantially as herein shown and described.

3. Providing the lower part of the frame D, which carries the endless apron and the scoop, with curved projections *h h*, moving in curved guides E E, as set forth.

78,258.—A. G. Busby, Philadelphia, Pa.—*Copying Ink.*—May 26, 1868.—The ink thus made is intended to remain moist for such a length of time after being applied to the paper that a distinct copy may be obtained by the application of dry blotting paper in the usual manner.

Claim.—An ink composed of water, galls, sulphate of iron, indigo, sugar, gum arabic, or other well known ink-making ingredients, in combination with glycerine or gelatine, or both, and bichloride of mercury or its equivalent, the whole being combined in the proportions substantially as described for the purpose specified.

78,259.—W. E. Cameron, Green Island, N. Y. —*Folding Stool.*—May 26, 1868.—When the stool is folded up for storage or transportation the seat cloth is wrapped around it and secured by buttons.

Claim.—The plate A, constructed as described, and provided with the ears a^1 a^2, to receive the arms B D, whereby the arms B are adapted to be folded up beside the arms D, when the latter are folded, substantially as described for the purpose specified.

78,260.—Edwin M. Chaffee, Providence, R. I. —*Rubber and Gutta Percha Hose.*—May 26, 1868.— The hose thus flattened is less bulky upon the hose reel and elsewhere when not distended with water.

Claim.—The rubber or gutta percha hose, flattened between plane surfaces, under the heat of vulcanization, substantially as described for the purpose specified.

78,261.—James P. Chenoweth and Edwin P. Baugh, Philadelphia, Pa., assignors to Baugh & Sons, same place.—*Apparatus for Treating Offal.*— May 26, 1868.—The bones, offal, manure, or other material to be dried, being passed into the rotary cylinder, are caused to traverse the same throughout and discharged at the end adjacent the fan. The hot fan blast, together with the steam and offensive gases, may be allowed to pass off directly through the chimney, but by closing a damper they may be conducted to the fan and driven into the ash pit of the furnace.

Claim.—1. Treating offal by subjecting it, in a revolving cylinder, or its equivalent, to the combined action of heat applied to the outside of the cylinder, and to a blast of heated air or products of combustion introduced into the cylinder, all substantially as and for the purpose herein set forth.

2. The revolving cylinder D, constructed substantially as described, in combination with a fireplace, C, oven A, and pipes, passages, and fans, or equivalent devices, whereby the surface of the said cylinder is heated, and a hot blast forced through the interior of the same, in the manner and for the purpose herein set forth.

3. The spiral rib *i*, having a tendency to force the material through the cylinder in a direction opposite to the course of the hot blast, as described.

4. The pipes H and H′ and the fan F′, arranged, in respect to the furnace C and compartment *b* of the oven, substantially as herein described for the purpose specified.

78,262.—William R. Clark, Indianola, Ill.— *Corn Planter.*—May 26, 1868.—The forward seat is supported upon a spring extending upward from the rear frame of the machine, and is occupied by the person who drops the corn by vibrating a vertical lever, the rear seat being occupied by the driver.

Claim.—The hinged frame A and B, with the seats G and F upon one part, and the plows and hoppers upon the other, substantially as shown and described and for the purpose specified.

78,263.—Joseph Conner, Jr., Chicago, Ill.— *Stair Carpet Fastener and Protector.*—May 26, 1868. —This device is to protect the carpet from the feet without concealing any material portion of the carpet from the view.

Claim.—1. A device, B, having axial extensions *c c*, the same constituting a combined stair rod and protector, or stair-carpet fastener and protector, substantially as and for the purpose described.

2. The combined stair rod and protector B *c* in combination with the ears or holders *e e*, substantially as described.

3. The depressed lip *a*, on the front edge of the protecting cover B on the combined stair rod and protector, as described.

78,264.—Morton E. Converse, Rindge, N. H., and Abel T. Atherton, Lowell, Mass.—*Manufacture of Pyroligneous Acid.*—May 26, 1868; antedated May 13, 1868.—The object is to save and collect the products of the destructive distillation of wood in the kiln; that is to say, pyroligneous acid, pyroxylic spirit, wood tar, &c.

Claim.—The application and arrangement of the flue tubes *f f* and *g g*, in one or more rows, to a kiln, in such a manner that they will conduct, carry off, and save, the products of destructive distillation of wood, substantially as described and set forth.

78,265.—George N. Creamer, Trenton, N. J., assignor to himself and John B. Lalor, same place. —*Safety Hatch.*—May 26, 1868.—This hatch is self-closing, and to be opened by a person standing any number of stories above or below the floor to which the hatch is applied.

Claim.—1. The construction and arrangement of hatchways, when operated in the manner and for the purpose herein described.

2. The combination of the hatch carriages A A, levers J, weights C, cords I, and pulleys *k*, in the manner and for the purpose herein described.

3. The locking device or levers J, in combination with the truck or carriage A A, in the manner and for the purpose herein described.

78,266.—William H. Defrees, Andover, Mass. —*Forging Machine.*—May 26, 1868.—The object is to cause the hammers, when moving to give the blow, to traverse in a direction from the body of the rod or blank to be forged toward the end or point thereof, thus giving what smiths term a drawing blow. The rod or blank is cut by shears remote from the hammers, which in consequence are permitted to work uninterruptedly.

Claim.—1. The combination, for the purpose specified, of two or more pairs of sliding hammers, *d*, an independent spring *j*, to work each hammer, inclined ways for each slide or hammer, and an inclined rotative cam, operative on all of the slides or hammers, all arranged and operating substantially as set forth.

2. For moving the blank bed from the hammers to the cutters, the combination of the cam *h*, the hand-worked slide *d′*, and the several levers and connections between said slide and the blank bed, which cause the bed to be moved by the cam *h*, substantially as described.

3. For causing the cutters to operate upon the forged nail, to sever it from the nail rod when in position over the fixed cutter, the combination of the hand lever which moves slide *d′* with the hooked rod *o*, pendent from the cutter arm *v*, to throw the hook of said rod into gear with the vibrating pin *u*, worked from a motor, *f*, on the main shaft, substantially as described.

78,267.—R. C. Denham, Richmond, Me.—*Reefing Fore-and-aft Sails.*—May 26, 1868.—This has reference to the reefing of such fore-and-aft sails as have a hoisting-gaff which slides upon the mast and are furled on the boom. The sail is reefed by dropping the peak of the gaff to a diagonal line drawn from the throat of the sail to its clew, and securing the gaff in that position to a re-enforcing band or rope, which is secured to the sail on said line, and which, as it were, separates the sail into two triangular parts.

Claim.— Combining with the diagonal re-enforced line of a fore-and-aft sail, and with the gaff of such a sail, gaff down-hauls, and eyes or leaders, in the manner substantially as described, so as to secure the gaff to the aforesaid line in the act of reefing.

78,268.—François Durand, Paris, France.— *Brick Machine.*—May 26, 1868.—The piston connected to the crank shaft communicates motion to the rear piston during the latter part of the motion of the former, through the medium of the transverse pin and the grooved side-bars, so that after the brick has been pressed by the movement of one piston the two move together and discharge it upon an off-bearing belt or band operated by the devices cited in the second clause of claim, the oscillating disk being raised to receive the molded brick.

Claim.—1. The combination of the pin *b*, pitman B', pistons P P', grooved bars G, cams *e*, yokes C', and crank shaft A, all arranged and operating as herein described for the purpose specified.

2. The combination of the eccentric disk D, connecting rod J', gear wheels F F', ratchet *j'*, upon shaft E, the catch *j*, and the oscillating arm or disk, as herein described for the purpose specified.

78,269.—Drake W. Denton, Ithaca, N. Y.—*Roofing Compound.*—May 26, 1868.—Bituminous coal is converted into coke by heat, and the coke is pulverized and mixed with coal tar. Coal ashes may be applied to the surface. Pulverized commercial coke may be employed.

Claim.—1. Preparing my roofing material of the substances and substantially in the manner set forth.

2. Its use with coal tar as described.

3. The use of coal ashes, in combination with the described material, and in the manner set forth.

78,270.—G. W. Farley, Manchester, N. H., assignor to himself and W. H. Humphrey, same place.—*Ice Calk.*—May 26, 1868.—The calk plate is hinged or pivoted to a fastening plate which is screwed to the front side of the heel, so that the calk plate may be turned up to lie upon the face of the heel with the spurs projecting outward, or turned down to lie upon the shank of the shoe with the spurs fitting closely at the sides thereof. The button retains the calk plate upon the heel or shank as the case may be.

Claim.—The button C, with notches *i i*, and provided with the spring *s*, or its equivalent, in combination with the pins *c c*, the tongue *d*, and the plates A B, all constructed, arranged, and operating as and for the purpose herein described.

78,271.—A. H. Fatzinger, Washington, N. J.—*Paper Clip.*—May 26, 1868.—A series of clips are attached to a cleat, which is nailed or screwed to the wall, the clip serving to hold the bill by its upper end.

Claim.—The curved elastic clips B, perforated, and attached to the strip or cleat A, in combination with the spurs *a* in the latter, substantially in the manner as and for the purpose set forth.

78,272.—A. J. Fellows, Meriden, Conn.—*Tape Box.*—May 26, 1868.—The lever is pressed forward when it is desired to release the spring catch from the teeth on the tape drum, the latter being provided with the coiled spring of ordinary tape boxes.

Claim.—The catch G, in combination with the toothed drum B, spindle H, lever I, coiled spring, case A, and tape C, substantially as described for the purpose set forth.

78,273.—John Foster, Pawtucket, R. I.—*Machinery for Printing Yarn.*—May 26, 1868.—This consists in combining with a pair of fluted printing rollers an elastic or yielding cushion, which modifies the action of such rollers, and upon which, instead of upon the yarn to be printed, the grinding or cutting effect of the rollers is expended.

Claim.—The combination, with a pair of fluted or grooved rollers A A', in a machine for printing yarn or other material upon both sides, of an elastic apron, G, or its equivalent, substantially as described, for the purposes specified.

78,274.—O. S. Garretson, Buffalo, N. Y.—*Window-Sash Fastening.*—May 26, 1868.—When the rails meet, the wedging sides of the head strike over the inclines of the catch, and the yielding of the spring allows the head to engage with the teeth, locking the parts securely together so that they cannot be separated without pressing inward upon the bolt.

Claim.—1. The combination of the bolt E, provided with the wedge head *h*, and the catch C, provided with teeth, or a series of teeth, *b*, operating in the manner and for the purpose substantially as herein set forth.

2. Securing the plate G to the case D, by eyelets or hollow rivets *k*, attaching in the ordinary screw-holes *l*, as herein set forth.

78,275.—Alexander Goodhart, Newville, Pa.—*Link.*—May 26, 1868.—This is designed as a substantial ring or link, to be used in place of a hook for connecting two chains, and which may be so made as to present the appearance of a common link when in place.

Claim.—A link formed of the parts A and B, the latter being provided with a curved shank, b^1, and a tenon, b^2, and operating in connection with the part A, substantially in the manner and for the purpose specified.

78,276.—George M. Guild, Boston, Mass.—*Sounding Board for Pianos.*—May 26, 1868.—The sounding board is strengthened by two series of ribs, the ribs of the main series running diagonally across the surface of the board, and the ribs of the auxiliary series running across the main ribs, thus rigidifying and strengthening the board in each direction and admitting of the use of a very thin board, having freedom of vibration.

Claim.—In combination with a sounding board, and the main supporting ribs *c* thereof, the auxilliary ribs *e*, crossing and secured to the ribs *c*, substantially as shown and described.

78,277.—Michael Gumfory, West Middlesex, Pa.—*Trace Tug Loop.*—May 26, 1868.—The loop is secured to the trace by rivets passing through the bars or shanks which project from the loop. The lateral bars of the frame or loop afford attachment for the back and belly bands, and the bow for the side strap.

Claim.—The tug loop A, when arranged with shanks B B, and attached to the trace by rivets *a a*, substantially in the manner and for the purpose as herein shown and described.

78,278.—Amos Hadley, Washington, D. C., assignor to himself and Robert Clenighen, New York, N. Y.—*Door Indicator.*—May 26, 1868.—The indications on the rotary disk, as to whereabouts and time of return, are seen through a mica-guarded opening in the front plate of the indicator.

Claim.—The rotating disk between the two stationary plates, all as shown and described, and for the purposes specified.

78,279.—Isaac Hall, New York, N. Y.—*Wood Carving Machine.*—May 26, 1868.—The pivoted bars are so connected that the parallelism of the work and pattern, whose holding frames are pivoted to the respective centers, is always maintained.

Claim.—The combination of the parallel pivoted bars D, pivoted connecting bars F, double arms G, adjustable arms I, and centers H and J, with each other, and with the frame C, substantially as herein shown and described, and for the purpose set forth.

78,280.—Frederick Harden, Conshohocken, Pa.—*Safety Valve.*—May 26, 1868.—The weight of all the movable parts of this safety device, together with the pressure of steam upon the lower valve, counteracts the steam pressure upon the larger valve so long only as the steam pressure remains within safe limits.

Claim.—The arrangement of the cap F and weighted ring G, with relation to the stem E and the valves C D, of different diameters, as herein described, for the purpose specified.

78,281.—E. P. Harris, Conneautville, Pa.—*Seed Planter.*—May 26, 1868.—The spring holds down the cut-off which takes the superfluous seed away from the aperture in the seed slide. The slide attached to the seed slide is employed to regulate the capacity of the seed aperture.

Claim.—1. The cut-off F, with the spring G, in connection with the aperture *a* in the slide-bar H, provided with the inclined rear end *b*, all arranged substantially as and for the purpose specified.

2. The slide L, applied to the slide-bar H in relation with the aperture *a*, substantially as and for the purpose set forth.

78,282.—John K. Harris, Springfield, Ohio.—*Harness.*—May 26, 1868.—The object is to obtain a limited elastic draft from the breast collar or hame-tug without destroying the flexibility of any of the parts. The coiled springs encircle thongs of raw hide or other strong, flexible material. The stops limit the elastic movement, and prevent breakage by over-strain.

Claim.—1. The provision in a breast collar or hames strap, of the flexible, extensible, and elastic device X *x* M, the same being provided with check pieces *b b′*, C D, substantially as and for the purposes herein explained.

2. The arrangement of draft strap B, open leather frame or breast-strap A, thongs X, spiral springs M, and check pieces *b b′*, C D, as and for the purpose specified.

78,283.—E. K. HARVEY, Quincy, Ohio.—*Revolving Harrow and Roller.*—May 26, 1868.—The journals of the harrow extend through cam slots in the housings, and have their bearings in the ends of the spanner on the out side of the frame, so that when the harrow is raised by the depression of the lever, its driving wheels are unshipped.

Claim.—1. The lever *h*, arm *n*, and spanner *e*, in combination with the harrow H, substantially as described.

2. The harrow H, housings *d*, and spanner *e*, combined and operating substantially as described.

78,284.—FREDERICK HAWKINS, Chicago, Ill.—*Concrete Brick Machine.*—May 26, 1868.—The lid is guided and prevented from binding in the grooves by a rack, which is rigidly attached to the under side of said lid, and moves in a slot in one of the flanges projecting from the vertical sides of the press-box. The brick is pressed by the wheel, chain and toggle arrangement, and is discharged by the action of a pinion upon a rack fixed to the stem of the follower.

Claim.—The mold L L′, provided with slotted flange S and lid M, with its rack T and pinion W, the follower N, with its rack Q′ and pinion P, levers Q, R, I, and H, chain F, drum E, and wheel Z, all arranged and operated substantially as and for the purposes herein set forth.

78,285.—HENRY HENLEY, Halbert's Bluff, Ind. —*Drier.*—May 26, 1868.—The fruit, or other substance to be dried, is laid upon the top of the boiler and in the spaces between the pans, and steam from the boiler, passing through supply pipes, fills the pans, but, having egress through other pipes, does not rise above the atmospheric pressure, and maintains a certain temperature.

Claim.—1. The construction and arrangement of the movable steam-heated pans C, so as to apply a regular heat above and below the chambers E.

2. The combination of the boiler B, removable pans C, and flexible pipes C′, when arranged and operating as and for the purpose set forth.

78,286.—CHARLES HESS, Lyons City. Iowa, assignor to ROBERT T. T. SPENCE, same place.—*Churn.* —May 26, 1868; antedated May 14, 1868.—The friction wheels obviate noise, and the form of the paddles renders them capable of gathering and packing the butter into one corner of the churn, which is effected by giving them an oscillating motion after the churning is completed.

Claim.—The combination and arrangement of the friction pulleys A, D, C, C, with the peculiar ogee, curved-shaped arms or paddles F F F F, when constructed and arranged for the purposes above set forth.

78,287.—MARIE L. HILL, New York, N. Y.—*Shoe.*—May 26, 1868.—The object is to produce a shoe which, after the outer covering is worn at some places, will still appear whole, and not be rendered useless by the exposure of the filling, which is commonly white in other shoes.

Claim.—As a new article of manufacture, a quilted cloth slipper or shoe, formed by interposing between the soft filling and the outer covering a textile lining of the same color as the outer covering, whereby, as the latter becomes worn through or torn, the slipper or shoe will not be destroyed, but present the same uniform color exteriorly, as herein shown and described.

78,288.—CHARLES HOLLIDAY, Huddlesfield, England.—*Machinery for Printing on Fabrics.*—May 26, 1868.—The printing material passes down the tubes and fills the countersinks, and on turning the roller in contact with the surface to be printed upon, the printing material is left thereon in a quantity and figure depending on the quantity and depth of the countersunk cavities. The countersinks fill again by the gradual flow of the semi-fluid matter, and the process is repeated. The fluidity of the material is increased by heat, applied through the medium of steam, hot water, or otherwise.

Claim.—The within-described process of ornamenting goods by applying coloring or ornamenting material through tubes impressed against the material, with or without the aid of needles or leading wires, substantially as herein specified.

2. The application of heat, in connection with the tubes in the above process, substantially as and for the purpose specified.

3. In connection with printing through tubes, the enlargement of the tubes at and near the printing surfaces, so as to form cups, which tend to determine the depth in the tube from which coloring or other viscid matter is drawn at each impression, substantially as and for the purpose herein specified.

78,289.—STEPHEN HYDE, New York, N. Y.—*Surcingle.*—May 26, 1868.—Two rubber straps are sewed to the ends of the girth and to the buckle strap, in order to render the girth capable of yielding when the animal breathes, or lays down, or exerts himself in any unusual manner.

Claim.—As a new article of manufacture, a surcingle, provided with two elastic joints, *a a*, when inclosed in leather cases D, and secured to the buckle and tongue straps *b d*, as herein shown and described, for the purpose specified.

78,290.—GEORGE W. JACOBS, Quincy, Ohio.—*Vegetable Slicer.*—May 26, 1868.—The cabbage, or other vegetable to be cut, is placed in the upper box, which is reciprocated over the knives by turning the crank, the follower constantly pressing the vegetables down upon the knives until the box is empty, and the cut material being delivered into the lower box through the slots in the table.

Claim.—The combination of the plates D D, the knives *d d*, slots *b b*, and slots *c c*, in the table A, and movable box E, as and for the purpose specified.

78,291.—TRUMAN P. KEELER, Worcester, Mass. —*Adjustable Hammer and Drop.*—May 26, 1868.—The cam-bearing shaft is movable longitudinally, so as to bring a larger or smaller cam to operate upon the toe projecting from the hammer stem, and the stop block is connected therewith and adjusted simultaneously by the same lever. So long as the treadle is depressed, the device is a regularly working hammer, but when the foot is removed from the treadle it rises, and stops consequently engage with the cams and hammer, retaining the latter in an elevated position, to be dropped at the will of the operator.

Claim.—1. The combination, with the hammer, of an adjustable stop block F, and mechanism for operating the same, substantially as and for the purposes set forth.

2. The combination, with the hammer, of the stop block, for checking its upward movement, the cams and cam-shaft for operating the hammer, and the lever *e*, connected with and arranged to adjust both the cams and the stop block, substantially in the manner and for the purposes shown and set forth.

3. The combination, with the adjusting lever, connected with the cam shaft and stop block, as specified of the stop piece G, or its equivalent, substantially as and for the purposes set forth.

4. The stop bar J, and treadle, or equivalent means for operating the same, in combination with the hammer-actuating cams, under the arrangement and for operation as shown and set forth.

5. The combination, with the hammer, and cams for operating the same, of the stops *p* and J, connected with and actuated by the treadle H, in the manner and for the purposes herein shown and specified.

6. The combination and arrangement, with the

hammer, its actuating cams, and the stop block for checking its upward movement, of the mechanisms herein described for adjusting said cams and stop block, and for arresting and holding the said cams and hammer, whereby the machine may be used either as a hammer or as a drop, and the stroke of the hammer, in either case, may be varied, substantially as shown and set forth.

78,292.—Henry King, Waterbury, Conn., assignor to himself and Francis Stappers, New York. N. Y.—*Grate Bar.*—May 26, 1868.—The construction of this grate bar is designed to more freely admit air to the burning fuel, and also to prevent the bar from being injured by fire by bringing the air into contact therewith at many points.

Claim.—A grate bar, formed in two longitudinal sections, or in one piece, having spaces *a* through the same, wider at the bottom, with apertures *a'* opening into said spaces *a*, substantially as shown and described, and for the purposes set forth.

78,293.—John Koffend, Appleton, Wis.—*Plow.*—May 26, 1868.—By raising or lowering the heel of the adjustable landside the direction of the point is slightly changed, thereby causing the plow to work at a greater or less depth.

Claim.—The combination of a pivoted, adjustable, auxiliary landside, with the ordinary landside of a plow, whether said auxiliary landside be placed upon the outer or inner side of said ordinary landside, substantially as herein shown and described, and for the purpose set forth.

78,294.—Hugh Laird, Mechanicsburg, Pa.—*Horse Hay Fork.*—May 26, 1868.—The bow approaches the tines as they are thrust outward from the stock after the latter has been inserted in the hay. The hay is thus caught and held between the bow and the tines, and the bow recedes from the tines as they are drawn into the stack to discharge the load.

Claim.—The combination of the compressing and retaining bar or bow D, with the elevating tines or prongs C C, operating substantially as and for the purpose described.

78,295.—William Lehman, Newville, Pa.—*Composition to be Applied to Leather.*—May 26, 1868.—A composition consisting of whale oil, beef tallow, hog's lard, lampblack, beeswax, and indigo.

Claim.—The application of the composition herein described to boots, shoes, harness, straps, bellows, and leather manufactured articles generally, by which the same will become water-proof, and wear one hundred per cent. longer.

78,296.—Edwin Leigh, St. Louis, Mo.—*System of Pronouncing Orthography.*—May 26, 1868; antedated May 19, 1868.—This system consists in giving to common letters of the alphabet peculiar sounds, by peculiarities in the form or construction of said letters, without departing from the established orthography; in giving to combinations of letters a pronunciation dependent upon the peculiar forms and style or character of the common alphabetic letters of which the word is composed; in employing light-faced letters, (skeleton, hair-line, outline, dotted or broken-lined, phantom or other light-faced letters,) of otherwise the same general form, size, upright position, and same general character as the rest of the letters; in employing the same, or a like phonic sign in different alphabetic letters to denote the same sound; and in inserting or inclosing, when desirable, a phonic sign in the skeleton or outline of an alphabetic letter.

Claim.—1. The use of a skeleton outline, or light form of an alphabetic letter, with a phonic sign included within it, or constituting a part of it, to indicate a particular sound of that letter.

2. The use, in cases where several alphabetic letters must be employed for the same sound, of phonic signs closely resembling each other, so as to be substantially the same phonic sign, though used as the whole or parts of different letters.

3. The employment of light-faced letters, (as skeleton, hair-line, outline, or in any way made of lighter color,) of otherwise the same general form, size, upright position, and character as the rest of the font, for silent letters, in combination with phonic letters, in order to indicate the pronunciation of words without changing the common orthography and familiar outline of the word or word picture.

4. The employment of phonic vowel and consonant letters, (or peculiarly constructed forms of the alphabetic letters,) in combination with any peculiar class of letters for the silent letters, in order to indicate the pronunciation of words without changing the common or established orthography, substantially as described.

78,297.—Alexander Lisk, Philadelphia, Pa., and Adam Woolever, Allentown, Pa.—*Converting Cast Iron into Wrought Iron and Steel.*—May 26, 1868.—The iron is melted in a puddling furnace, and the following substances are then intimately mixed and stirred into the iron, namely: marble-dust, nitrate of soda, borax, litharge, yellow prussiate of potash, common salt, saltpetre, and black oxide of manganese.

Claim.—The process of manufacture, substantially as and for the purpose set forth.

78,298.—James R. Logan, Rolla, Mo.—*Sawing Machine.*—May 26, 1868; antedated May 18, 1868.—The carrying wheels are so applied that they may be turned from their normal position at right angles to the axle, and held or fixed in a position parallel with the axle, so that the machine may be moved laterally in order to transfer the saw from the point at which the log has been sawed to the next point at which it is to be sawed. The socket and spring catch sustain the saw in an elevated state when not in use.

Claim.—1. Moving a sawing machine in the manner described, by means of the wheels C C attached to the axle F, substantially as and for the purpose specified.

2. The socket *f* attached to the cross-bar J on the front part of the frame A, and provided with the catch K, substantially as and for the purpose specified.

78,299.—Nardo F. Loi, New York, N. Y.—*Pipe Wrench.*—May 26, 1868.—Various devices can be applied to the ends of the levers for the purpose of adapting the instrument to grasp or clamp different objects.

Claim.—1. The fixed handle A, when its head *a* is perforated at right angles to the handle to receive the screw shank of the adjustable jaw *c*, which is placed above and parallel with the jaw *b* of the handle C, as herein described. for the purpose specified.

2. The construction, arrangement, and operation of the handle C, having the perforated jaw *b*, the pivoted nut B, screw-threaded handle A, head *a*, and adjustable jaw *c*, as herein described, for the purpose specified.

3. The jaws *d*, *e*, *f*, when adjusted in the arm *b* of the lever C, by means of the notches and transverse pin *g*, as herein described for the purpose specified.

78,300.—Nelson Long, Watertown, N. Y.—*Apparatus for Rolling Dough.*—May 26, 1868.—Two methods of graduating the distance between the dough roller and dough board are shown, the object being to roll the dough into sheets of any desired thickness. In one instance the adjustment is effected by providing the auxiliary roller with elongated bearings and set-screws, and in the other instance by raising or lowering the side bars which form the bearings of the sliding frame.

Claim.—1. The combination, with the board or receptacle for holding the dough or other material, of the dough roller, and the sliding or transverse frame for supporting the same, hinged or pivoted in the manner described, so as to be adjustable to different heights above the said board or receptacle, substantially in the manner and for the purposes shown and specified.

2. In an apparatus, such as described, the combination, with the auxiliary roll and the elongated bearings formed for its reception in the sliding frame, of adjusting or set screws or equivalent means for regulating the position of the journals of the roll

in their bearings, substantially in the manner and for the purposes shown and set forth.

3. The combination with the side boards, which form the bearings for the sliding frame, of the top plates provided with inclined projections c, as described, and the correspondingly notched sliding bars, and its adjusting screws for raising and lowering said top plates, under the arrangement and for operation as herein shown and set forth.

78,301.—WILLIAM R. MANLEY, New York, N. Y.—*Paddle Wheel.*—May 26, 1868.—The crank connection between the controlling frame and guard beam permits the bearing of the controlling frame to change its position in relation to the guard beam whenever the guard beam changes its position in relation to the main wheel. In consequence of the diagonal arrangement of said connection the controlling frame is moved to the least extent by movements of the paddle guard in vertical and horizontal directions. The arrangement of the paddle cranks is intended to equally divide the weight of the controlling frame between the paddle wheel and the paddle-wheel guard. The link connection relieves the shafts, on which the paddles turn, of the weight of the controlling frame.

Claim.—1. The combination of the controlling frame E of the paddles with the guard beam F and crank arm G, substantially as hereinbefore set forth.

2. The arrangement of the crank arm G diagonally to vertical and horizontal directions in which the guard beam may be moved by strains upon the vessel, substantially as hereinbefore set forth.

3. The arrangement of the paddle-crank arms D and the crank arm G at equal angles to a vertical line, substantially as hereinbefore set forth.

4. The combination of the controlling frame E, guard beam F, crank arm G, link N, and main shaft B, substantially as hereinbefore set forth.

78,302.—T. F. MANTEY, New Orleans, La.—*Extension Ladder.*—May 26, 1868.—The chair is elevated by an extensible ladder or lazy-tongs, and the parts recited in the claim are for anchoring the apparatus and turning and steadying the ladder when elevated.

Claim.—1. The winches v, in combination with the extension lattice A and chains b, for the purpose of adjusting the lattice, when elevated by the screw G, at any desired angle, as herein shown and described.

2. The crank screw J and bar K, in combination with the frame T and extension lattice A, all substantially as and for the purpose shown and described.

3. The combination of the pintle base R, extension lattice A, adjustable plate Q, having the projection q, bearing the pin r and tongue M, all arranged and operating as described for the purpose specified.

78,303.—FRANKLIN W. MARRIOTT, Richwood, Ohio.—*Corn and Seed Planter.*—May 26, 1868.—This implement is guided by hand, and the seed is dropped at intervals by the action of a toothed wheel on the axle upon a slide beneath the hopper, said slide being returned after each impulse by a spring.

Claim.—A seed planter, constructed and operated in the manner substantially as shown and described.

78,304.—MARK M. MARTIN, Cochran, Ind.—*Railway Car Seat.*—May 26, 1868.—The object of these improvements is to make the car seat susceptible of a greater number of changes than the ordinary sleeping chairs, so as to render it comfortable to all classes of the traveling community.

Claim.—1. In combination with the seat body A, hinged at a to the frame B, the knuckle joint E E′, arranged and adapted to operate in the manner stated.

2. The combination of the car seat A B, leg-supporting flap J, and elastic thong K, for the object explained.

3. The combination of the foot rest, consisting of the wings L L′, inclined board N, and hinged leaf O, with the neck bar R and stud S, for the purpose explained.

4. The combination of the rail D, hooks d d', and flap J, adapted to receive and enable the ready removal of the mattress F, in the manner herein described and set forth.

78,305.—S. F. MATHEWS, Mechanicsburg, Pa.—*Gas Regulator.*—May 26, 1868.—The position of the adjustable thimble is regulated by the pressure of the gas, and determines the quantity which is allowed to flow through to the burners.

Claim.—1. The nipple-tube B and the thimble E, constructed, arranged, and operating substantially as and for the purposes described, in combination with a gas pipe.

2. The body of the governor A, the case C, tube B, thimble E, and spring h, in combination, forming a gas regulator, substantially as shown and described.

78,306.—JOHN C. MCCLAMROCH, Edina, Mo.—*Animal Trap.*—May 26, 1868.—The moving of the bait-hook lever by the animal withdraws the spring catch from the free end of the weighted trap door, which then falls and deposits the animal in the main box of the trap. The hinged gate prevents the return of the rat from the detachable cage.

Claim.—1. The described arrangement of the bait hook H, U-shaped lever I, connecting rod J, bell crank levers K N, and adjustable spring catch M, with relation to the pivoted trap door C, all constructed and combined to operate in the manner and for the purpose substantially as set forth.

2. The detachable receptacle S, provided with partitions s^1 and slides s^2 s^3, and having a grated top, when said receptacle is adapted to be connected with the box A by means of the adjustable passage Q, in which the gate R is hinged, all constructed and arranged as and for the purpose set forth.

78,307.—JAMES MCCLEISH, New York, N. Y., assignor to himself and E. V. HAUGHWOUT & CO.—*Gas Apparatus.*—May 26, 1868.—A gas apparatus for lighting steamboats, railway cars and other conveyances and movable structures. The devices shown are chiefly designed to maintain an equable pressure upon the gas in the holder.

Claim.—1. The constructing of the gas holder B with rigid or inflexible top and bottom plates a b, and flexible gas-tight sides, the latter being folded or crimped, substantially in the manner as herein shown and described.

2. The pressure arms C D, arranged and applied substantially as set forth, and used in connection with springs or equivalent weights for the purpose of exerting a uniform pressure on the gas holder, substantially as set forth.

3. The windlass drum m, provided or arranged with a coil or barrel spring, and used in connection with suitable cords, for the purpose of raising or assisting in raising the gas holder during the process of the filling of the same, substantially as set forth.

4. The elevating of the arms C D through the medium of the windlass G and cords k k l, arranged and applied substantially as set forth.

5. The drum s, provided with an internal coil spring t and a fusee, w, on its exterior, in combination with the cords a' a'', c', d', arranged as shown, or in an equivalent way, for compressing the gas holder and exerting an equal or uniform pressure on the same.

6. The cords f, k k, and l, in combination with the windlass H, all arranged to operate substantially as and for the purpose specified.

7. The receiver K, with the pipes J, L, and M communicating therewith, and provided with stop cocks, and all arranged substantially as shown and described.

8. The rollers h', on the top plate a of the gas holder, in combination with the vertical guide rods i', arranged substantially as shown and described, for the purpose of retaining the holder in proper position.

9. Bracing or staying the holder B by means of the straps ax, extending around the interior of the holder and transversely across it, as shown and described.

78,308.—MARTIN MEYERS, Jr., Philadelphia, Pa.—*Refrigerator.*—May 26, 1868.—The hinged doors are attached to the front of the sliding drawers which contain the shelves whereon the articles are supported within the refrigerator. The hinged doors afford access to the interior of the refrigerator and constitute in themselves, shelves whereon the articles may be placed when withdrawn from the refrigerator.

Claim.—In refrigerators, the construction of the sliding drawer shelves E, with swinging doors C, and with a space, D, between their backs and the inner wall of the case, and the tubes *g*, communicating with the atmosphere, substantially as and for the purpose described.

78,309.—Charles G. Miller, Brattleboro, Vt., assignor to S. M. Spencer & Co., same place.—*Bench Drill.*—May 26, 1868.—The drill is rotated by the depression of the right angular lever and collar, which causes the pin projecting from said lever through the slotted tube to engage with the screw shaft, below which the pin is carried in its downward motion. When the pin is raised preparatory to another downward or effective motion, it is disengaged from the screw shaft, but the motion of the drill is continued in the meantime, by the balance wheel.

Claim.—1. The sleeve M, fixed slotted tube I, screw shaft J, pin *i*, and right angular lever N *g*, or its equivalent, when said parts are applied to and used in connection with a drill, substantially as shown and described.

2. The movable bed H, arranged and operated substantially as shown, the slotted tube I, screw shaft J, balance wheel K, and the adjustable pin *i*, operated as shown, or in an equivalent way, all combined and arranged for operating the drill L, substantially as described.

78,310.—D. K. Miller, Reading, Pa.—*Permutation Lock.*—May 26, 1868.—After the peripheral spaces of the rings or disks have been brought into line by the turning of the handle, the handle is pushed inward and then turned until the projection and shoulder on the inner disk are brought directly beneath the tumbler, when the latter will fall into the spaces of the loose disks and the projection on the inner disk will enter the recess of the tumbler and the projection of the tumbler pass to one side of the inner disk. The obstructing tumbler being thus removed, the bolt may be retracted. The split rings embrace the grooved peripheries of the loose disks, and the spaces into which the tumbler falls occur between the ends of said rings, which ends are serrated to adapt them to gripe as well as turn upon the disks.

Claim.—1. The disk E with its projection *p* and shoulder *c*, and secured to a shaft, D, in combination with disks F, or their equivalents, and with a tumbler. G, having a recess and a projection adapted to the projection and recess of the disk E, the whole being constructed and arranged within a casing, A, and operating substantially as and for the purpose described.

2. The serrations or teeth upon the ends of the split ring *t*, for the purpose described.

78,311.—John P. Miller, Somerset, Pa.—*Curtain Fixture.*—May 26, 1868.—The curtain is held at the point to which it is raised by the spring tongue, which binds the cord against a loop or buckle frame attached to the stirrup.

Claim.—The stirrup C and its cramp F G, the cord D, and the pulley E, combined, arranged, and operating substantially as and for the purpose set forth.

78,312.—George Moebs, Detroit, Mich.—*Cigar Header.*—May 26, 1868.—The cigar is headed by a dexterous turn in the cup, and is then left standing in the cup, in order that the gum employed in pasting the leaf may be dried by means of the hot water in the vessel in which the cup is set.

Claim.—The metal cup A, for heading cigars, constructed and operating substantially as described.

78,313.—Edward L. Molineux, New York, N. Y.—*Bluing.*—May 26, 1868.—The preforated box is intended to afford a means of transporting, retaining, and using soluble laundry bluing. In use it is immersed in water or other liquid, and being then raised the water filters through the holes and colors the water.

Claim.—Packing laundry bluing, when in lump or pressed, for transportation and use, in perforated boxes, substantially as described.

78,314.—Mary E. Mott, Rouse's Point, N. Y.—*Corpse Preserver.*—May 26, 1868.—The sack is filled with ice and laid upon the abdomen of the corpse, and the tube conducts the water from the sack to a suitable receptacle.

Claim.—The flat rubber sack *a*, having a slit and lacing, as shown, and the discharge tube *b*, all substantially as shown and described, and for the purpose set forth.

78,315.—B. Newbury, Coxsackie, N. Y.—*Cooking Stove.*—May 26, 1868.—The function of the arm and set screw is to adjust the attaching plate to a horizontal position, and that of the pivoted brace arm is to support the shelf and permit it to be turned down at the rear side of the stove when not required for use.

Claim.—1. The combination of a hinged shelf, E, with the rear part of the stove, whether said shelf is hinged directly to the stove or to a removable plate attached to said stove, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the removable plate A and removable yoke B with the hinged shelf E, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the arm C and set screw D with the plate A, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the pivoted brace arm F with the hinged shelf E, substantially as herein shown and described, and for the purpose set forth.

78,316.—Moses Higby Nichols, Hancock, N. Y.—*Shipping Case.*—May 26, 1868.—The cushions form an elastic support for the jar containing the butter or honey. The jar is surrounded with a close chamber containing air which is designed to insulate the contents of the jar and preserve them from the effects of the atmosphere.

Claim.—The combination of the slides B, octagonal cover F, and elastic cushions C, with each other, and with the case A and jar D, substantially as herein shown and described, and for the purpose set forth.

78,317.—Alfred Nobel, Hamburg, Germany, assignor to Julius Bandmann, San Francisco, Cal.—*Explosive Compound.*—May 26, 1868.—The explosive substance nitro-glycerine, and an inexplosive, porous substance (such as silicious earth) are brought together to form a composition which, without losing the great explosive power of nitro-glycerine, is very different as to its explosive and other properties, and more safe and convenient for transportation, storage, and use.

Claim.—The composition of matter, made substantially of the ingredients and in the manner and for the purposes set forth.

78,318.—B. S. Norris, Ripley, Ohio.—*Press.*—May 26, 1868.—When the presser is to be raised both pawls are held away from the presser stem by hooking the links on the proper pins on the post, and when the presser is to be operated both pawls are allowed to be faced against the rack on the stem, the lower pawl giving the presser its effective movement and the upper pawl preventing the retrogression of the presser.

Claim.—The combination, with the frame A, of the presser B, hand lever C, spring pawls *a* and *c*, and the weight D, substantially as and for the purpose described.

78,319.—John B. Osier, Ogdensburg, N. Y.—*Device for Cutting Sheet Iron.*—May 26, 1868.—The angular knife is depressed by the treadle, and in passing the lower straight knife commences to cut at each outside edge of the sheet iron or tin and finishes at the middle.

Claim.—The construction and arrangement of the frames A A with the perpendicular guides C C, angular knife, and cross-bars D and E, with the spring H, and sliding guide F, and treadle I, all arranged and connected for the purpose set forth.

78,320.—John A. Owens, Little Falls, N. Y.—*Starch Tray.*—May 26, 1868.—The metallic bottom is designed as a substitute for the common wooden bottom, which being constantly wet is roughened by the shovel used to take up the starch, thereby inducing eddies and deposits of the refuse with the starch. Likewise the curves at the connected ends of each pair of trays are employed in lieu of the common square end divisions which induce the refuse to settle in the corners. The partitions are situated near the point where the stock enters, and collect and retain the sand and dirt, and prevent the same from settling with the starch.

Claim.—1. Forming the bottoms of the trays of galvanized iron.

2. Forming the connected ends of each pair of trays with a curve, substantially as described, and for the uses and purposes mentioned.

3. The partitions E and F, one or both, for the uses and purposes mentioned.

78,321.—Thomas Percival, Augusta, Me.—*Corn Husker.*—May 26, 1868.—The bottom of the hopper permits but one ear of corn to descend through it at a time, and each ear thus delivered from the hopper takes position in a groove and in front of the plunger, by which it is advanced to the stripping device.

Claim.—1. The use of the expanding stripper I, composed of the several stripping tools, as described, so arranged that the pressure of the ear will cause them to open to receive it, whether the closing of the same be effected by means of a single elastic rubber spring, or by other means, and whether their cutting edges be straight or toothed, the whole operating in the manner and for the purpose substantially as described.

2. The butting knife H, formed of a plate of steel, having through it a round or oval hole or holes, with beveled cutting edges, operating in the manner and for the purpose substantially as described.

3. The hollow ended plunger C, constructed and operating in the manner and for the purpose substantially as described.

4. The combination and arrangement of parts of a machine for husking corn, when constructed and operating in the manner substantially as described.

78,322.—Eugène Pertuiset, Auguste Mundel, and Jean Etiénne Armide de Fléron, Paris, France.—*Igniting Explosive Projectiles.*—May 26, 1868.—The object is to produce a projectile which, without the usual percussion or friction priming or fuse, will explode when it reaches the terminus of its flight; and the specified mixture or fulminating compound consists of chlorate of potash, sulphur, hunting powder, and animal black. The bullet or ball may be exploded without the use of a fuse.

Claim.—1. An explosive projectile, composed of a tube or equivalent hollow metallic body, filled with a detonating or fulminating compound, which will be ignited or inflamed by the action of the heat developed by the impact or penetration of the projectile, substantially as herein shown and set forth.

2. The fulminating mixture or composition, substantially as herein specified.

3. The percussion fuse, for containing the fulminating compound, made substantially as and for the purposes herein shown and set forth.

78,323.—Louis Victor Piguet, New York, N. Y.—*Watch.*—May 26, 1868.—A pin, serving as a pendant winder and setter, fits through the pendant and has at its inner end a crown wheel which gear into a pinion which is fitted in the movement. This pinion is made to gear with two other pinions, one of which is mounted upon a swinging bar and gears into the barrel ratchet, while the other is upon an oscillating shifting bar, and can, by a push piece, be brought to gear into the common pinion, and thus complete the setting apparatus.

Claim.—1. The combination of the knob *h*, spring plate L, and lever E, operating as herein described, whereby the pressure upon the knob *h* throws the setting mechanism in gear and the winding mechanism out of gear, substantially as herein shown and described.

2. The arrangement in the watch case of the key C, having pinion *b*, wheel D, spring lever E, wheels F G, shifter plate L, knob *h*, pinions K, J, *g*, H, and I, all constructed and operating as described, for the purpose specified.

3. The arrangement of the key C, wheel D, spring lever E, pivoted upon the pin *c* of said wheel, and bearing the wheel F, and the wheel G, all operating as described, in such a manner that by turning the key C in one direction the wheel F is bound between the wheels D G to wind the watch, and turning the key in the opposite direction releases the wheel F and prevents the winding of the watch, as herein shown and described.

4. The key C, having the crown gear wheel *b*, in combination with the wheels D F G, spring lever E, spring arm L, pinion K, wheels J H *g h* I, as herein described, whereby the watch is wound and set by the same key, independently of each other, as herein shown and described.

78,324.—M. H. Pope, Susquehanna Depot, Pa.—*Horse Hay Fork.*—May 26, 1868.—The pivoted, bifurcated arm, when turned to a horizontal position so as to inclose the shank in its slot, causes the lower shoulder of the shank to engage the edge of the opening in the cap of the case, if the shank be raised; but when the shank is depressed the pivoted end of the arm engages the upper shoulder thereon, thereby retaining the tines in a horizontal position. The lever is turned upward to lock the arm in its horizontal position.

Claim.—The slotted arm *h*, lever *f*, both pivoted to the cap E of the case B of hay harpoon, all substantially as shown and described, and for the purpose set forth.

78,325.—J. W. Rand, Charlestown, Mass.—*Pattern for Cutting out Shirts.*—May 26, 1868.—The object of this system of cutting shirts or shirt patterns is to enable persons unskilled in the art to readily lay out a pattern of any ordinary size.

Claim.—1. My improved system of cutting shirts or shirt patterns, the same consisting in the employment or combination of a front plate or pattern, O, a series of yoke plates or patterns, A A^1, &c., a back-side plate, S, a front-side plate, R, a sleeve pattern, Q, and a bosom pattern, H, the whole being constructed substantially in manner as set forth, and to be used together, as and for the purpose described.

2. The combination therewith of the series of plates I I', &c., for cutting out the neck portion of a bosom, as set forth.

3. The combination of the front plate O with one or more yoke plates, A, &c., each of such parts being provided with a scale of measurements or division so combined or arranged that the corresponding figures on each indicate the width, respectively, for cutting the front and back parts of shirts or shirt patterns of any ordinary size.

4. A yoke formed with a series of measurements or scale of divisions arranged near each end of it, in manner as set forth.

5. The front plate O, provided not only with a scale of divisions, arranged as set forth, but formed with a rectangular bosom space, A B C D, as explained.

78,326.—L. T. Richardson, Clayville, N. Y.—*Manufacture of Hoes.*—May 26, 1868.—The blank or pattern as it is cut from the cast-steel bar is formed with the shank or neck dropped below the ears of the hoe, the object being to facilitate the finishing process.

Claim.—The cavities or recesses *d d*, in the blank or pattern of the hoe, in the process of manufacture, substantially as and for the purposes described.

78,327.—James L. Rowland, Milwaukee, Wis.—*Manufacture of Artificial Stone.*—May 26, 1868.—The pulverized sand, rock, or other mineral, and dry, finely-powdered hydraulic cement, and some one or more of the native earths and oxides of metals (also finely pulverized) are mixed together by means of sieves or otherwise, and the mass is sprinkled with water or a solution of salt. During the process of moistening the ingredients are thoroughly mixed; and after being molded into the desired shape the material is subjected to external pressure, and it is finally indurated in tanks by carbonic acid applied alone or in connection with water, heat, or steam.

Claim.—1. The use of the various kinds of sands, rocks, scorias, and other hard mineral substances, crushed and otherwise treated, as described, and combined with a cement, or a cement and a salt, prepared substantially as set forth.

2. The use of sand in its natural state, or when it is deprived of its coarser grains, in combination with the improved cement, and with water alone, or with a solution of one or more of the salts herein specified.

3. The use of native earths, metallic oxides, or other like substances, prepared and combined, substantially as described, for the purpose of coloring the stone.

4. The methods of treating and preparing hydraulic cement for the manufacture of stone, substantially as described.

5. The use of carbonic acid in the process of hardening manufactured stone, or other articles having lime for its base, substantially as described.

6. The use of steam in combination with carbonic acid gas, substantially as described.

78,328.—MOSES RUBEL, Chicago, Ill.—*Cutlery.*—May 26, 1868.—The handle pieces may be of wood. They are secured to the shank by having the metallic tips cast upon the beveled ends and upon the shank. The metal of each tip is united through a hole in the shank, and the uniting metal also fills notches in the ends of the side pieces preventing their lateral displacement.

Claim.—The beveled side pieces B B, having notches in their ends and held in place by the cast metal C C D D, having lugs F fitting in said notches, substantially as set forth.

78,329.—RICHARD SAMUEL, Walden, N. Y.—*Portable Fence.*—May 26, 1868.—This fence is made up of a series of hurdle frames which are connected together by the post or tie bar and its appurtenances, the object being to adapt the kind of fence in question to various formations of land.

Claim.—1. The construction and arrangement of my hurdles, when used in connection with the tie-bar D D, slats E E, tie bolt F, and standards H and *l*, with the bar M, all as shown and set forth.

2. The construction of my brace, having standards H and *l*, of uneven length, when used in connection with the hurdles and tie bar, arranged and constructed as shown and described.

78,330.—JOHN J. SANDERS, Jr., New York, N. Y.—*Mirtering Machine.*—May 26, 1868.—Planing knives are combined with the circular saws in such a manner that the edges of the moldings which are being sawed may, at the same time, be planed.

Claim.—1. The block C, attached to the saw D, for the purpose of holding the planing knives E, all constructed, arranged, and operating as described, for the purpose specified.

2. The adjustment of the planing knives E in the block C, by means of the inclined grooves *c*, nut F, and screw bolt *d*, all constructed, arranged, operating as described, for the purpose specified.

78,331.—WILLIAM G. SANFORD, Union City, N. Y.—*Mail Car and Mail Bag Receiver.*—May 26, 1868.—The rod attached to the car strikes the suspended mail bag and draws it from the hook when it falls upon the hinged incline and is delivered into the car. In this way the mail is received by a car while under full headway, and simultaneously mail is delivered from the car by means of the trap door.

Claim.—1. In combination with a car, A, a sliding section, B, and trap door C, for delivering the mail, when said door is disengaged by an arm, D, actuated by a post on the side of the track, and so arranged that in falling it shall form a chute, to direct the bags in falling away from the track, substantially as described.

2. The combination and arrangement of the sliding section B, the trap door C, and slide F, for simultaneously discharging and receiving the mail, substantially as described.

78,332.—HIRAM H. SCOVILLE, Chicago, Ill.—*Stone Breaker.*—May 26, 1868.—Power is so applied to the hopper that each revolution of the driving shaft causes the ends of the hopper to approach and recede from the central fixed column, the effect being that of a double-acting breaker.

Claim.—The fixed central column C, with its corrugated faces in combination with the corrugated faces on the oscillating hopper D, the arm K, the shaft H, with its eccentric or crank, all arranged and operating substantially as herein described.

78,333.—HIRAM M. SHAW and GEORGE G. TINDALL, Frémont, Ohio.—*Windmill.*—May 26, 1868.—The weight of the water elevated by the windwheel is made to suspend the operation of said wheel when the trough is filled. The tilting of the trough when full actuates the parts whereby the wings are turned into their inoperative position.

Claim.—1. The rods *f*, when provided at their outer ends with the cross *h*, in combination with the disk H and weighted arm *g*, whereby, as the disk is raised the cross *h* is changed from a vertical to a horizontal position to render the sails inoperative, as herein shown and described.

2. The combination of the pivoted trough J, rod *m*, disk H, weighted arms *g*, eye F, rods *f*, cross *h*, and hinged sails A, all arranged as described, for the purpose specified.

78,334.—JOHN SHIMER, Bronson, Mich.—*Clamp for Holding Leather to the Currier's Bench.*—May 26, 1868.—This instrument clamps the hide to the bench or block upon which it is placed for working and dressing, a spring catch and ratchet being employed to maintain the jaws in their clamping position and permit the hide to be readily liberated.

Claim.—1. The clamp pincers B B, as constructed, having a spring catch, D, for holding them, and the hide or leather E on the bench C or block, for manipulating, substantially as herein described.

2. The stirrup or rack bar F and lever pawl *f* when applied to clamps, for tanners' and curriers' use, substantially as set forth.

78,335.—ARIEL B. SPROUT, Hughesville, Pa.—*Horse Hay Fork.*—May 26, 1868.—A hay-elevating fork, consisting of two rods or bars, armed with barbs or prongs, and hinged together near the center, and spread out or contracted by means of a jointed lever.

Claim.—1. A hay-elevating fork, provided with a penetrating point, and with rigid barbs, hooks, or spurs, operating substantially as described.

2. A hay-elevating fork, having barbs, hooks, or spurs, which are thrust into and withdrawn from the hay, or equivalent material to be raised, by a lateral movement, relative to each other, of the bars to which said barbs or hooks are attached.

3. A hay fork, provided with rigid barbs or hooks, which are covered when the fork is to be inserted into or released from the hay, and uncovered after the fork has been inserted, for raising the hay.

4. A hay fork, composed of bars having a lateral or shear blade movement relative to each other, a penetrating point, barbs or hooks, and a mechanism or device for operating the bars and hooks, to cause them to seize and hold or release the load, as desired.

5. Giving to the holding hooks or spurs a lateral and upward movement or thrust, by means of toggle links or levers connected therewith, for the purpose of operating said hooks substantially as described.

78,336.—ANSON P. STEPHENS, Brooklyn, N. Y.—*Composite Pipe.*—May 26, 1868.—Hydraulic cement is the material cited as the non-metallic lining. The corrugated metal opposes a bursting as well as a compressing force, and prevents the endwise movement of the non-metallic material.

Claim.—1. The combination of a thin corrugated metallic sleeve with a non-metallic lining, substantially as before set forth.

2. The combination of a thin corrugated metallic

sleeve with a non-metallic covering, substantially as before set forth.

3. The combination of a thin corrugated metallic sleeve with both a non-metallic lining and a non-metallic covering, substantially as before set forth.

78,337.—William Tibbals, South Coventry, Conn.—*Priming Metallic Cartridges.*—May 26, 1868.—A copper case is first formed in the usual manner. The metallic disk or anvil is then made, it being of the same diameter as the case, into which it is dropped; the case is then drawn down to the diameter of the bore of the fire-arm for which it is intended, leaving the anvil securely locked in the flange thus formed at the base.

Claim.—Securing the anvil B by drawing or forming the shell A down over it, in the manner shown and described.

78,338.—Daniel Tierney, New York, N. Y.—*Tailors' Square.*—May 26, 1868.—This improvement is designed to facilitate the drawing of outlines upon cloth, in conformity with measurements.

Claim.—A tailors' T-square, consisting of the cross-piece A, to which the bar or ruler B is pivoted, the bar having suitable graduated scales *a b c*, and a pointer *d*, or its equivalents, and the cross-piece being provided with marks *e*, or their equivalents, on its surface, and with marks *f* on its front edge, all arranged as set forth, for the purpose specified.

78,339.—Gabriel Utley, Chapel Hill, N. C.—*Plow.*—May 26, 1868.—The object is to secure the parts in such a manner that they shall not be weakened by having bolt holes in them, and may be readily detached.

Claim.—1. Securing the moldboard E to the plow by means of the dovetailed tongue *e'*, formed upon its inner side, fitting into a dovetailed groove formed in the forward side of the arm G, cast solid upon the side of the standard C, substantially as herein shown and described, and for the purpose set forth.

2. Securing the point F to the plow by means of the dovetailed tongue *b'*, formed upon its under side, and fitting into a dovetailed groove formed in the forward side of the arm H, cast solid upon the side of the lower part of the standard C, substantially as herein shown and described, and for the purpose set forth.

3. Connecting the moldboard E and point F to each other by means of the pin I, passing through the lower part of the said moldboard E, and through the extended end of the tongue *b'*, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the tongued point F, tongued moldboard E, grooved arms H and G, and standard C, with each other, substantially as herein shown and described, and for the purpose set forth.

78,340.—James D. Van Hoevenbergh, Kingston, N. Y.—*Carriage.*—May 26, 1868.—The notched side plates and hooks are so arranged that on slightly raising the seat, the hooks are released from the notches, permitting the seat to be freely moved backward or forward, it being securely fastened in any desired position. The object of the straps under the springs is to hold up the carriage body in case the springs break. When the wagon is descending a hill, the tongue slides back and forces the brake blocks against the wheels, but in backing a coupling pin prevents the sliding of the tongue.

Claim.—1. The combination and arrangement of the notched side plates D D, and inclined hooks H H, for fastening movable seats, substantially as and for the purpose herein specified.

2. The India-rubber straps C C, under the springs B B, secured thereto, and arranged in combination therewith, substantially as and for the purpose herein set forth.

3. The break blocks P P, balanced by the counter weights R R, in combination with the double whiffletree break bar N, and sliding tongue L, substantially as and for the purpose herein specified.

78,341.—A. J. Van Ornum, Hartford, Vt.—*Wood Turning Lathe.*—May 26, 1868.—The mandrel is provided with a sliding sleeve having a square socket in one end, which, in conjunction with the spurs on the end of the mandrel, serves to hold the shaft of wood while it is being turned from the other end, until the sliding turning tool comes in contact with the end of said sleeve, when the latter is pushed back by the tool. Thus the whole length of the shaft of wood may be turned.

Claim.—The sleeve B, having a square socket B', and adapted to rotate with and be moved longitudinally upon the center A, substantially as and for the purpose herein set forth.

78,342.—John B. T. Van Patten, Sing Sing, N. Y.—*Globe Valve.*—May 26, 1868.—By screwing down the spindle, the valve is closed as in the ordinary globe valve, if the pressure be on its under side. When the spindle is raised, and the valve left free, it acts as a check valve, as pressure upon its upper side will close it. The valve is guided to its seat by reason of the stem being in the tubular spindle and bottom piece.

Claim.—The construction of valve C and hollow spindle K, and their arrangement with reference to wheel H and spindle E, substantially as described and set forth.

78,343.—Lewis M. Van Sickle, Woodbridge, N. J.—*Brick Machine.*—May 26, 1868.—The clay is forced outward from the rectangular mud box through slots or openings in opposite sides of said box and near the bottom thereof, and received by molds, in each series of which the clay is pressed by a plunger deriving a vertical, reciprocating motion from the vertical, central shaft. The plungers are caused to alternately rise and fall, and the horizontally reciprocating frames—through the medium of which motion is communicated from the shaft to the plungers—carry bars or dischargers, corresponding in number and divisional spaces with the molds. The vertically sliding gates are opened and closed alternately by the action of the sweep upon pivoted frames.

Claim.—1. The operating of the plungers F from the vertical shaft C, through the medium of the slotted arms J J, the reciprocating frame H, bars G F, connected with the bars *i*, fitted in the framing B, and having the plungers F attached to them, substantially in the manner as and for the purpose specified.

2. The gates K K, operated as shown, in combination with the discharges *m*, and the plungers F, all arranged so as to be operated from the shaft C, in the manner substantially as and for the purpose specified.

78,344.—John Van Winkle, New York, N. Y.—*Wood Cleaver.*—May 26, 1868.—The pendent bar is designed to protect the edge by preventing it from striking the earth or stones when in use. It is also intended to protect the fingers of the operator and the floor.

Claim.—A hatchet or cleaver A, formed or provided with a pendent bar, D, at its forward end, said bar extending below the cutting edge of the tool, and guarding the same from injury when in use, substantially as described.

78,345.—George Vowles, New Hudson, Mich.—*Potato Digger.*—May 26, 1868.—The rake which follows the knife and fingers is intended to throw to the surface any potatoes which may escape said fingers.

Claim.—1. The knife C, constructed with fingers C^2, and bowed arms C^1, by which it is adjustably attached to the handles B, and connected also therewith by the braces F, substantially as described.

2. In combination with the knife, the adjustable spring E, for regulating the depth of the cut substantially as described.

3. In combination with the knife and fingers, the rake D, substantially as described.

4. The arrangement of the tongue A, handles B, and cross brace B', and knife C, substantially as set forth.

78,346.—John R. Williamson, Bethlehem, N. J.—*Fruit Can.*—May 26, 1868.—The "cam" is a bar extending entirely across the lid and having eccentric gudgeons upon its ends. The bar is applied and secured by fitting the gudgeons into the ends of the grooves and working them down in the grooves till they reach the bottom of the same. The handle is then bent down upon the cover, whereby the gudgeons are brought above the axis of the bar.

Claim.—1. The cam D, having the handle *d*, and working in grooves *b*, that are provided in the sides of the can, when said cam is operating, substantially as described, to hold down the cover of a fruit can, as set forth.

2. The combination of the can A, which has the flange *a* and grooves *b*, with the cover B, elastic C, and cam D, all made and operating substantially as herein shown and described.

78,347.—WILLIAM D. WILSON, Watertown, N. Y.—*Horse Hay Fork.*—May 26, 1868.—The plug is forced downward by hand, causing the prongs to emerge from the case and enter the hay; the downward movement is continued till the spring-actuated lever passes below the tripping lever, when the stop is forced through a slot in the tube, and the parts are thereby held in the relative position which enables the prongs to sustain the load. A pull upon the tripping cord disengages the two levers and the spiral spring then withdraws the prongs within the case and so discharges the load.

Claim.—1. The levers *k l*, in combination with the plug *e*, as and for the purpose set forth.

2. The levers *k l*, in combination with the arm l'' and screw l''', in manner described.

78,348.—JOHN S. WOOD, Hartford, assignor to himself and ELIZABETH P. SEYMOUR, West Hartford, Conn.—*Brick Machine.*—May 26, 1868.—The rock shaft is connected by vertical rods with the horizontal reciprocating rod which carries the presser. The rock shaft and, consequently, the presser derive a variable motion from the main shaft through the medium of a lever whose lugs or tappets act alternately upon the loose arm and fixed crank which are attached to the rock shaft, and which may be adjusted with respect to each other by means of the notched pivoted bar. The front end of the grate swings upward to permit the passage of such obstructions as may project from the molds, and the grate and gate move simultaneously.

Claim.—1. The notched bar H, hinged to the loose arm *h* upon the shaft G, and serving to connect said arm with the crank *f*, substantially as described, for the purpose specified.

2. The lever *i*, having lugs, *l m*, fitted loosely upon the rock shaft G, and connected with the main driving shaft, in combination with the loose arm *h*, crank *f*, and hinged rack bar H, for the purpose of giving motion to the rock shaft G, substantially as described.

3. The swinging grate M, in combination with the sliding gate N and the pins *n*, all made and operating substantially as herein shown and described.

78,349.—J. F. ZACHARIAS, Leesburg, Va.—*Railroad Station Indicator.*—May 26, 1868.—The supplemental roller or shaft may be acted upon by springs to cause the apron to bind properly upon the rolls. The pressure rollers press the apron against India-rubber straps or bands upon the central driving roller.

Claim.—1. The combination of the apron or band E, rollers F F, cord G, and operating roller L, substantially as described.

2. In combination with the foregoing, the supplemental roller or shaft R, substantially as described.

3. The arrangement, with the elements in the foregoing first clause, of the pressure rollers P P, substantially as described.

78,350.—C. F. ANTHONY, Chicago, Ill., assignor to himself and JOHN CHARTERS.—*Hassock Machine.*—May 26, 1868.—This instrument is for stuffing and shaping carpet hassocks. The bottom part holds the covering and gives shape thereto while being stuffed, and the top part holds the stuffing material.

Claim.—The three-part hoop A B B, whose top A is removable, and the lower part B B hinged at the bottom, and having a rim, C C, with projecting brads *a a*, &c., for holding a hassock cover, substantially as and for the purpose set forth.

78,351.—WILLIAM ARBOUQUIER, Worcester, Mass.—*Clothes Drier.*—May 26, 1868.—This clothes drier is passed out through a window and supported thereat in the manner shown. The lines upon which the clothes are hung may be moved upon their pulleys so as to bring any part thereof or any of the suspended clothes within reach of the person inside the building.

Claim.—1. The combination, with the side pieces D D and end pieces E E, of the eyes *b b*, endless bands or cords *m*, pulley supporting pieces F, and ear pieces *f*, substantially as and for the purposes set forth.

2. The combination, with the hinged and folding clothes-drying frame, of cords B, or their equivalents, for supporting the same upon the exterior of the window, substantially as and for the purposes set forth.

3. The combination, with the frame C, ears *f*, and eyes *b b*, of the supporting wires or cords B B, and the fastenings *h*, substantially as and for the purposes set forth.

4. The combination, with the frame C, and ears *f*, of the buttons *n*, substantially as and for the purposes set forth.

78,352.—DANIEL ASHWORTH and ROBERT B. EATON, Woburn, Mass.—*Apparatus for Concentrating Sulphuric Acid.*—May 26, 1868.—The retorts through which the acids pass in the process of condensation are made wholly or partially of platinum to prevent breakage and waste. The steam or vapor from the retorts is conducted to the oil of vitriol chamber so as to dispense with steam from a separate boiler. A reservoir or vessel, formed with a double casing, is so arranged that the oil of vitriol will pass through the space formed by the double casing previous to its concentration, and thus become heated by the concentrated acid in the inner portion of said vessel, the concentrated acid being in an equal degree cooled by contact with the inner casing of the vessel.

Claim.—1. Conducting the steam or vapors from the retorts to the oil of vitriol chamber, for the purpose and in the manner substantially as described.

2. Cooling the concentrated oil of vitriol and heating the vitriol before its concentration, by passing the same around or through a vessel, I, constructed as described.

3. Constructing the pan *c*, with tubes or flues *d*, for the purpose specified.

4. Conducting the acid from one retort to the other, by means of siphons or tubes, as described.

5. Constructing the retorts of platinum, or partly of platinum and partly of glass, when the same are arranged in a series and communicate with each other, as set forth.

78,353.—JAMES BALL, New York, N. Y.—*Envelope Machine.*—May 26, 1868.—By the devices named in the claims the machine is rendered capable of gumming the seal flaps as well as the lower or end flaps, and of performing the several other functions which are necessary in order to the completion of the envelope.

Claim.—1. The arrangement of a revolving gummer, G, having a different velocity from the table which supports the blanks, in combination with the reciprocating table C, substantially as and for the purpose described.

2. Giving to the revolving gummer a positive compound rising and falling and revolving motion, substantially as and for the purpose described.

3. The cam *u*, stop u^1, and weight or spring t^1, in combination with the pinions $r\ r^1$, on the shaft of the gummer G, substantially as and for the purpose set forth.

4. The self-adjusting clamp *x* to act on the pile of blanks, substantially as and for the purpose described.

5. Giving to the pile of blanks a motion under the gummer G and picker H, substantially as and for the purpose set forth.

6. The arrangement of an automatic stop-motion, composed of the latch *d*, and notch in the frame A, in combination with the gummer and picker, and

with the platform D supporting the blanks, substantially as and for the purpose described.

7. The arrangement of distinct strips N, catching over the edges of the lower creasing box, and attached thereto by set screws, substantially as and for the purpose set forth.

8. The heels w^2 attached to the folding wings $v^2\ v^{2*}$, by one or more set screws, substantially as and for the purpose described.

9. The spiral carriers O, to carry the envelopes along, and retain them free from pressure until the gum has dried, when arranged substantially as described.

10. The combination of two or more sets of spiral carriers O O′, running in opposite directions, substantially as and for the purpose set forth.

11. Increasing the pitch of the screw threads at the receiving ends of the spiral carriers O O′, substantially as and for the purpose described.

12. The separator c^3, in combination with the spiral carriers, substantially as and for the purpose set forth.

13. The reciprocating conveyer d^3, in combination with the spiral conveyers O O′, constructed and operating substantially as and for the purpose described.

14. The arrangement of a transparent panel or pane, f^3, in the receiving table P of the envelope machine, substantially as and for the purpose set forth.

78,354.—JAMES BALMER, Brooklyn, N. Y., assignor to himself and WILLIAM GREENLEAF, same place.—*Self Clinching Spike.*—May 26, 1868.

Claim.—A spike split or divided longitudinally, and having its split parts so beveled or inclined that when driven into the wood the portions on opposite sides of the split or cleft will diverge in opposite directions parallel with the split or cleft, substantially as herein described.

78,355.—CHARLES W. BARNES, Janesville, Wis.—*Spring Catch and Stop for Doors.*—May 26, 1868; antedated May 19, 1868.—The knob fastened to the base board or wall of a room, is provided with a spring catch to receive a staple or loop in the door and thus hold the door open, a slight pull being sufficient to detach the loop and permit the door to be closed. The rubber seat keeps the spring in place and serves as an auxiliary thereto.

Claim.—Knob A, metallic springs C, rubber seat E, and staple D, connected to a door, when the whole are constructed and used substantially as and for the purposes described.

78,356.—SIMEON L. BARINDS, St. Joseph, Mo.—*Perpetual Calendar.*—May 26, 1868.—This invention has reference to a device by means of which the day of the week may be readily ascertained when the year, month, and day of the month are given.

Claim.—1. The combination of the card-board E and dials D B, having letters and figures marked on them, substantially as and for the purposes set forth.

2. The combination of screw wheels F G, screws H I, and dials D B, substantially as set forth.

78,357.—FRANCIS BATES, Niles, Mich.—*Saw Set.*—May 26, 1868.—The jaws and the set screws therein permit the set to be freely moved along the saw blade, and yet the latter is sufficiently braced thereby in a lateral direction while each tooth is being bent by the lever. The lever is adjustable vertically by its attaching screw, and the degree of its vibration is limited by the screws in the frame of the set.

Claim.—A saw set, consisting of the frame A, provided with the jaws B, and set screws *b*, for holding the saw, and having the lever E arranged to operate therein, substantially as shown and described.

78,358.—THOMAS L. BAYLIES, Richmond, Ind.—*Inking Apparatus for Printing Presses.*—May 26, 1868.—This apparatus is employed in connection with a printing press for the purpose of adapting the same to print in different colors at a single operation.

Claim.—1. The inking slats *e*, *e′*, and *e″*, hinged and so arranged in sets as to all occupy the same horizontal plane, and also to admit of their being separated and brought in contact with the different colored inking rollers, substantially as described and for the purpose set forth.

2. The grooves *t*, *t′*, *t″*, in the sides of the frames, in combination with the inking slat frames, or their equivalents, by which said inking slats are directed against the surfaces of their respective inking rollers, substantially as described and for the purpose set forth.

78,359.—WILLIAM BELLAIRS and HENRY DE MOTT, Atkinson, Ill.—*Window Blind.*—May 26, 1868.—The purpose of one cord is to adjust the slats, and that of the other to raise the whole blind, the latter being counterbalanced, when raised, by the weighted tassels.

Claim.—The arrangement of the slats A A and folding bar B in casing C, arranged either outside or inside of the window, and operating by means of the cords D and F and loaded tassels E and G, substantially as and for the purposes above set forth.

78,360.—NICHOLAS H. BORGFELDT and FREDERICK W. RITTERHOFF, New York, N. Y.—*Machine for Granulating and Finishing Tobacco.*—May 26, 1868.—A machine to facilitate the manufacture of killikinick and cigarette tobacco. The tobacco scraps from which such tobacco is manufactured are thrown into a hopper, whence they pass into the upper sieve, through which the tobacco which is broken up by the spiral brush is forced, while that portion which is not broken up is carried out at the end of the sieve together with whatever pieces of wood and other hard substances may have been introduced with the scraps. The fine particles of tobacco and dust pass into and are separated by a lower sieve containing an agitating screw.

Claim.—In a device for granulating and finishing tobacco, the arrangement of the spiral brushes, cylindrical sieve B, conveyer screw E, cylindrical sieve D, and the discharges F G, when constructed and operating as herein described.

78,361.—ROBERT J. CLAY, Flushing, N. Y.—*Alphabet Toy.*—May 26, 1868.—The pictorial illustrations with their representative letters are successively brought behind the transparent portion of the front, and the advent of each is announced by a stroke upon the bell, thus securing attention.

Claim.—1. A traveling alphabet, preferably of pictorial character, operated automatically, by means of clock work, within a stand or case, by causing the same to wind and unwind intermittently on and off drums, and so as to expose but a letter at a time, substantially as specified.

2. In combination with an intermittently traveling alphabet apron, operated automatically as described, the bell R, struck to indicate the changes made in the exposure of the letters, essentially as herein set forth.

3. The combination of the alphabet apron C, drums D E, spoke driving wheels F G, bell R, with its hammer *e*, and clock or watch work, all arranged within a stand or case, having a partially transparent front, for operation as described.

78,362.—ROBERT F. COOKE, Newark, N. J.—*Cotton Picker.*—May 26, 1868.—The shaking device operates against the lower part of the stem of the plant in such a way as to open the bolls and allow the cotton to separate itself therefrom. A blast of air blows the separated cotton into a receptacle or conveyer.

Claim.—1. Opening the bolls of cotton plants and disengaging the cotton from the bolls by means of knocking or shaking the cotton plant, as set forth and specified.

2. The arrangement of flails *d* at the lower end of a revolving shaft operating the cotton plant, in the manner and for the purpose substantially as set forth.

3. In combination with a shaking device which loosens the cotton from the boll, the use of a blast of air to blow the thus loosened cotton into a receiver, substantially as described.

4. The blast opening J, in combination with the screen or receiver F, said opening and receiver extending nearly from the top to the bottom of the cot-

ton plant, in the manner and for the purpose set forth.

5. The trough G, provided with an endless conveyer belt, L, to convey the cotton from the receiver F to the after part, or to any other desired part of the machine, constructed and operated substantially as set forth.

6. The guides V and W, or their equivalent, arranged and constructed so as to lift up the lower branches of the cotton plant, and to guide the plant, in the manner and for the purpose substantially as set forth and described.

78,363.—William De Camp, Newark, N. J., assignor to himself and A. R. E. Falck, same place.—*Paring Knife for Boots and Shoes.*—May 26, 1868.—When the instrument is in use, the edge of the guide piece is inserted between the sole and the upper leather in the joint, and being pressed to the bottom guides and regulates the cutting. It will be seen that the guide piece is between the point of the knife and the upper leather.

Claim.—The handle A, guide piece *y*, adjuster V, wedge C, knife B, and the screw S, all combined, constructed and arranged substantially in the manner and for the purpose specified and shown.

78,364.—Peter S. Crawford, Rockford, Ill.—*Harness Buckle.*—May 26, 1868.—The object in tapering the tongues from the mid-length to the extremity is to give them greater strength and facilitate the buckling and unbuckling of the straps.

Claim.—As an article of manufacture, the circular frame A, having tongue, B, of tapering form, hinged to bars C C, D or D D, substantially as shown and set forth.

78,365.—John A. Evarts, West Meriden, Conn., assignor to Bradley & Hubbard, same place.—*Chandelier.*—May 26, 1868.—The base or body of the chandelier, as well as the base of the pulley arms, is so constructed that the arms are locked therein by bolting the parts of the body together. A bolt holds together the two parts of the hollow case, admitting of the removal of one part, in order that weights may be added or removed, according as the chandelier is heavier or lighter.

Claim.—1. The flange A, combined with the parts B and C, and constructed so as to receive and hold the arms E, substantially in the manner described.

2. The arrangement of the pulleys *b* upon their arms G, when the said arms are secured in the base F, substantially in the manner and for the purpose set forth.

3. The weight, consisting of the two parts of the case, H and I, secured together by the bolt L and nut N, and provided with adjusting weights P, substantially in the manner herein set forth.

78,366.—William A. Fenn, West Meriden, Conn.—*Covered Dish.*—May 26, 1868.—The spring secures the sleeve in its position within the bearing, but when it is desired to remove the cover the sleeve may be drawn out of the bearing, thus permitting the trunnion to be lifted through the slot in the bearing.

Claim.—The arrangement of the sleeve *d* upon the trunnion C, and combined with a bearing, *a*, which said bearing is provided with an open slot, the whole constructed and arranged to operate in the manner set forth.

78,367.—M. Isadora Findley, New York, N. Y.—*Waist Belt or Girdle.*—May 26, 1868; antedated May 15, 1868.—A metallic waist belt for ladies and children; a loose sliding buckle being made to engage with apertures arranged in a series, so as to adapt the belt to waists of different size.

Claim.—The detached buckle B, with its knob or button-shaped projections *d*, in combination with the perforated ends of the belt, for use essentially as shown and described.

78,368.—Isaac N. Frost, Peoria, Ill.—*Churn.*—May 26, 1868.—The dashers are semi-circular plates which pass each other as they are moved up and down; their rods are attached to a compound crank and are permitted lateral movement by slots in the lid, which slots are always closed by the sliding plates.

Claim.—1. The dashers G G, propelled by a crank, in connection with the sliding plate through which they pass, substantially as shown.

2. The sliding plate A A, to close the slot in the top, as shown.

3. The slot, covered with a movable plate, through which the dasher may pass, substantially as shown.

78,369.—Frederick Gerfen, West Hempfield Township, Pa.—*Hay Cutter.*—May 26, 1868.—This hay cutter is used in cutting hay from the mow. The mode of operation is to introduce the point into the mass and apply the proper pressure to the handle. The central rest is to afford a leverage, but is not essentially a part of the instrument. When the supplemental handle is grasped, the handle proper and the shaft serve as a guard to protect the handle.

Claim.—The "hay cutter," constructed and arranged substantially as and for the purpose specified.

78,370.—George William Hawksley and Matthew Wild, Sheffield, England.—*Combination of a Puddling Furnace with a Steam Generator.*—May 26, 1868.—The object is to so combine a furnace with a boiler, or water jacket, as to render the heat simultaneously available for boiling or heating metals or other materials, and for generating steam.

Claim.—The furnace *e* and boiler *a*, constructed as described, the former being located within the latter, in such manner as to be wholly surrounded by water, the arrangement being such that the heat of the furnace generates the steam of the boiler, as shown and described.

78,371.—Michael Henderson, Detroit, Mich.—*Car Brake and Starter.*—May 26, 1868.—The power of the momentum is stored in the springs when the cars are stopping, and this power is utilized in overcoming the inertia of the cars in starting.

Claim.—1. The longitudinal bars K, shafts D and O, when connected with the bar G, and operated by the lines or chains L, secured by ratchets and pawls X, substantially as and for the purposes set forth.

2. The combination of the above-named parts with the parallel longitudinal rods H, provided with spiral springs 6, sleeves J, and connecting bar T, the line or chain I, cylinder E, and shifting bar G, when arranged and operating substantially as herein set forth.

78,372.—John Herold and Mercer Brown, Frederick, Md.—*Polish for Leather.*—May 26, 1868.—A compound, including spirits of wine, Venice turpentine, lamp-black, resin, gum turpentine, India-rubber, neats-foot oil, oil of lavender, and gum shellac.

Claim.—The within described mixture, when compounded and used substantially as and for the purpose herein set forth.

78,373.—Elijah Holmes, Lynn, Mass.—*Vegetable and Fruit Slicer.*—May 26, 1868.—The bars to which the knives are riveted are pivoted at both ends, and from their inner ends rigidly project crooked arms, whose terminal points are pressed upon by the broad flange of the adjusting nut, which on being turned depresses or relieves the crooked arms, and thus produces a simultaneous and uniform adjustment of all the knives, each crooked arm being pressed against the nut by a spring fastened to the back of the wheel.

Claim.—1. The combination of the knife H, the bar F, the arm I, the nut J, and the spring *d*, or their mechanical equivalents.

2. The combination of the several parts, as above described, so that several knives shall be controlled and adjusted by a single screw or nut, for the purposes and in the manner substantially as above set forth.

78,374.—F. Hull, Birmingham, Conn.—*Skirt Former.*—May 26, 1868.—The form upon which the hoop skirt is made is provided with an expanding or adjusting apparatus, which is pivoted to the front arms, and so connected to the others that the expansion gradually increases from the front to the rear.

Claim.—The arrangement of the adjusting bar G, pivoted to the front arms, and provided with the bars H, I, and L, corresponding to the other arms of the form, the whole constructed so as to be adjusted by the raising or lowering of the bar G, substantially as and for the purpose specified.

78,375.—A. G. Hunter, Flint, Great Britain. —*Manufacture of Soda and Potash.*—May 26, 1868. —The alkaline silicate is mixed with a solution of bicarbonate of lime, whereby silicate of lime and alkaline bicarbonate are produced.

Claim.—The process of converting silicate of soda or silicate of potash into the corresponding carbonate, by double decomposition with bicarbonate of lime, as substantially described herein.

78,376.—Jerry A. Hunter, New London, Va. —*Machine for Straightening Tobacco.*—May 26, 1868. —The tobacco first passes through the brush to be cleaned, it being guided thence by the upright plain rollers to the grooves of the horizontal rotating rollers, which straighten the tobacco and press the bundles to a proper size for prizing.

Claim.—The funnel-shaped brush, and upright self-acting rollers attached.

78,377.—P. F. Kessler and John Carlisle, Dayton, Ohio.—*Steam Heater.*—May 26, 1868.—This heater is made up of radiating shells each of which is traversed transversely by short tubes separated by division plates, and arranged in parallel series so as to form corresponding steam channels. The induction steam pipe communicates by lateral apertures with each of the shells, the steam passing from one channel to another; and the projections of the interposed plates, cause a more effective impingement of the air against the heated surfaces.

Claim.—1. The metallic plates D and the case E, in combination with the shells A in radiators, as and for the purposes set forth.

2. The arrangement of the shells A A, pipes *b b*, partitions *a a*, nipples B B, steam pipe C, and case E, when the several parts are constructed and operate substantially as and for the purposes set forth.

78,378.—Thomas Langston, Meriden, Conn., assignor to E. Miller and Co., same place.—*Lantern.*—May 26, 1868.—The object is to construct the lantern so that by the removal of the lamp socket the globe may be taken from within the guards for the purpose of cleaning, and be replaced when broken. The guard flange is large enough to permit the globe to be withdrawn through it.

Claim.—The combination of the lamp socket A with the lower guard flange C, when the said guard flange is provided with one or more internal projections, *f*, and the set screw G, so as to secure the said socket to the flange, substantially in the manner herein set forth.

78,379.—Canceled.

78,380.—Patrick Lennox, Hiram H. Robbins, and Edward Hayes, Lynn, Mass.—*Machine for Beaming Hides.*—May 26, 1868.—The effect of the brake is to enable the whole hide to be beamed at one operation, thereby avoiding the necessity of removing it from the machine and turning it about end for end. The beaming tool has the necessary elasticity imparted to it by the bracket and springs. The arrangement of the cranks, shafts, &c., is designed to conduce to strength of parts, and secure an equable, steady motion.

Claim.—1. In a machine for beaming hides or dressing leather, a device so constructed and applied thereto as to automatically press upon or clamp the hide to its supporting table, and hold it in position under the action of the beaming tool, in order to manipulate the hide at one operation.

2. As a device for accomplishing the above result, the combination and arrangement of the brake bar *g* with the vibrating levers *s s*, such levers being pivoted to the guides *b b*, and actuated by the wipers *u u*, and operating in connection with the beaming tool essentially in manner and for the purpose as herein shown and described.

3. The mode of suspending the beaming tool from the sliding carriage *c*, that is, by means of the plate or bracket *j*, posts *i i*, and springs *k*, &c., substantially in manner and for the purpose as herein shown and described.

4. The arrangement or disposition of the twin cranks *e e*, as supported by the shafts *f f*, and carrying between them the two rods *d* and *n*, and eccentric, *p*, essentially as herein set forth and explained

78,381.—Alexander Leverty, Bridgeport, Conn.—*Running Cornice.*—May 26, 1868.—By the use of two corresponding instruments or molds the molding is run upon the wall, and the angle formed at the same operation. The first mold is run upon one wall to the angle, then the mold is held in position and the angle dressed off by the surface of the mold. The molding upon the other wall is then run to the angle, meeting and intersecting with the first.

Claim.—Molds or forms for running stucco cornices constructed in the manner herein described, so as to form, complete, the molding into the internal angles, substantially as set forth.

78,382.—William Lindon, New Haven, Conn. —*Watch Key.*—May 26, 1868.—The sheath prevents the filling up of the tube of the key.

Claim.—A key, provided with a sheath, B, the upper end of which is slitted so as to form springs to secure the sheath to the key, substantially as set forth.

78,383.—W. A. Long and J. E. Lavey, Plymouth, Ind.—*Grain Car.*—May 26, 1868.—The boxes are hinged together at their adjacent ends. By means of the rack bars, cog wheels, and shafts the ends of the boxes may be raised so as to incline their bottoms toward the intermediate revolving gate through which the grain is discharged into the trough suspended beneath the car.

Claim.—The arrangement of the boxes A A, with the revolving gate C between, and rack-bars D D, shafts *g*, and cog wheels operated by the levers *j*, and placed at the outer ends of the boxes, substantially as and for the purposes specified.

78,384.—Robert O. Lowrey, Salem, N. Y.—*Shoe.*—May 26, 1868.—The water-proofing process referred to is described in letters patent granted to the same party on the 10th day of December, 1866.

Claim.—A water-proof shoe or covering for the foot, when manufactured of cloth, paper, or leather, made water proof by my patented process herein mentioned, or either of these materials, or of any combination of the same, substantially as herein described, as a new article of manufacture.

78,385.—Nicholas Lumsden, San Francisco, Cal.—*Boot and Shoe.*—May 26, 1868.—This invention relates to a machine for making screwed boots and shoes upon unplated lasts, the object being to provide a gauge by which the length of the screw and the depth to which it penetrates shall be regulated, so as to avoid the necessity of plating the last with metal to stop the screw. A clamp is employed to secure the wire firmly while the screw is being cut, said clamp being readily disengaged when desired. The last is provided with a movable support which can be operated by the foot, to withdraw the last from the machine, while, by means of a slide and a series of adjustable turning joints, the last is easily moved and turned into any position for receiving the screws.

Claim.—1. The regulating guide, consisting of the sliding-rod L and its adjustable nut M, together with the screw plate I and the wire-holding clamp, the whole constructed and operating substantially as and for the purpose described.

2. The adjustable last standard, constructed and operating substantially as and for the purpose described.

3. The device, consisting of the spring W, rod V, cylinder *g*, and barrel *h*, for obtaining a perpendicular motion of the last, and a pressure against the

screw plate, substantially as and for the purpose described.

78,386. — **Benjamin K. Maltby**, Cincinnati, Ohio, assignor to **Thomas N. Drake**, same place.—*Coffee Roaster.*—May 26, 1868.—In operation the end wings throw the coffee toward the middle of the concave bed, the central double wing returning it to the ends. The wings are attached to the rotary shaft and carry elastic plates to adapt the stirrer, accommodate itself to any irregularities that may exist in the bed, and to fit closely thereto without undue friction.

Claim.—A coffee roaster, provided with an axle or shaft, to which paddles, acting as inclined planes, and combined with elastic plates, are attached, and which revolves within a stationary semi-cylindrical bed, the whole being constructed, arranged, and operated substantially in the manner and for the purpose described.

78,387.—**Joseph P. Manton**, Providence, R. I.—*Holder for Lathe Planer.*—May 26, 1868.—Two bars of metal, secured together side by side, constitute the tool-holder. The bars are riveted together at their rear ends and a portion of the surfaces in juxtaposition are cut away at the front end to enable that end to yield to the strain of a clamp-nut which binds the tool in the mortise, half of which latter is made in each of the bars.

Claim.—A tool-holder, constructed substantially as herein described.

78,388.—**James McNamara**, Buffalo, assignor to himself and **C. D. Page**, Rochester, N. Y.—*Machine for Dressing Brick.*—May 26, 1868; antedated May 18, 1868.—The brick to be dressed is supported upon one of the plates of the endless carrier, and is brought to rest in a position to have its five remaining sides acted upon by plates or platens, of which those whereby the sides of the brick are pressed are hinged so as to be closed upon or against the brick by the downward movement of a sliding frame, and then opened or turned into a horizontal position to allow the finished brick to be conveyed away and a new one brought into position for treatment.

Claim.—1. Alternately arresting and releasing the endless carrier B, by means of the lever J, winch, and arm *q r*, spring *u*, and wedge *t*, arranged and operating substantially as set forth.

2. The hinged plates *g g* and springs *j j*, in combination with a vertically-sliding frame for operating them, substantially in the manner and for the purpose specified.

3. In combination therewith, the end plates *m m*, rods *n n*, and springs *p p*, arranged and operating substantially as and for the purpose set forth.

4. The combination of the plates or platens *g g*, *m m*, and *w*, for dressing brick by simultaneously pressing it on all sides, when operated substantially in the manner specified.

5. The machine, as a whole, constructed, arranged, and operating substantially as described.

78,389.—**Levi Miller**, Johnsville, Ohio.—*Gate.*—May 26, 1868.—The gate is made in two parts, the lower of which is sustained at any height by means of a pin, the object being to effect the elevation of the lower part of the gate when necessary, as in case of snow or other obstruction, without raising the entire gate.

Claim.—The construction of a farm gate in the manner as herein described and represented.

78,390.—**H. Walker Neal**, Sidney, Ohio.—*Plow.*—May 26, 1868.—One of the wheels of the plow is mounted upon a supplemental axle, attached to a lever pivoted upon the main axle, and provided with proper devices for holding it in position, said wheel being thus adapted for hill-side plowing. The mode of attaching the plow-beam maintains its parallelism with the tongue when lowered or raised.

Claim.—1. The lever E, when pivoted upon the main axle, as set forth, for raising and lowering the wheel A'

2. The combination of the levers E and E', notched flange e^2, and spring e^3, for the purpose of holding the wheel A' in desired position

3. The combination of the tongue B, lever G, clevis H, and plow-beam C, arranged and operating as and for the purpose set forth.

78,391.—**Gaius L. Parker**, Coventryville, N. Y.—*Boiler for Making Maple Sugar.*—May 26, 1868.—The bottom of the boiler forms an arch which is open at both ends. The boiler may be placed upon the ground and fire built in the arch. The material to be heated is brought into contact with the top as well as the sides of the arch.

Claim.—The cast-iron heads B B, with narrow flanges extending outward, so that the sheet metal A may be bent or stamped to conform to the shape of the heads, and thereto be riveted to the flanges, all constructed and used as specified.

78,392.—**Harrison C. Pearsons**, Ferrysburg, Mich.—*Sun Dial.*—May 26, 1868.—The hinge joint renders the dial adjustable, so as to make the angle between the horizon and the axis of the dial equal to the latitude of the place where the dial is to be used, by means of the graduated arc attached to the gnomon. The instrument is thus adapted for use in any part of the world.

Claim.—The combination of the polar dial A and the equatorial dial B with the semi-cylinder C, when employed instead of a plane surface for the equatorial dial.

78,393.—**John H. Rhodes**, Brooklyn, N. Y.—*Fire Plug.*—May 26, 1868.—The hydrant yields laterally under the impulse occasioned by the unequal flow of water in the hose connecting the same with the fire-engine, and the destructive jarring incident to the ordinary hydrant from such impulse is avoided.

Claim.—The hydrant, having its lower end working on a universal joint communicating with the water-main, and its upper end sustained by suitable springs, substantially as and for the purpose specified.

78,394.—**H. Schuyler Ross**, Buffalo, N. Y., assignor to **Charles G. Ross**, New York, N. Y.—*Baggage Check.*—May 26, 1868.—All or a portion of the names of places on any route are stamped or engraved upon the plate, and holes or beveled slots are formed in the plate at or opposite each name, to receive the lugs of an index or pointer showing the destination of the baggage. Another pointer may be employed to show whence the baggage came.

Claim.—1. The combination of a baggage check, containing many names and perforations, with a separate and detachable pointer or indicator, substantially as herein specified.

2. A detachable metallic index or pointer, so constructed as to securely retain a given position upon a baggage check, containing many names and perforations, substantially as and for the purpose specified.

78,395.—**H. Schuyler Ross**, New York, N. Y., assignor to **Charles G. Ross** and **Henry B Eells**. *Steam Water Ejector.*—May 26, 1868; antedated May 14, 1868.—The auxiliary suction pipe is so arranged relatively to the surrounding steam way or nozzle that the steam employed for forcing the water acts upon the water in a surrounding pipe or reservoir as well as upon the water rising in the auxiliary suction pipe.

Claim.—1. The arrangement of the water pipe or conductor E, in such relation to the steam pipe or jet C, that the discharge end of such water pipe shall open or discharge within the steam pipe or jet, substantially as herein specified.

2. The arrangement of the water pipe or conductor E, so that by a longitudinal movement of the said water pipe or conductor, the flow of steam from the steam pipes or jet C, may be entirely shut off or regulated, substantially as herein specified.

78,396.—**E. W. Sanderson** and **W. A. Shattuck**, Hillsboro County, N. H., assignors to themselves, **Benjamin Whiting**, and **H. J. Miller**.—*Hand Seed-Sower.*—May 26, 1868.—The strap is adjustable and regulates the amount of seed which passes into the delivery groove of the cylinder. The plow yields, when opposed by immovable obstacles.

Claim.—1. The cylinder A, with grooves and straps D, made and arranged and operating with screw F, substantially as and for the purposes set forth.

2. The arrangement of the plow G with spring H, arranged and operating substantially as and for the purposes above set forth.

78,397.—ALVAH L. SAWYER and WILSON BALDWIN, Detroit, Mich.—*Spring Bed Bottom.*—May 26, 1868.—Two rectangular frames, to the upper of which the slats are attached, are connected by a central transverse spring and by blocks interposed between the frames at points between the ends of the spring and the ends of the frame.

Claim.—The combination of the transverse bars A A and F F, the longitudinal bars B B and E E, with the fulcrum blocks C C C C, the crotched transverse spring D, and the slats H H, &c., when constructed, arranged, and operating substantially as herein set forth and shown.

78,398.—AUGUSTUS SCHUFFERT and GEORGE COOPER, Wyandott, Mich.—*Churn.*—May 26, 1868.—The vertical shaft to which the dasher is attached derives motion through gearing from the horizontal shaft.

Claim.—The combination and arrangement of the shafts B and E, together with the wheels C and D, and the dasher, operating as and for the purpose above described.

78,399.—CALEB L. SHOTWELL, Allamuchy, N. J.—*Apparatus for Measuring Cloth.*—May 26, 1868.—The device is used by inserting the tubular nose between the folds of the goods to be measured, the end of the cord being held fast at the point of insertion and running the same around between the folds until the end is reached. The number of yards are indicated on the large dial and the fractions on the small dial.

Claim.—1. The combination, with an apparatus, constructed substantially as described, for measuring cloth in the roll or piece, of a dial or indicator, substantially as described.

2. The combination with a cloth-measuring device, of a reel, cord, and dial, substantially as described, and for the purpose set forth.

3. The measuring apparatus, constructed as described and shown by the drawings.

78,400.—PHILANDER H. STANDISH, Martinez, Cal.—*Mounting the Cutters of Rotary Plows.*—May 26, 1868.—A number of horizontal arms are attached to the bottom of a vertical driving shaft and carry stout iron hubs turning on horizontal axes. Through these hubs the cutters pass vertically, and, for use in soil which contains but few stones, they are braced by pieces of cast iron which is strong enough for ordinary work but which breaks off if the cutter strikes a stone, thus allowing the hub to revolve until the cutter has passed over the stone, when a new supporting piece is attached. In land where stones are abundant a stiff spring is employed in lieu of the cast-iron piece.

Claim.—1. The revolving hubs E E and the supporters F F, constructed and operating substantially as and for the purpose described.

2. A flexible or yielding arm, having the spring G, or its equivalent, together with the rotary cutter, substantially as and for the purpose described.

78,401.—ANSON P. THAYER, Syracuse, N. Y.—*Machine for Grinding the Cutters of Mowing Machines.*—May 26, 1868.—This machine grinds the cutters without detaching them from the harvester. The cutter bar is first moved so as to bring one edge of all the cutters centrally between the fingers, and the foot of the end post is then placed upon the cutter bar and the legs upon the ground, care being taken to have the sliding frame parallel with the edge to be acted upon. The grinding stone being then adjusted in an angular plane to suit the beveled edge of the cutter, the operator, while sitting upon the bench, turns the cranks with both hands, the effect being to rotate the grinding wheel and at the same time cause it to move along and grind the edge of the cutter. The machine is shifted from one cutter to another, and all the edges at one side being thus consecutively ground, the grinding wheel, as also the machine itself, is changed in position so as to grind the opposite edges of the cutters.

Claim.—1. A portable grinding mechanism for grinding the cutters of mowing machines, provided with a bench forming a seat for the operator, substantially as and for the purpose described.

2. A mowing machine grinding wheel provided with means for pressing it upon the cutter blades with a yielding pressure, substantially as and for the purpose described.

3. The combination of the vertical extensions C^1 and C^3 of the frame C with the bench, substantially as and for the purpose described.

4. The mechanism of a portable cutter-grinding machine, constructed substantially as described, in combination with driving mechanism arranged for the application of both hands of the operator to the driving shaft, substantially as and for the purpose described.

5. The combination, with the frame C and the swinging frame D, of the screwed sleeve H provided with a swivel joint, substantially as and for the purpose described.

6. The combination of the oscillating frame D with the feeding screw E arranged within the frame, and serving as the axial support of the same, substantially as and for the purpose described.

7. The rotating feeding screw, in combination with the sliding frame, grinding wheel, and its operative mechanism arranged with the screw, substantially as and for the purpose described.

8. The combination of the frame C with the adjustable sleeves a^1 and a^2, posts B^1 and B^2, and the bench A, substantially as and for the purpose described.

9. The combination of the frame C with the sleeve a^2, post B^2, provided with the spiral spring b^2 and adjustable rings b and b^1, substantially as and for the purpose described.

10. The combination, with the frame C, of the crank shaft C^2, vertical shaft I, and screw shaft E, provided with the connecting-gear wheels, substantially as and for the purpose described.

78,402.—EWING W. TIBBELS, Chester, Pa.—*Stump Extractor.*—May 26, 1868.—The stump is wrenched upon its vertical axis and loosened and torn from the earth, the draught animal moving in a circle around the stump and applying the power to the extremity of the lever.

Claim.—The combination of the wheeled draught axle A, the draught bar D, and the lever E, with the chain and the dog attached thereto, for operation, substantially as and for the purpose specified.

78,403.—L. E. TRUESDELL, Chicago, Ill.—*Lock Bar for Bridges.*—May 26, 1868.—A method of splicing iron bars. Bolt holes in the ends of the bars are dispensed with, the object being to obviate weakening the same.

Claim.—The corrugated ends of two or more bars of iron, A and A^2, B and B^2, when firmly held together within the compressible sides of fluted clamp plates C, D, and E, as and for the purpose specified.

78,404.—Z. B. WAKEMAN, Rockford, Ill.—*Railroad Rail.*—May 26, 1868.—The block is fitted in between the adjacent ends of two opposite rail sections, and a key or wedge is passed through the apertures in the rails and the opening in the middle of the block, thereby securing the three parts together.

Claim.—The combination of the hollow-shell rail A, with its interior notches, and the block B, when connected thereto by the wedge-shaped key C, all constructed as specified.

78,405.—WILLIAM P. WENTWORTH, Detroit, Mich., assignor to himself and THOMAS S. SPRAGUE, same place.—*Stake Holder for Cars.*—May 26, 1868; antedated May 16, 1868.—The object of this holding device is to sustain the stake in a vertical position under heavy lateral pressure, and permit the same to be readily released so as to be turned down.

Claim.—The combination and arrangement of the stake A, the cap or socket B, the strap C, the hinge joint E, the button F, the slot G, the pins H and I, and the bevel K, arranged as described, or any other substantially the same, for the purpose designed.

78,406.—L. F. Wheaton, Madison, Conn.—*Dust Pan.*—May 26, 1868.—The object is to avoid stooping, the points serving to hold the pan firmly in the required position while the dirt is swept thereon.

Claim.—A dust pan, having the points *a* arranged near its handle edge so as to elevate and hold the pan, substantially in the manner and for the purpose described.

78,407.—Carmi Wightman, Batavia, Ill.—*Wool Box.*—May 26, 1868.—A device for packing and tying wool. The four leaves are raised by the treadle in order that they may open and form an extended horizontal surface upon which the fleece is placed. They are raised by hand and settle down within the frame in the form of a box. The fleece being thus made compact is tied by cords which were arranged upon the leaves before placing the fleece thereon.

Claim.—The leaves C C, D D, bed I, frame A B, guides F F, cross piece N, in combination with lever K, pulley P, and cord M, the whole being constructed and arranged to raise and lower said leaves, substantially as set forth.

78,408.—Simon Wing, Boston, Mass.—*Photographic Camera.*—May 26, 1868.—A spring maintains the contact of the partition with the diaphragm; a uniform and simultaneous shut-off is provided for the lenses, and the handle of the shut-off is removable so as to be inserted through the box and attached after the lens block has been introduced.

Claim.—1. The self-adjusting partition C, so acting as to be in contact with the diaphragm in all positions of the lenses, without interfering with the adjustment of the latter, substantially in the manner and for the purpose described.

2. In combination with a sliding shut-off, the handle G, constructed and operated in the manner and for the purpose set forth.

78,409.—Henrietta T. Wood, San Francisco, Cal.—*Ointment.*—May 26, 1868.—Lard, mutton tallow, beeswax, *arnica montana*, and stramonium leaves or flowers.

Claim.—The above-described composition for ointment, made of the ingredients enumerated, mixed or compounded in about the proportions specified.

78,410.—Robert Andrews and Edward Armstrong, Alleghany, Pa.—*Governor Valve.*—June 2, 1868; antedated May 12, 1868.—A valve is suspended by means of a spring, and so arranged with relation to the cylinder and piston and the boiler as to regulate the supply of steam to the cylinder in proportion to the increase or decrease in the pressure of steam in the boiler or in the travel of the piston.

Claim.—The arrangement of the valve B, stem C, spring D, adjustable suspension bar *g*, and column *f*, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

78,411.—Dexter Avery, Westfield, Mass.—*Carrier for Braiding Machine.*—June 2, 1868.—The spring encircles the hook rod, to which the thread is attached, and works in a tubular holder. At the side of the tubular holder is a rod upon which slides a slotted tube from which an arm projects and rests upon the ratchet end of the bobbin, preventing the latter from turning. As the hook rises it raises the arm and liberates the bobbin.

Claim.—The hollow spindle A, spring D, and hook rod C, in combination with the rod *e*, sleeve E, and arm *h*, all made and operating substantially as and for the purpose herein shown and described.

78,412.—George C. Barney, Chicago, Ill.—*Filling for Beds, Cushions, &c.*—June 2, 1868.

Claim.—1. As a new article of manufacture, a bed or mattress filled with paper cut into small pieces, as herein shown and described.

2. The use of paper cut into small pieces, for filling beds, mattresses, cushions, &c., as herein shown and described.

78,413.—D. W. Bashore, Palmyra, Pa.—*Lamp Shade.*—June 2, 1868; antedated May 22, 1868.—The shade is cut through on one side, so that the size of the same may be varied to adapt it to chimneys of different sizes. Openings are made near the top to allow the air to pass through freely.

Claim.—1. An adjustable shade or lamp shade, constructed and arranged substantially as described.

2. In combination with a lamp shade, constructed as described, the openings in the same, at or near where it comes in contact with the chimney, substantially as described, and for the purposes set forth.

78,414.—Andrew F. Baum, New York, N. Y., assignor to L. H. Rockwell.—*Catamenial Sack.*—June 2, 1868; antedated May 22, 1868.—The edges of the sack are rolled into a solid bead or rib and curved with soluble rubber, to make a strong and elastic binding.

Claim.—An India-rubber catamenial sack, formed with rolled edges *a a*, substantially as described.

78,415.—Robert Bell, East Saginaw, Mich.—*Feathering Paddle Wheels.*—June 2, 1868.—An eccentric rim attached to a circular plate, which latter is secured to a loose eccentric on the main shaft, in connection with eccentrics at one end of the buckets, causes the buckets, as the wheel rotates, to turn or "feather," so that they will enter and leave the water with their faces in a vertical position.

Claim.—1. The combination of the circular plate F, eccentric E, rim G, eccentric H, eyes I, and double buckets D, all constructed and arranged as described for the purpose specified.

2. Constructing the buckets with two pieces or faces, *a a*, and fitting the same loosely on fixed axles, C, substantially as and for the purpose herein set forth.

3. The eccentrics H of the double buckets D, connected with the feathering-rim G by means of eyes, I, fitted upon the eccentrics, and bolted to the sides of the rim, the latter being firmly secured to the plate F, as herein described, for the purpose specified.

4. Having the end plates *b b* of the bucket slotted from their centers outward, with plates I*x* bolted to the inner surfaces of the end plates, over the slots, substantially as and for the purpose set forth.

78,416.—James W. Bicknell, New York, N. Y.—*Thill and Pole for Carriages.*—June 2, 1868.

Claim.—Thills, or shafts, or poles, of vehicles, made, in whole or in part, of tubular metal, substantially as herein specified.

78,417.—A. R. Blood, A. Hathaway, and V. R. Beach, Independence, Iowa.—*Cultivator.*—The foot piece rests on the arms of the teeth, so that the latter can be easily pressed into the ground, and are raised by means of a cam lever pivoted to the hind end of the tongue.

Claim.—1. The foot piece M, arranged as described, for pressing the teeth in the ground, substantially as specified.

2. The seed box F, furnished with diamond-shaped holes, in combination with slide *c*, likewise furnished with diamond-shaped holes, and arranged to operate as and for the purpose set forth.

3. In combination with the above, the cam lever I, foot piece M, and arms G G, to which are secured the teeth J J, all arranged as and for the purpose set forth.

78,418.—William Boyd, Hartford, N. Y.—*Machine for Bending Circles.*—June 2, 1868.—For bending irons known as carriage circles or fifth wheels. A table is formed with a succession of circular faces decreasing in diameter upward; two wheels are arranged with their planes at right angles to each other, and a third wheel is on the opposite side; a jointed lever is used to raise the wheels to get the rod or bar under them.

Claim.—The wheels H I L, table A, and jointed lever C B E, set screws *b b*, and circular faces *a a a*, all constructed and operating substantially as and for the purpose shown and described.

78,419.—Wesley Bradley, Vienna, Me.—*Cart Body.*—June 2, 1868.—The rod for securing the tailboard is bent at different angles, and fastened by a spring catch.

Claim.—The bent rod C, provided with the handle, in combination with the pin for fastening, as shown, for the purpose herein described and set forth.

78,420.—James M. Bryan, Penningtonville, Pa.—*Tire Bending and Punching Machine.*—June 2, 1868.—An unequal armed lever pivoted to a stand, bears with its short arm against the long arm of a similar lever, which is pivoted to links or stirrups. A rest extends across the bed plate beneath the mandrel, and is provided with bearings which carry cylindrical rollers or formers. The bending die is secured to the lower end of the mandrel.

Claim.—1. The arrangement, herein described and shown, of the levers B and C, supports B′ and D′, and stirrups C′ and *d*, for the purposes set forth.

2. The arrangement, herein described, of the rest E, rollers F F, adjustable die *d*², and mandrel D, for the purposes set forth.

78,421.—Daniel Budd, Valatia, New York.—*Machine for Cleaning and Renovating Feathers.*—June 2, 1868.

Claim.—1. An apparatus for cleansing and drying feathers, consisting of a feather-holding vessel, heated by means of steam, admitted either into the vessel or into a jacket or jackets applied thereto, and combined with beaters or agitators, for stirring the feathers within said vessel, substantially as and for the purposes shown and set forth.

2. The combination; with the feather-holding vessel, of the steam-jackets or chambers upon the exterior of the same, one of said chambers being perforated so as to allow steam to pass into the interior of said vessel, and the branch pipes and cock for supplying the steam to said chambers, under the arrangement and for operation, as set forth.

3. The combination, with the jacketed feather-holding vessel, as described, of the rotary beaters or arms, and spindle and crank with which they are connected, mounted in the said vessel, substantially in the manner and for the purposes herein shown and set forth.

78,422.—Albert G. Buzby, Philadelphia, Pa.—*Railroad Rail.*—June 2, 1868.—A thin plate of steel or iron covers the adjacent ends of two rails, which are recessed on their treads; it is bent beneath their flanges, to prevent the jar to the wheels in passing the ends of the rails.

Claim.—A clip composed of a thin flexible plate of steel or tough iron, bent and applied to a rail or rails, substantially as and for the purpose herein set forth.

78,423.—Daniel Caine, Battle Creek, Mich.—*Machine for Sowing Fertilizers and Seeds.*—June 2, 1868.—A revolving stirrer, a reciprocating serrated clearer and feeding roller are so arranged as to mix evenly the fertilizing material and seed in a single hopper while being sown.

Claim.—The hopper A, in combination with the stirrer E, clearer F, and feeding roller R, arranged relatively with each other, and with an axle, D, and wheels W, and constructed and operated substantially in the manner and for the purpose as set forth.

78,424.—Alex. Campbell, Oxford, Ind.—*Corn Cultivator.*—June 2, 1868.—The standards are secured in mortises in the frames at any desired angle, by means of wedges and stay rods, so as to admit of their being changed and adjusted as required.

Claim.—The attaching of the upper ends of the standards B to the frame A, by pivoting the former in mortises *b* in the latter, in connection with the rods *d* and the adjustable bar *e* attached to the draught pole, all arranged substantially as and for the purpose set forth.

78,425.—Wesley B. Campbell, Abington, Iowa, assignor to himself and Harrison Smith, same place.—*Rotary Steam Engine.*—June 2, 1868.—The wheel runs in a chamber in the steam chest. The floats are attached to the hub of the wheel only at their middle portion, the ends extending over the hub, leaving a space between the floats and the hub sufficient to receive the flange of the side pieces of the steam chest, so that the steam shall act on the floats, and not press on the hub of the wheel.

Claim.—1. The arrangement of the wheel B, floats B′, the ends *b*, flanges *c*, side plates C, and steam chest A, whereby to relieve the hub from the pressure of the steam, substantially as set forth.

2. The arrangement of the wheel B, the valves F, arms G, rods H, and cams I, substantially as set forth.

78,426.—N. L. Carpenter, Natchez, Miss.—*Steam Boiler Furnace.*—June 2, 1868.—Vertical wells or recesses are sunk in the brick work beneath the boiler, into which recesses project deflecting plates attached to the boiler. Near the bridge-wall is arranged a perforated tube for the admission of air to aid combustion.

Claim.—1. In combination with a steam boiler, the wells or recesses D, E, and F, (more or less in number,) and the deflecting-plates G, arranged substantially as and for the purposes herein shown and described.

2. In combination with the wells D, E, and F, and plates G, the perforated air-tube H, substantially as and for the purposes described.

78,427.—William T. Carroll, Medway, Mass.—*Rings for Spinning Machine.*—June 2, 1868.—Extending from the top surface of the ring supporter is a flange, or there may be three short posts, through which pass adjusting screws, by which the ring may be readily adjusted with reference to the spindle.

Claim.—The combination as well as the arrangement of the flange *c*, or the posts *f* and the adjusting screws *e*, with the ring A, and the supporter B thereof, to be placed on and within the ring rail, as specified.

78,428.—A. W. Case, South Manchester, Conn.—*Thrust Bearing.*—June 2, 1868.—One or more wheels are formed upon or attached to the shaft, and two friction wheels are placed upon each side of the shaft and parallel with it. A piece of candlewick passes through holes in the blocks, under grooves in the under side of the journal, into an oil cup.

Claim.—1. An improved thrust bearing, formed by the combination of the wheels E, one or both, and friction wheels D, with each other and with the shaft B, substantially as herein shown and described, and for the purpose set forth.

2. The oiling device, formed by passing a piece of candlewick, or other suitable fibrous conductor, through holes in the blocks C, and along grooves in the under side of the journals of the friction wheels D, substantially as herein shown and described, and for the purpose set forth.

78,429.—Henry S. Chapin, Delhi, Ohio.—*Railroad Frog.*—June 2, 1868.—An arrangement of chairs and rails at the intersection of two tracks, the rails being made in short lengths or sections at the ends most subjected to wear, so as to be readily removed for repairs.

Claim.—The chairs A, constructed substantially as set forth in the described combination with the sections or pieces of rails B C D E, arranged as described, and for the purpose specified.

78,430.—Henry C. Clark and Robert B. Little, Providence, R. I.—*Apparatus for Conveying and Dumping Coal.*—June 2, 1868.—The bucket is constructed with a hinged gate provided with a pin or stop, which, striking against an obstacle, causes the gate to open and discharge the contents. The carriage for holding the bail rests on the inclined track in such a manner that it can be moved up by the loaded bucket while the same is being dumped, to prevent the abrupt stoppage of the bucket and injury to the working gear.

Claim.—1. The construction of a conveying and dumping apparatus or bucket, A, with a hinged front gate, B, and stop *a* attached thereto, and operating substantially as herein shown and described.

2. The clasp F, for securing the rope C to the truck D, said clasp consisting of two plates, *c* and *d*, hinged and locked together, substantially as herein shown and described.

3. The adjustable carriage G, running on the outer

edge of the track E, and holding the dumping bail H, suspended by a chain or cord, *n*, the said carriage being free to be moved upward on the track, substantially as and for the purpose herein shown and described.

4. A coal-conveying and dumping apparatus, consisting of the bucket A, having the hinged front B, with the stop *a* of the rope C, clasp F, truck D, carriage G, and bail H, all combined with each other, and made and operating substantially as herein shown and described.

78,431.—S. P. COLE, Janesville, Wis.—*Uterine Supporter.*—June 2, 1868.—Designed as an improvement upon patents Nos. 41,607 and 64,644. The cup is of hard rubber, surmounted by a soft-rubber ring of elliptical form, in which is secured a diaphragm composed of a thin sheet of soft rubber.

Claim.—The uterine supporter, formed by the combination of the soft-rubber cushion A, of elliptical form, the cup B, soft-rubber ring R, and soft-rubber diaphragm *d*, substantially as herein shown and described, for the purpose specified.

78,432.—WILLIAM HENRY COX, Portland, Me. —*Sand Throwing Machine.*—June 2, 1868.—To a cylindrical, hollow handle is attached a V-shaped body, the end of which is provided with a slot, having a lip extending somewhat below the same, so that the sand may be thrown out by using one hand only.

Claim.—The sand-throwing machine or device, constructed as herein set forth and for the purposes specified.

78,433.—WILLIAM R. CRANDALL, Deansville, N. Y.—*Hop Box.*—June 2, 1868.—A cubical box or frame is divided into four compartments, in which are fitted bottomless boxes, over which the sacks for containing the hops are slipped. When the boxes are filled they are drawn out, leaving the hops in the sacks.

Claim.—The hop boxes *a a a a*, and bottomless compartment boxes *d d d d*, substantially as shown and described, constructed and employed together, all as and for the purpose set forth.

78,434.—LYMAN B. CRITTENDEN, Pittsburg, Pa. —*Press for Finishing Brick.*—June 2, 1868.—By means of the gasket and sub-plunger any excess of material is pressed upward into the chamber under the plunger, and if the material be deficient the gasket or sub-plunger forces the material outward from the center to the edges of the brick, for the purpose of insuring solidity and uniformity. The sliding frame operates on a slider or cross-bar, acting as a feeder, and carries one or more brick trays.

Claim.—1. In a machine for pressing brick, the construction and use, either singly or in gangs, of a plunger, *m*, chambered on its under face, and fitted with a sub-plunger of any elastic or non-elastic material, such sub-plunger being supported by or resting against a spring or a cushion of condensed air, or other equivalent device, substantially as and for the purposes hereinbefore set forth.

2. The use of wedge-shaped guides *i*, in connection with a cross-bar, *h*, or its equivalent, for regulating the position of the bricks on each platen or tray F, so that they shall be fed directly under the pressing devices, substantially as above set forth.

3. The boxes *l* and plungers *m*, with suitable devices for imparting to them the motions described, in combination with a feeding device consisting of a sliding frame, D, cross-bar, *h*, and guides, *i*, the whole being constructed and operated substantially in the manner and for the purposes hereinbefore set forth.

78,435.—G. B. CUBBERLY, Milwaukee, Wis.—*File.*—June 2, 1868; antedated May 20, 1868.—The object is to produce a file which can be sharpened on a common grindstone, which is effected by removing the handles and end blocks to grind the teeth on the sides. To grind the edges, the side key is removed.

Claim.—Stock A, end blocks B, side key C, and teeth D, in combination, substantially as and for the purpose described.

78,436.—JAMES M. CUYKENDALL, Metomen, Wis.—*Horse Shoe.*—June 2, 1868.—A wedge-shape dovetail is secured to the upper surface of the calks, said dovetail fitting in grooves on the under side of the shoe. A screw in the side of the shoe prevents backward motion of the calk, and the latter can be readily inserted or removed.

Claim.—1. Inserting the screws D into the side of the shoe directly beneath the calks, in such a manner that the heads of the screws bind upon the calks and secure them in place, substantially as herein shown and described.

2. The grooves *c* in the center of the tenon a' of the toe calk C, in combination with the tenon *d* in the groove b', and with the screw D, all made and arranged substantially as and for the purposes herein shown and described.

78,437.—O. E. DOOLITTLE, Boston, Mass.—*Fruit Preserving Box.*—June 2, 1868.—The absorbent substance deposited between the bulkheads is designed to absorb the moisture evaporating from the fruit, and the large body of air contained between the inner and outer boxes assists in the preservation of the fruit.

Claim.—1. The combination and arrangement of two or more boxes, the inner one being the containing box, and the space between filled with air, and communicating with the inside of the containing box by the help of slats or apertures, when the same is used in combination with a moisture-absorbing substance contained within the limits of the inner box, for the purpose of preserving fruit, all substantially as described.

2. In boxes for preserving or containing fruit, the placing of a moisture-absorbing substance or substances in communication with the atmosphere around the fruit, all substantially as and for the purpose described.

78,438.—R. H. DORN, Port Henry, N. Y., assignor to himself and I. J. GREENE, same place.—*Boot Crimping Machine.*—June 2, 1868.—Upon a suitable bench a slide is made to move forward and back by a pinion gearing in a rack, on which rack is carried a series of right-angled formers. These formers pass between two clamping jaws provided with smoothing rollers, which bear against that part of the leather which is crimped in the angle of the formers, producing a smoothing or rubbing action.

Claim.—1. The slide B, provided with the crimping formers b', in combination with the clamping sliding jaws *c c*, substantially as and for the purpose described.

2. The slide B, provided with the crimping forms b', in combination with the clamping sliding jaws *c c*, provided with the rigid plates D, substantially as and for the purpose described.

3. The combination with the plates *c c*, slide B, and crimping forms of the smoothing rollers, substantially as and for the purpose described.

78,439.—GEORGE DOUGLASS, Bridgeport, Conn. —*Carriage Spring.*—June 2, 1868.—The object is to prevent jars or concussion from being transmitted from the seat to the spring, and to allow to the latter a greater yielding movement or play.

Claim.—The insertion of India-rubber strips *b b* in chambers or recesses *a a*, in the cast metal socket or seat A of the spring, substantially in the manner as and for the purpose herein set forth.

78,440.—NOAH DREW, Howell, Mich.—*Washing Machine.*—June 2, 1868.—A series of yielding and adjustable plunger heads are attached to a rotary crank shaft, and act successively against the clothes.

Claim.—A connecting rod constructed in two parts, r^1 r^2, in combination with the tube *t*, spiral or equivalent spring *s*, and adjustable plunger heads *p*, substantially as and for the purpose herein described.

78,441.—WARREN W. DUTCHER, Hopedale, Mass.—*Temple for Looms.*—June 2, 1868.—A mode of fastening the spindle of the temple roller in place, the object being to dispense with the screw heretofore cut on the spindle for that purpose.

Claim.—The temple, constructed substantially as described, the trough standard, and the inner end of the overhanging cap, being provided with sockets, closed at their outer ends, such sockets being to receive and hold the roller spindle in place, in manner as set forth.

78,442.—Harmon P. Eckles, Catskill, N. Y.—*Combined Cultivator and Hoe.*—June 2, 1868.—The frame in which the shafts of the cultivating paddles have their bearings is loosely attached to the axle, and the frame carrying the cultivator teeth has pivotal attachment to the forward part of the main frame, and both frames are adjustable vertically by a lever.

Claim.—1. The fans or paddles *f f*, when attached to shafts K K, and operated substantially as and for the purpose specified.

2. The combination of the shafts A and K K, gear wheels I I, and H H, and frame S, when arranged substantially as described, and for the purpose of operating the paddles or plates *f f*, as herein specified.

3. The combination of the cultivator frame L with its teeth M M, secured to the frame C, as described, with the shafts K K, frame S, and paddles *f f*, for the purpose of cultivating or pulverizing the earth, and ridging or hilling the same, at one and the same time, as herein set forth.

78,443.—Augustus R. Ehlers, Tannersville, Pa.—*Saw Mill.*—June 2, 1868.—The saw advances and increases the bite of the teeth during the down stroke, and recedes during the up stroke.

Claim.—The combination and arrangement of the oscillating slide *c*, the oscillating guide rods *e e*, the rock shafts *g g′*, and the eccentric *k* on the driving shaft B, for producing a forward and backward movement of the saw below its upper end, which moves in the same vertical plane, as herein shown and described.

78,444.—Lucius H. Emmons, Noblesville, Ind.—*Mop Head.*—June 2, 1868.—The rotation of the screw attached to the handle causes the clamping piece to move toward or recede from the hooks, and thus the mop cloth may be grasped or released without manipulation.

Claim.—The piece A, furnished with the hooks D, and the piece E, arranged in relation thereto, and operated by means of the screw B, substantially as and for the purpose set forth.

78,445.—John S. Everitt, Oshkosh, Wis.—*Adjustment of Gearing for Horse Powers.*—June 2, 1868.—An adjustable clutch is placed upon the shafts carrying the master pinions of the horse-power, which pinions may be thereby slightly rotated and adjusted upon their shafts, for the purpose of insuring the proper relative positions of all parts of the gearing and equalizing the strain upon the teeth.

Claim.—The clutch, with inclined faces, for the purpose of adjusting the gearing of the horse-power, as set forth.

78,446.—August Fessler, Vienna, Austria, assignor to Joseph R. Von Wessely, New York, N. Y.—*Hand Stamp.*—June 2, 1868.—The handle slides upon the tubular ink reservoir, and is connected by a yoke, with a stamp suspended on trunnions, which pass through vertical slots in the stationary frame. The handle is held in its elevated position by the spring, and the stamp, when at rest, has its face turned upward and held in contact with the inking pad. When the handle is depressed the projection on the stamp passes between pins on the frame, causing the stamp to turn so as to present its type side downward. The stamp is likewise reversed during its ascent.

Claim.—1. The large air-tight tubular reservoir, constructed and arranged as and for the purposes set forth.

2. The combination of the open frame, the tubular reservoir, the tubular handle, the yoke, the stamp, and the reversing devices, these parts being arranged as described, for joint operation.

78,447.—Richard C. Fleming, Philadelphia, Pa.—*Vent for Barrels.*—June 2, 1868.—The expansible bag is supplied with air so as to increase its bulk, and thus fill the space produced by drawing off the contents of the barrel, without permitting the air to come in direct contact with the contents.

Claim.—1. The combination of the screw ring A with the tube C, tubular rod E, and bag D, all made and operating substantially as herein shown and described.

2. The bellows F, in combination with the device set forth in the foregoing clause.

78,448.—Andrew French, Philadelphia, Pa.—*Machine for Grinding the Cutter of Mowing Machines.*—June 2, 1868.—The grinding surface of the grindstone or emery wheel is made to traverse in a plane or any required curvature, to grind the edge of the cutting tool. The device is designed for dressing the edges of harvester cutters and other tools, and may be made to give the bevel back of the cutting edge the required slant.

Claim.—1. The swinging or vibrating frame G, hinged at the end opposite the grindstone or emery wheel, consisting of the post *i*, arm *k*, and continuation V of the said arm *k*, in combination with the lowering and raising adjustments, made in the manner and for the purpose described.

2. The guide plate B, made in the manner and for the purpose described.

3. The slide D and set screw *e*, in combination with the guide plate B, swinging or vibrating frame G, and sliding slot U, as described, and made in the manner and for the purpose indicated.

4. The wheels or pulleys M and N, swinging or vibrating frame G, slide D, set screw *e*, and emery wheel or grindstone C, in combination with the guide plate B, made in the manner and for the purpose described.

78,449.—James E. A. Gibbs, Steele's Tavern, Va.—*Door Lock.*—June 2, 1868.—The two bars or bolts extending outward at either side of the key hole, have attached to their inner ends rack bars, which engage with a gear wheel on the inner end of the cylinder. When the cylinder is revolved the beveled ends of the guards slide along the face of the cylinder, and do not interfere with its movement, but in case an improper key is used the ends of the guards drop into the slot of the cylinder and prevent its movement.

Claim.—1. The combination of the series of guards or wards N with the slotted cylinder E, substantially as herein shown and described, and for the purpose set forth.

2. Forming the key K in such a manner that it may fill up the slot in the cylinder E, and so that its face may correspond with the face of said cylinder, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the tumbler L with the slotted cylinder E, and with the guards or wards N, substantially as herein shown and described, and for the purpose set forth.

78,450.—Alfred Goodrich, Burnt Prairie, Ill.—*Stump Extractor.*—June 2, 1868.—The windlass shaft is turned by vibrating the lever, the link of which engages and releases the teeth of the larger ratchet wheel successively. The pawl and smaller ratchet wheel maintain the acquired tension while the link is moving from one tooth to another.

Claim.—The construction and arrangement of the pyramidal frame P upon the runners R, shaft S, ratchet wheels *u w*, of unequal diameters, pawl *h*, standard S′, pivoted lever L, and link *i*, as herein described for the purpose specified.

78,451.—Thomas Grist, Philadelphia, Pa.—*Reflecting Gas Burner.*—June 2, 1868; antedated May 19, 1868.—The burner surmounting the reflector is designed to illuminate the upper part of the room. The holes in the reflector for the admission of the pipe being larger than the latter, the air has free passage through the burner and keeps it cool.

Claim.—1. The arrangement of the burner *e*, on the top of the reflector F, as and for the purpose set forth.

2. The combination of the distributor B, pipe E, passing through the reflector, and the burner *e*.

3. The perforated washers *h* and *i*, in combination with the pipe E, the reflector F, and the openings in the latter.

78,452.—William C. Hooker, Abington, Ill.—*Gate.*—June 2, 1868.—When the gate is in position to close the roadway the pivoted frame to which the gate is pivoted at top leans over the gate.

Claim.—The gate B B B, swung between the swinging frames D D, substantially in combination with cords E E, or their equivalent, the uprights A A, and weights J J, all as and for the purpose set forth.

78,453.—C. H. Howard, Lewiston, Me., assignor by mesne assignment to himself and Horace N. Jordan, same place.—*Warping Frame.*—June 2, 1868.—A device for carrying the slack of the yarns above the warper frame when, by reason of a breakage, the yarn beam is suddenly stopped.

Claim.—The combination with the stationary guide rolls, or rods o, of the weighted rising rod, bar, or roll, so arranged as, in its ascent, to take up the slack, substantially as set forth.

78,454.—Henry Howard, Springfield, Mass.—*Valve Gear for Steam Heating Apparatus.*—June 2, 1868.—The induction and eduction valves are in one case, both being opened and closed simultaneously by the turning of the same wheel. The screw-threaded pipe connecting the double valve case and heater is provided with a partition, and that part of the pipe which communicates with the induction valve is extended to facilitate the egress of water from the heater during the ingress of steam.

Claim.—1. The double case F, in combination with valves g g', substantially as herein set forth.

2. The partitioned pipe G, formed on the double valve case F, as herein specified.

3. The prolongation I, formed on pipe G, as herein specified.

4. The valve g and stem e, in combination with the valve g' and stem e', bar D, screw E, and case F, substantially as herein specified.

78,455.—Asa Hoyt, Chicago, Ill.—*Pavement for Streets and Walks.*—June 2, 1868.

Claim.—1. The use of gas-house lime in compounding street pavements, when mixed and applied substantially as specified, and for the purposes set forth.

2. A pavement compounded as specified, that is, of small stone and gravel, coal or pine tar, sand, cement, and gas-house lime.

3. The use of alum water at the time of laying, as specified.

78,456.—Edward P. Hudson, New York, N. Y.—*Furnace for Roasting Ores.*—June 2, 1868.

Claim.—1. Forcing heated air or oxygen, in addition to the products of combustion, through ores, for the purpose of removing sulphur, phosphorus, and similar injurious substances therefrom, substantially as herein specified.

2. The chamber or reservoir a, below the bottom of the fire chambers or flues, with a passage or passages h, at or near the base thereof, through which air is forced and heated by the roasted ores therein, and in turn cools the said ores ready for withdrawal, substantially as herein specified.

3. Introducing air, in excess of that required for combustion, but regulated in quantity, into the ores, through the fire chambers, over the fires, so as to be heated thereby, before passing through the ores, substantially as herein specified.

4. The arrangement of one fire chamber higher than the other, substantially as and for the purpose herein specified.

78,457.—Samuel Hulbert, Ogdensburg, N. Y.—*Plow.*—June 2, 1868.—The several parts of the plow are connected together by keys driven between projecting surfaces, and forming, in conjunction therewith, a dovetail coupling, the object being to dispense with bolts.

Claim.—The improved manner of fastening the plow and cultivator together, separately and connectedly, in manner and for the purposes as herein described and constructed.

78,458.—Edward Jewett, Rindge, N. H.—*Veneer Cutting Machine.*—June 2, 1868; antedated May 18, 1868.—The bolt from which the veneer is cut is held upon the carriage by means of dovetailed ribs projecting from the face of the carriage and entering corresponding grooves in the bolt, which may be prepared to receive the ribs before being subjected to the heating and steaming process which the wood undergoes, to fit it for the action of the cutters.

Claim.—1. Attaching and securing the "bolt" to the carriage A by means of dovetailed ribs D D, substantially as and for the purpose set forth.

2. The adjustable ribs D D, moving in grooves cut in the carriage A, and secured by set screws, or their equivalent, substantially as and for the purpose set forth.

3. The vertically adjustable clamping rib, (Fig. 7,) substantially as and for the purpose set forth.

78,459.—Geo. Kirtland, New Haven, Conn., assignor to S. Smith, same place.—*Lightning Rod.*—June 2, 1868.—The coupling for joining the tubular sections consists of a central cylindrical part, and two tapering plugs projecting from the respective ends of the central portion. The plugs are forced into the adjacent ends of the tubes, the surface of the cylindrical part being coincident with the periphery of the rod when the coupling is completed.

Claim.—1. The internal connection for tubular lightning rods, constructed substantially in the manner herein set forth.

2. The socket L, provided with an India-rubber packing, in combination with the rod E, so as to operate substantially as specified.

78,460.—Moses Lewis, Odell, Ill.—*Harvester Cutter.*—June 2, 1868.—For cutting grass, a guard facing is placed in recesses in the fingers, said guard facing consisting of a bar having teeth which coincide in position with and project slightly at each side of the fingers. The grass is cut between the teeth of the guard facing and of the cutter bar.

Claim.—The removable bars D F, adapted to be substituted, one for the other, in the same finger bar, for reaping or mowing, as herein shown and described

78,461.—Thomas R. Markillie, Winchester, Ill.—*Tightening Wheel Tires.*—June 2, 1868; antedated May 27, 1868.—The contiguous ends of the tire are upset and formed into heads tapped to receive a right and left screw by which the tire is tightened or loosened. Covering the screw is a cap forming a continuation of the curve of the tire, and provided with side walls. On the inside is a metal shoe adjustable with the cap.

Claim.—The cap E, with side walls thickened at e, for the purpose described, the plates c c, the shoe F, and bolts d, arranged as described, combined with the tire B and felloes A, substantially as and for the purpose set forth.

78,462.—Carlo Margutti, Milan, Italy.—*Railway.*—June 2, 1868.—Relates to a mode of constructing locomotive engines and the tracks over which they run, so as to increase the friction or traction between the engine and the track, for ascending inclined planes, and passing around curves of short radii.

Claim.—1. A locomotive, provided with the eccentric segments F', which act upon a corrugated or wave-shaped rail M, in the manner substantially as shown and described.

2. Operating the eccentric segments F' by means of the reciprocating bars D D' and the attached bearings E of the same, substantially as shown and described, and for the purposes set forth.

3. The combination of the reciprocating bars D D' with the steam-driving cylinders P, substantially as shown and described, and for the purposes set forth.

4. The arrangement of the bars D D', connected together substantially in the manner shown and described, so that the movements of the bars D D' on one side, and its attachments, will produce a movement in the opposite direction of the other bars D D' and their attachments.

5. The combination of the reversing pulleys F with the eccentric segments F', substantially as herein shown and described.

6. The springs a in combination with the eccentric

segments F′, substantially as shown and described, and for the purposes set forth.

7. The slots a^2 in the eccentric segments F′, as and for the purposes shown and described.

8. In combination with the eccentric segments F′ and pulleys F, the buttons *e*, for holding said segments F′ against the pulleys F, substantially as shown and described.

9. In combination with the eccentric segments F′, the rail M, constructed and arranged substantially as described, for the purpose specified.

10 The propulsion of railway cars by means of corrugated or worm-shaped rails M, and a locomotive mechanism in conjunction with said rails, substantially as shown and described, and for the purposes set forth.

78,463.—WILLIAM MASON, Taunton, Mass.—*Mounting Picker Staffs.*—June 2, 1868.—The under surface of the rocker is V-shaped in cross section and fits in a corresponding concave of the bed. An open link consisting of two cylindrical journals keeps the rocker in its right place on the bed, the form of which latter prevents sidewise motion in the picker staff.

Claim.—The bed, formed with a V-shaped groove, and the rocker, with its under surface of the corresponding form, in combination with the open link, by which the rocker is kept in place on the bed, substantially as and for the purpose set forth.

78,464.—DON CARLOS MATTESON, Stockton, Cal. —*Gang Plow.*—June 2, 1868.—To the front ends of two parallel beams of unequal length are secured two metal bars extending downward and provided with a perforated bar that carries an adjustable plate having a ring to which the doubletree is attached. The arbor that carries the caster wheel at its side is provided with a scraper extending from it at right angles.

Claim.—1. The bars E F, attached to the front ends of the beams A B, with the perforated draught-bar G attached thereto, substantially as and for the purpose specified.

2. The attaching of the caster wheel J to a single arbor, K, provided with a scraper, *f*, substantially as and for the purpose set forth.

78,465.—HIRAM S. MAXIM and JOHN F. LOCKWOOD, New York, N. Y.—*Gas Machine.*—June 2, 1868.—This machine is intended more particularly for use on railroad cars. Hydrocarbon in a reservoir is heated by a flame produced from the contents of the reservoir, the gas thus produced operating a valve, which, when closed, prevents the further escape of liquid to the flame. When the heat is too high, it will cause the gas in the reservoir to expand and close the valve. The fire will then go out until so much of the gas has escaped that the valve will again open, when the fire will at once be started again. The heat is thus governed and controlled by the state of the contents of the tank.

Claim.—1. In an apparatus for making carburetted air, controlling the heat used for evaporating the hydrocarbon liquid by the pressure of the contents of the vessel in which the said liquid is held, as set forth.

2. Constructing the tank A with an elastic head, side, or bottom, *b*, by which the position of the valve B is controlled, as set forth.

3. Drawing the air to be carburetted into the pipes through which the hydrocarbon vapor is conducted by means of the escaping force of the vapor, as set forth.

4. The manner herein described of heating or boiling hydrocarbon liquid with a flame of its own gas, said flame being increased or diminished by the pressure of the vapor so generated, as set forth.

5. The tank A, valve B, pipes *c*, *d*, *f*, and *g*, arranged and operated as set forth, to cause the heating of the contents of the tank, as set forth.

6. The above, in combination with the elastic head *b*, made as set forth.

7. Arranging an independent burner, *l*, in the pipe D, substantially as set forth, for the purpose of igniting the burners *g g*, as specified.

8. The jet pipe *j*, arranged in the tube E, for the purpose of causing the escaping vapors to draw air into the tube E, and to have such air carburetted, as set forth.

9. The outer case G, in combination with the gas apparatus, as set forth, said case being provided with apertures or valves.

10. A gas machine, made and operating substantially as herein shown and described, and consisting of the tank A, elastic head *b*, valve rod C, valve B, pipes *c*, *d*, *f*, and *g*, discharge pipes D and E, jets *h* and *j*, burner *l*, and splashing board *n*, all made as set forth.

78,466.—PATRICK J. MCGUINESS, New York, N. Y.—*Bridle Bit.*—June 2, 1868.—The bit is composed of two pieces hinged or pivoted together in the middle, one end of each piece being connected with the reins, while the other end carries a step which is near to the end of the other bar, and which when on the rear side of the bar prevents the two bars from turning independently around their pivot, and when the step is in front of the other bar, the two bars will be turned when pulled by the reins, thus acting as a curb bit.

Claim.—As a new article of manufacture, a curb and driving bit, consisting of the bars A B, provided with rings *b*, stops *c*, and sliding check pieces *d*, when said bars are each curved in opposite directions from the center, all constructed, arranged, and operating as set forth.

78,467.—JAMES MONTGOMERY, Croton, N. Y.—*Car Axle and Wheel.*—June 2, 1868; antedated May 16, 1868.—Intermediate bars of double-headed shape in their transverse section are combined with segmental bars arranged to resemble the double frustum of a cone and welded together at the ends of the axle for the length of the sockets. The outer ring and central brace or stay are cast in one piece, and have orifices through which the segmental bars are passed, to prevent slipping of the ring. The eyes or hubs to the wheels and bearings to the same are cast on the ends of the axle.

Claim.—1. In reversely conical-shaped axles, made up of segmental bars, as described, the insertion, between the latter, and welding with them at their ends, of I-shaped bars, substantially as specified.

2. The combination, with a reversely conical-shaped axle, composed of segmental or separate bars, arranged as specified, of the outer ring and interior central brace B, cast in one piece, and through which the bars are run or passed, as herein set forth.

3. The combination, with the axle made of wrought metal, of the wheel hubs or central portions cast thereon, together with their bearings or journals, essentially as specified.

78,468.—ROBERT C. MORTON, West Lubeck, Me.—*Ore Separator.*—June 2, 1868.—This invention relates to the separation of metallic ores by the pulsation or undulation of water and consists of a series of plunger levers vibrating above a series of water cells, the plunger levers and cells being arranged to pulsate the water with different degrees of force.

Claim.—1. The series of lever or hinged plungers C C′ C″ C‴, &c., acting upon the series of cells D D′ D″ D‴, substantially as shown and described, in combination with the corresponding compartment tray H, all as and for the purpose set forth.

2. The adjustable bars *s*, substantially as shown and described, in combination with the rollers *d* and cams *e* of the shaft *h*, all as and for the purpose set forth.

3. The lever cocks *k*, substantially as shown and described, in combination with the box G, slide E, and plungers, all substantially as shown and described, and for the purpose set forth.

4. The bar A, rubber springs *j*, plates *f*, and lever plungers, all constructed and operating substantially as shown and described, and for the purpose set forth.

5. Tray H, having partitions *u u u*, substantially as shown and described, in combination with a series of plungers and a series of cells D D′ D″ D‴, all as and for the purpose set forth.

78,469.—CRAWFORD MUNNS, New York, N. Y. —*Stump Extractor.*—June 2, 1868.—The triangular frame is pivoted to the platform by a pintle bolt so that it can be readily moved to front in any direction. The platform is composed of hinged leaves attached to a middle part which enables it to be readily adapted for transportation.

Claim.—1. The pintle *d*, in combination with a stump extractor and its base or platform, substantially as described for the purpose specified.

2. The triangular frames A A of a stump extractor, arranged substantially as shown and described, and secured to the base B by means of the pintle bolt *d*, or its equivalent, for the purpose set forth.

3. The hinged leaves B′ B′ and base B, in combination with a stump extractor, all constructed, arranged, and operating substantially as shown and described for the purpose set forth.

4. The platform B, substantially as shown and described, when combined with the pintle bolt *d* of a stump-extracting machine, all as set forth.

78,470.—CHARLES MURDOCK, Ellenville, N. Y.—*Machine for Crozing and Chamfering Barrels.*—June 2, 1868; antedated May 18, 1868.—The cutter blades are caused to move forward toward the barrel, and acting upon the inner surface of the same, produce the necessary chamfer thereof, and crozes or grooves therein to receive the barrel heads, the cutters, after such operation has been completed, being withdrawn from the barrel, when it can be removed and another inserted in its place.

Claim.—1. The combination of the sliding frames E E, upon each side of the main frame, and bearing the crozing and chamfering cutters J K, with the barrel-holding frame *g*, all operating as described, whereby both ends of the barrel are chamfered and crozed at the same time, as herein shown and described.

2. The arrangement of the sliding frames E E, in which the cutter-head shafts are hung and turn, connecting-rods V V, and lever arm T, in combination with the sector-shaped arm R, all arranged together and operating as and for the purpose specified.

3. The arrangement of the sliding sleeve Y, having wedge-shaped arms, of the cutter-head shafts, connecting levers W W, lever arm U, and sector-shaped arm S, all connected together and operating as and for the purpose specified.

4. The barrel-holding frame *g*, having spring jaws for grasping and holding the barrel while being operated upon by the croze and chamfer cutters, arranged so as to be raised or lowered, substantially in the manner described and for the purpose specified.

78,471.—WILLIAM H. MYERS, Baltimore, Md., assignor to SYLVESTER MATHIAS, same place.—*Tuyere.*—June 2, 1868.—Across the top plate are two ridges provided with slots penetrating to the air chamber, and serving as outlets for the air from the bellows. The escape pipe passes down from the center of the fire bed through the bottom of the air chamber.

Claim.—1. An escape pipe D, or its equivalent, independent of the duct which conveys the blast to the fire, descending from the center of the tuyere, to convey away ashes, dust, &c., from the bottom of the fire, and to admit a direct draught when the bellows is not in operation, substantially as set forth.

2. A tuyere, constructed with the air chamber B, outlets C C, and the escape pipe D, substantially as described.

78,472.—FRIEDRICH NEUHAUS, Belleville, Ill.—*Tailor's Seat.*—June 2, 1868.—The seat is provided with a fixed or a hinged back, and with a vertical backward and forward as well as a laterally adjustable elevated knee support, so as to enable the occupant to sit with his legs comfortably supported, and without interrupting the circulation of blood in the same.

Claim.—1. A tailor's seat, provided with a back, B, and an adjustable knee support, F, substantially as herein shown and described.

2. The devices herein shown and described of attaching the cushion F to the seat A, said devices consisting of the eye *a*, rods C, D, and E, all made as described, and operating so as to allow the backward and forward, up and down, and lateral adjustment of the cushion, as set forth.

78,473.—H. B. NORTON, Rochester, N. Y.—*Potato Digger.*—June 2, 1868.

Claim.—1. The combination of the loose frame C, carrying the operating apparatus, with the axle and driving wheels, when said frame is capable of being elevated by the joint action of the team and operator, as herein set forth.

2. The combination of the folding bars L L with the lever K and frame C, in the manner and for the purpose specified.

3. The arched axle B, when employed in combination with the driving wheels A and endless apron I, whereby the edge of the wheels may be reduced to the minimum, and a free passage for vines is left over the apron, as herein set forth.

4. The shares D D, set angularly and with the land sides inward, in combination with the scraper H, whereby the sides of the row are first plowed off and then scooped up, as herein set forth.

5. Adjusting the shares D D centrally, irrespective of the scraper, both at the top and bottom, by the slots *b b′*, as herein described.

6. The construction and arrangement of the bearings *t*, rollers *s s′*, and angular caps *u*, as herein specified.

7. The combination of the inclosed and alternating agitator W with the endless apron I, as herein set forth.

8. The combination of the side guards E E with the endless apron I, as herein specified.

9. The construction and arrangement of the endless apron, the same consisting of the flexible sides *v v*, the ʌ-shaped or half circular slats *w*, and the stay pieces *w′*, united by rivets, the whole operating in the manner and for the purpose specified.

10. The combination of the tension rods *e* with the plow standards *a* and endless apron I, whereby the plows, scraper, and apron are drawn forward at pleasure, to make them taut, as herein set forth.

11. The combination and arrangement of the offsets or notches *h′*, and the springs *z*, with the curved slots *h*, in the manner and for the purpose specified.

12. The combination of the door *r* and lever *q* with the open receptacle M, arranged and operating as herein set forth.

13. The employment of two bearing rollers *s s*, on opposite sides, for sustaining the front end of the apron without a connecting shaft, as herein set forth.

78,474.—H. B. NORTON, Rochester, N. Y.—*Fruit Jar.*—June 2, 1868.—A cover having concentric flanges projecting downwardly to form a groove for the wax, and also to serve as a guide in applying the same and to prevent intrusion of the wax, is combined with an externally beveled jar mouth.

Claim.—In combination with the concentric rims *b b′*, projecting vertically from the cover B, the externally beveled mouth *a* of the jar, for compressing the packing substance against the outer flange, to prevent its entering and commingling with the contents of the jar, substantially as set forth.

78,475.—RICHARD O. BRIEN, Dalton, Ohio.—*Railroad Car Stove.*—June 2, 1868.—The stove is so arranged as to maintain a vertical position in case the car should be overturned. A detachable bed plate, having a concavity in the center of its upper side, fits loosely on a cross bar of the frame and receives the lower end of the stove to prevent any slight motion from the inclinations of the car.

Claim.—1. The combination of the arm H and weight I with the spindle D of the pivoted frame C, substantially as herein shown and described, and for the purpose set forth.

2. The detachable bed plate M, in combination with the pivoted frame C and swinging stove A, substantially as herein shown and described, and for the purpose set forth.

3. An improved railroad car stove, formed by the combination of the swinging stove A, pivoted frame C, supporting frame E, weighted arm H I, and detachable bed plate M, with each other, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

78,476.—G. W. PACKER, Toulon, Ill.—*Extension Step Ladder.*—June 2, 1868.—The sides of the lower part are connected at both ends and slightly curved between. The upper part is like an ordinary ladder. To a bolt in rear of the hinge is attached a truss over which a chain connecting the two parts passes.

Claim.—An extension step ladder, consisting of the hinged parts B C, truss E, and chains G, constructed and arranged substantially as herein described.

78,477.—JAMES PARK, Jr., Pittsburg, Pa.—*Manufacture of Plates of Combined Steel and Iron.*—June 2, 1868.—The object is to produce plates or sheets of metal which shall combine the hardness and susceptibility to polish and tempering qualities of high-tempered steel, with the toughness, strength, and susceptibility to formative action of dies or swages possessed by wrought iron and other soft, fibrous metals.

Claim.—Giving a welding heat to the iron or fibrous metal side only of the ingots, in the manner hereinbefore described, and then uniting these surfaces by welding them together, either with or without an interposed layer of wrought iron or other fibrous and malleable metal, substantially as hereinbefore set forth.

78,478.—MILTON E. PHILLIPS, Lena, Ill., assignor to himself, PAUL WETZEL, and GEORGE WETZEL, same place.—*Table and Quilting Frame.*—June 2, 1868.—The parts are so constructed as to constitute either a table or a quilting frame as desired, by a simple change of arrangement.

Claim.—The combination, substantially as set forth, with a centrally-divided leg, a centrally-divided hinged table top, pivoted supports, and spring detents, of horizontal frame pieces, ratchets, and a horizontal brace, for the purposes specified.

78,479.—ISAAC A. PINNELL, Boonville, Mo.—*Nail Extractor.*—June 2, 1868.—The pressure upon the curved fulcrum through the lever handle will cause the jaws to clamp firmly the head of the nail and retain it while the nail is being withdrawn.

Claim.—The lever handle A, fulcrum bar C, having the curved fulcrum *b*, the claw levers D and E, having the claws *a a*, all pivoted together, constructed to operate substantially as shown and described, and for the purpose set forth.

78,480.—HENRY POTH, Pittsburg, Pa.—*Wheel.*—June 2, 1868.—The hub flanges are formed with corresponding wedge-shaped feathers or projections, which, when the said plates are brought together, slide upon each other and form the mortises of the hub, and provide the means by which the tenons of the spokes are wedged or clamped in place.

Claim.—The hub flanges *a a*, provided with corresponding wedge feathers *b b*, when adapted to be drawn together by means of the differential screw-box *d e*, on which the screw caps *g* are fitted, the tenons of the spokes being protected by elastic material *k*, all constructed and arranged as and for the purpose described.

78,481.—JOHN C. RAYMOND and FRANCIS T. ALLYN, Brooklyn, N. Y., assignors to F. T. ALLYN.—*Low Water Indicator.*—June 2, 1868.—Upon turning the connecting nut which surrounds the expansible tube upon the connecting rod attached to the moving end of the tube in one direction the whistle will be made to blow, thus allowing the adjustment to be such that a very small expansion of the tube will blow the whistle. If the nut is turned the other way to stop the whistle when the tube is expanded by being filled with steam, the indicator will show that it has been tampered with.

Claim.—The stop *q*, in combination with the lever *k*, rod *o*, nut *p*, expanding tube *c*, and with the valve stem *i* of the whistle, all as shown and described.

78,482.—GEORGE RECTOR, Sodus, Mich.—*Harvester.*—June 2, 1868.—The arms to which the sickles are connected project from the rock shaft on opposite sides and thus cause the sickles to move in opposite directions, and, by means of a series of holes in the crank of the rock shaft, the stroke of the sickles may be increased or decreased at will. The cutting apparatus is hinged to a vertical U-shaped frame upon the side of the machine and is readily adjusted vertically.

Claim.—1. The arrangement of the rock shaft *a*, and the two sickle bars *d* and *h*, the latter being located in line with the tread of the wheels, and hinged to the adjustable yoke D, substantially as described.

2. The U-shaped frame D, with the horizontally projecting arm to which the finger bar is hinged, and having the projecting brace bar G arranged to bear against the rear side of the finger bar; said frame D being adjustable vertically, all constructed and arranged to operate as herein described.

3. The combination of the driving gear L, crank shaft *t*, with its sliding gear *m*, pitman *n*, and rock shaft *a*, when said parts are constructed and arranged to operate as and for the purpose set forth.

4. The combination of the two sickle bars *d* and *h*, pitman *i*, and rock shaft *a*, provided with its two arms, and crank *r*, having a series of holes for adjusting the stroke, as herein set forth.

78,483.—ALEXANDER K. RIDER, Nazareth, Pa., assignor to himself, C. H. DELAMETER, and G. H. REYNOLDS.—*Valve for Steam Engines.*—June 2, 1868.—Designed more particularly for steam pumping engines, steam hammers, and the like, in which no cranks or working parts are employed. The master valves are provided with passages by which ultimately the main valve is thrown by the action of the steam without any mechanical connection.

Claim.—The master valves D^1 D^2, operated by and controlling in turn the action of the steam in throwing the main valve G, substantially as and for the purposes herein set forth.

78,484.—J. S. ROWELL and IRA ROWELL, Beaver Dam, Wis.—*Elevator for Cultivator Bars.*—June 2, 1868.—Two roller stands or bearings are arranged on the top of the frame over the cylinder rod and under the hopper, extending upward and to the rear to receive the end of a roller which is provided with suitable sheaves to receive the chains which elevate the bars.

Claim.—1. The roller stands or bearings, constructed and arranged as and for the purpose set forth.

2. The sheaves D D′, provided with the inclined catch *d* and loop *c*, in combination with the ratchet *b*.

3. Pivoting the jaw, as described, out of line with the groove in the sheave, so as to form an automatic locking and unlocking device, as set forth.

4. The combination of the sheaves D D′, bearings B B′, and roller C, as arranged, and operating in the manner and for the purposes set forth.

78,485.—J. S. SANDS, St. Joseph, Mo.—*Apparatus for Curing Hops.*—June 2, 1868.—The object is to provide for easy and perfect ventilation of the apparatus and to enable the hops, while curing, to be thoroughly stirred from the outside of the house, which is effected by means of a traveling shaft and arms.

Claim.—1. The ventilators H H′, lever S, ropes *e e′* and *g*, pulley *p*, and wheel P of a hop-curing house, all arranged, in relation to each other, substantially as and for the purpose specified.

2. The racks *b b′*, shaft B, with its pinions c c^1, driving wheel C, with its radial arms d d^1 d^2, &c., h h^1 h^2, &c., pulley D, wheel E, and endless rope *m*, of a hop-curing house, all arranged relatively to each other, substantially as and for the purpose specified.

3. A hop-curing house, combining the above specified devices, all arranged substantially as and for the purpose specified.

78,486.—WILLIAM SERVISS, Sidney, Ohio, assignor to JASON MCFAY and JASON S. CARY.—*Machine for Grooving Sheet Metal.*—June 2, 1868.—The offset consists of a tapering metallic bar placed in a tapering spline in the side of one of two parallel arms upon which is guided a rack, supported at one end by the seaming wheel. A gauge extends the entire length of the arm.

Claim.—1. The offset F, substantially as shown and described, in combination with rack D, wheel G, and arm B, as and for the purpose set forth.

2. The gauge E, constructed and operating substantially as and for the purpose shown and described, in combination with the arms C and B, and wheel G, all as set forth.

78,487.—Carl Seyler, Cleveland, Ohio.—*Vine Trellis.*—June 2, 1868.—A device for tightening up the wires of trellises, so that they be readily and at all times kept strained and properly secure for the trailing of the vine.

Claim.—The plug or shaft D, studs *a'*, and ring F, as arranged, in combination with the arms A, for the purpose and in the manner substantially as set forth.

78,488.—Albert B. Shepard, Sand Bank, N. Y.—*Floating Water Power.*—June 2, 1868.—Designed for utilizing and economizing the power of running waters upon rivers or streams which are liable to great and sudden changes in depth. A rotating motion is communicated to the wheels by the current, and the same is communicated to shafting on the shore; the rocking of the frame permitting the float to rise or fall without moving the cross-bar on the shore.

Claim.—The arrangement, upon the floats A A A, of the wheels C, keyed upon the shaft D, having the gear wheel E, the shaft F having the beveled pinion G and pulley K, the hinged frame H supporting the pulley shaft *g*, and attached to the shore by the shaft H', as herein described, for the purpose specified.

78,489.—Harvey Silver, Lowell, Mass.—*Flier for Spinning Machine.*—Antedated May 23, 1868.—To opposite sides of the flier arms is secured a saddle of hardened metal, at the top of which is a projecting portion turned or bent over to form a spring, through the middle portion of which is a hole opposite a hole in the saddle; in the latter is inserted a guide pin; the object being to prevent the arms or sides from being worn or cut by the yarn, and to facilitate the removal and renewal of the worn guide pins.

Claim.—1. The spring portion, shown and described, when combined with the saddle, and constructed and arranged for the removal and replacing of the guide pin *e*, for the purpose and substantially as described.

2. The guide pin *e*, when constructed as described, and applied to the spring portion and the saddle *c*, as and for the purpose described.

3. The combination of the saddle, spring portion, and pin with the flier arm or arms, for the purpose and substantially as described.

78,490.—Lorenzo D. Snook, Barrington, N. Y.—*Harvester.*—June 2, 1868.—In this machine cog wheels are dispensed with, and motion is imparted to the cutters by means of a cam wheel within the felloe of one of the supporting wheels, and a vibrating lever connected to the cutter bar by a rod.

Claim.—1. The construction and arrangement of the lever E, provided with the anti-friction wheels and arm, with the plate F, and forked wedge-shaped lever G, when applied and actuated as and for the purpose set forth.

2. The laterally adjustable coupling R, in combination with the connection H, when made and used as and for the purpose specified.

3. The hook L, when made and applied to keep the cutter bar in place, substantially as specified.

78,491.—William W. Spencer, Pittsburg, Pa.—*Self Fastening Buckle.*—June 2, 1868.—The object is to dispense with sewing, riveting, or punching of holes in the leather to which the buckle is fastened.

Claim.—A buckle provided at each end with two transverse bars *c c*, arranged as described, for facilitating the casting process, in combination with transverse bars F and G, as and for the purpose set forth.

78,492.—C. Ph. Steinmetz, Madison, Wis.—*Plow.*—June 2, 1868.—The plowshare is attached to a vibrating upright shaft by which it is rendered reversible by means of a lever or handle, so as to turn a furrow to the same side in crossing and recrossing the field on adjoining furrows. Stops are employed to keep the lever in place. A cultivator may be used interchangeably with the plowshare.

Claim.—1. The swivel clevis *a*, as constructed, arranged, and fully described and shown.

2. The combination of the reversible plowshare A or cultivator share E, with the vibrating upright shaft B, lever D, and stop C, as shown and described.

3. The swivel clevis *a*, reversible plowshare A or cultivator share E, vibrating shaft B, lever D, stop C, notched bar or standard *e*, with wheel G, key *f*, and plates F, all constructed and arranged in combination with a plow frame, as shown and described.

78,493.—Thomas H. Stilwell, M. D., New York, N. Y.—*Ear Trumpet.*—June 2, 1868; antedated May 18, 1868.—Two trumpet-shaped tubes are inserted one in each ear to support the drum, and are connected together by a copper or other wire to establish an electrical current between the tubes. A coiled wire is inserted in each tube to increase the vibrations.

Claim.—The tubular trumpets A A, connected by means of a wire rod B, and having vibrating wires C arranged within them, substantially as and for the purpose specified.

78,494.—William P. Towles, Baltimore, Md.—*Suspender.*—June 2, 1868.—The suspenders are so formed that the strain shall act on a common center, and also serve as a brace to the shoulders, being adapted to any form of the same.

Claim.—The combination and arrangement of the adjustable non-elastic shoulder straps C, center A, elastic strap D, rings E, and button-hole straps B, substantially as and for the purpose herein shown and described.

78,495.—Cromwell Fleetwood Varley, London, Eng.—*Telegraphing.*—June 2, 1868.—The objects of this invention are to cut off the disturbance arising from earth currents, to obtain a high speed of signalling through long circuits, and, should the conductor become partially exposed, to preserve it from being eaten away by electrolytic action.

Claim.—1. So arranging telegraphic apparatus as to work by the variation of the increment and decrement of electric potential, and not by the direct action of the electric current itself, as and for the purposes set forth.

2. The use of an induction coil at the receiving end of the cable, one of its wires being connected between the cable and the ground, and the other or secondary wire connected with the receiving instrument, as and for the purposes set forth.

3. The use of a condenser or condensers between the receiving end of the cable and the earth, with or without resistance coils between the cable and the earth, as and for the purposes set forth.

4. The use of a condenser at the sending end of the cable, with or without resistance coils connecting its two armatures, as and for the purposes set forth.

5. The use of a condenser at each end of the cable, the cable being connected with the ground through a resistance coil and a battery, so as to keep the cable always negatively electrified, as and for the purposes set forth.

78,496.—George Warner, Cleveland, Ohio.—*Cap for Marine Stove Pipe.*—June 2, 1868.—The top shield is attached to the cap above the opening and made to press upon the top of the flexible side shields so as to retain them in any desired position; the object being to prevent the stove from smoking.

Claim.—The top shield C and the two flexible side shields B B, in combination with the cap A, as described, and when used in the manner and for the purposes set forth.

78,497.—William H. Watrous, Hartford, Conn.—*Electro Plating Frame.*—June 2, 1868.—Two jaws jointed together with an adjusting screw at the top for opening and closing the same; for holding articles suspended in electro plating fluid.

Claim.—The holding frame A, constructed substantially as and for the purposes herein shown and described.

78,498.—Alexander Webster, Seneca Falls, N. Y.—*Apparatus for Distilling.*—June 2, 1868.—A perforated steam pipe is combined with a perforated cylinder, through which the steam or vapor passes from the still to the coil, in connection with which is a cap for collecting the lighter portion of the vapor, whereby two qualities of liquor are obtained.

Claim.—The cap C, combined with the cylinder A and the tube B, substantially as and for the purposes described, separating the lighter and more refined portion of the vapor which rises from a still in the process of distillation from the heavier portions, for the purpose of obtaining two or more qualities of liquor, substantially as described.

78,499.—Alfred Weed, Boston, Mass.—*Self-Boring Stop Cock.*—June 2, 1868.—The thread is cut at a considerable distance from the entering end so as to bring the induction end of the faucet to the proper position within the cask.

Claim.—A faucet, provided with a screw thread, *f*, on its barrel, for the purpose set forth, its entering end provided with a closed boring tool, *d*, and the blank or smooth surface *o*, between the screw thread and the boring tool, in which blank surface are the inlets *c*, communicating with the passage through the faucet, and also provided with handles *e*, by which the borer is turned, the smooth surface pushed into the tap hole, and the faucet turned as it is screwed into the tap hole.

78,500.—William Wharton, Jr., Philadelphia, Pa.—*Railway Switch.*—June 2, 1868.—The object is to prevent the rails from yielding to the lateral strain occasioned by the passing cars when the force is only applied, as usual, to one point in moving the switch rails.

Claim.—Switch rails, arranged to move laterally from a fixed point, in combination with a shaft having two or more graduated cranks, or their equivalents, for serving the twofold purpose of operating and laterally steadying at different points the said switch rails, substantially as set forth.

78,501.—William Whiteley, Springfield, Ohio.—*Plow.*—June 2, 1868.—The object of this invention is to so construct the plowshare or mold-board that in turning the sod it will produce a great number of minute fractures upon the earth side of the furrow slice, the said fractures being evenly distributed, and are caused by the elongation of the furrow slice while being inverted.

Claim.—1. The construction and use of plows, when the shapes of those parts which cut and invert the furrow slice are determined and obtained by the herein described rule, substantially as set forth.

2. The method of obtaining modified forms of the plow shape, substantially as herein described.

3. In combination with the draught bolt J, the stirrup G, or its equivalent, which surrounds both bolt and beam, and binds them firmly together, without perforating or otherwise weakening said beam.

4. In combination with the post, to which the mold-board is connected, the bolt J, or its equivalent, for the purpose of connecting the draught rod at a rigid point in front of the plow post.

5. In combination with the post C and beam D, the notched flange E, for the purpose of shifting the position of the said beam in relation to the post C, so that a team of two or three horses may be used at pleasure.

6. In combination with the clevis L, or its equivalent, the eye bolt M and washers N, substantially as and for the purpose set forth.

7. In combination with the front projection at the top of the plow post and the land side of share, the colter Q, or its equivalent, secured to said projection, or its equivalent, in front of the clamping stirrup, in order to equalize the upward pressure, substantially as set forth.

8. The brace S, in combination with the post C and stirrup G, substantially as and for the purpose set forth.

9. The stirrup G, constructed with the horizontal portion *h*, to enable the beam to be adjusted sideways, as described and for the purpose set forth.

10. The share B, constructed with the land-side bar R, substantially in the manner shown.

78,502.—Hosea Willard, Vergennes, Vt.—*Butter Worker.*—June 2, 1868.—One of the wings is rigidly attached to the spindle while the other may be revolved, in connection with a shallow pan in which the butter is to be placed.

Claim.—The rod or spindle B, with the wings C and D connected therewith, in combination with a tray or trough, and operating substantially as and for the purposes herein shown and described.

78,503.—Lewis S. Wiswell, Utica, N. Y.—*Machine for Fastening Lacing Hooks to Gaiters.*—June 2, 1868.—A series of devices for automatically feeding the hooks to the leather, driving them through the same, bending the points, and clinching them by a single simple motion.

Claim.—1. The slides G and H, constructed substantially as described.

2. The punch D, with recess for holding the hooks, constructed substantially as described, in combination with the said slides.

3. The arms L, pin F^3, and spring L′, constructed and operating in combination, substantially as described.

4. The cam F, lever C, and punch D, in combination, substantially as described.

5. The agitator, constructed and operating substantially as described.

6. The ways K K′, constructed and operating substantially as described, in combination with the arms L.

78,504.—Jonathan Wolfrom, York, Pa.—*Horse Hay Fork.*—June 2, 1868.—The frame slides up and down within the tines and projecting points are pivoted to the end of each, so that when the frame is raised the points are brought to a horizontal position to raise the hay. The descent of a central tine aids in discharging the hay.

Claim.—The tines A and frame D, substantially as shown and described, in combination with the points E, middle tine G, latch lever *d*, and slot *i*, or the equivalent thereof, all as and for the purpose set forth.

78,505.—Wendell Wright, Bloomfield, N. J.—*Clasp for Fastening Garments.*—June 2, 1868.—Three hinged plates held open or closed by springs, the central plate being provided with slits and the two outer ones with spurs or points to hold together the edges of any textile fabric.

Claim.—The plates A, B B, connected together by joints or hinges, provided with springs *b b*, the plates B being provided with spurs or points, all constructed and arranged substantially in the manner as and for the purpose set forth.

78,506.—Walter Aiken, Franklin, N. H.—*Needle for Knitting Machine.*—June 2, 1868.—The corrugations are designed to take the place of the double shank as usually made.

Claim.—The improved knitting machine needle, made with a series of flexures or corrugations, *a a a*, in its shank, substantially as represented in Fig. 1 of the aforesaid drawings, and as hereinbefore specified.

78,507.—Adam Baierle, Frederreck Hartmann, and Freidrich Reese, Chicago, Ill.—*Ice House for Brewers and Butchers.*—June 2. 1868.

Claim.—A building for preserving meats, beer, and similar articles, consisting of the ice chamber B and cooling vault A, provided with one or more ventilators I, all constructed and arranged substantially as shown and described.

78,508.—David H. Ball, Sinnamahoning, Pa.—*Shingle Machine.*—June 2, 1868.—Across the upper face of the carriage on which the block is placed are bolted metal plates upon which dogs, attached to the head block, are made to rest and slide, and by which they are prevented from springing. On one end of a set rod is a square block or nut against which rests a spring attached to the block carriage.

Claim.—1. The plates *o o*, when arranged in relation to the head block *p*, and the dog *p′ p′*, said dogs being constructed to rest or slide on the plates, as and for the purpose specified.

2. The block *s* and spring *s′*, constructed and arranged to operate as and for the purpose set forth.

78,509.—C. T. Belbin, Baltimore, Md.—*Oyster Dredge.*—June 2, 1868.—A method of attaching the draught rods to the rake head, the object being to prevent the teeth from catching as the instrument is drawn over the roller on the gunwale of the vessel.

Claim.—The combination of the two bolts *m* and *n*, with the lug *o*, the rods A and B, and the head C, when all said parts are combined and arranged so as to operate together, substantially in the manner and for the purposes set forth.

78,510.—Joseph H. Bodine, and Truman A. Hill, Mount Morris, N. Y.—*Device for operating Water Wheel Gate.*—June 2, 1868.—The gate is a circular plate with apertures through it which correspond in number with the water ways between the chutes of the shell.

Claim.—The arrangement of the pivoted sector *m*, pinion P, and hand wheel S, and pivoted connecting rod *u*, with relation to the circular register gate G, whereby said gate is operated horizontally to open and close all the water ways at once, as herein shown and described.

78,511.—Alexander H. Brainerd, Rome, N. Y.—*Churn Dasher.*—June 2, 1868.—The dasher is so constructed and applied that it rotates as the staff is reciprocated vertically.

Claim.—1. The head B, pivoted upon the reciprocating staff A, and provided with spiral flanges F, substantially as described.

2. In combination with the above, the beveled floats E E′, substantially as and for the purposes specified.

78,512.—James Burns, New York, N. Y., assignor to himself, Richard McCullough, and John Fanning.—*Machine for Shaving Screws.*—June 2, 1868.—Relates to the shaver, which is that portion of the machinery employed for turning off the head of the screw blank. The oscillating and reciprocating carriage carries a griping holder up to the spring guide, (into which the screw blank is fed by its own gravity,) and seizing the screw blank carries the same up to a stationary tool and holds it during the operation of shaving the head, and then discharges the shaved blank.

Claim.—1. In combination with the stationary tool *b* and spring guide Y, the forked lever U, cam M, and griping holders R R, for taking the screw blank from the spring guide, holding, bringing up, and rotating same against the stationary tool during the operation of shaving the blank head, and discharging the blank without the aid of a punch, for either feed or discharge of the screw blank, substantially as described.

2. The combination of the oscillating and reciprocating griping-holder carriage J, cams K K′ N, and spring O, arranged substantially as and for the purposes set forth and described.

78,513.—Elijah Button, Annapolis, Md.—*Cork Extractor.*—June 2, 1868.—The extractor is inserted into the bottle and pushed against the bottom with a force sufficient to expand the springs, when the cork is inclosed between the springs and withdrawn.

Claim.—The cork extractor, consisting of springs, having their lower ends adapted to turn on the ring *h*, all operating as described, whereby the cork is caged lengthwise in the bottle, without turning the latter upside down, as herein shown and described.

78,514.—James Calkins, New York, N. Y.—*Preserving Wood.*—June 2, 1868.—Steam, together with the products of combustion from the furnace of the steam generator, is admitted to the chamber containing the wood, and the wood, having been by this means deprived of its contained moisture, is subjected to the action of the vapors of oil, carbolic acid, or other antiseptic before cooling or exposure to the atmosphere. The apparatus is such that the successive processes and entire treatment are completed without removing the wood from the treating chamber.

Claim.—1. The employment of steam, in combination with the gases of combustion, generated as described, admitted together into the treating chamber, for the drying of wood and other materials, substantially as set forth.

2. The process of preparing and treating wood or other material by means of steam, and of superheated steam and carbonic oxide, or the gases of combustion, and subsequently treating with the hot oleaginous vapors under pressure, while in a highly heated condition from the previous treatment, substantially as described.

3. The described apparatus, consisting essentially of the generator A and its appurtenances, the treating chamber or chambers Y and K^2, tanks M and L, with their several systems of pipes and cocks, arranged, combined, and operating substantially in the manner and for the purposes set forth.

4. In combination with the treating chamber or chambers and the generator, the water gauge or regulator, contained within the dome M^2, or its equivalent, for regulating the pressure of the steam or vapors employed, operating substantially as set forth.

5. The combination of the pipe U with the fire chamber D and generating chamber C, whereby the gases of combustion may be directly admitted into the steam space, substantially as set forth.

78,515.—Thomas J. Christy, Olney, Ill.—*Harvester Cutter.*—June 2, 1868; antedated May 25, 1868.—A cutting apparatus for reaping and mowing machines, in which the cutting teeth go to make up an endless chain which has a continuous circulating movement upon the finger beam.

Claim.—The combination of the chain sections *b*, formed with projecting heels *b′*, for both driving and guiding the blades *a* and links *c* bolted to the sections *b*; the pinion *d* driving the chain through the medium of the projecting heels *b′*; the central bar *g* with ledges *g′ g′*, forming guide ways for the heels *b*; the finger beam *e*, with the upturned flanges *e′*, and the cap plate *f*, when the said parts are constructed, arranged, and employed in the manner and for the purpose specified.

78,516.—Francis Dilton, Auburn, N. Y.—*Halter Buckle.*—June 2, 1868.—This improvement has reference to the manufacture of what is known among harness makers as the "five-ringed halter."

Claim.—1. In combination with the three-tongued buckle, the loop S for securing the ends of the straps, substantially as described.

2. The application and use of the said buckle in the manufacture of halters, when the same is constructed and used in the manner above specified.

78,517.—Wm. Doyle, Albany, N. Y.—*Cooking Stove.*—June 2, 1868.—The center of the incandescent fuel is immediately under the vessel to be heated. The products of combustion pass from the fire box down the front flue and front corner flues to the lower front or cross flue, whence they are conducted by the extension flue into the direct draught flue and thence to the outlet.

Claim.—1. The construction and arrangement of extension flue C, in combination with a revertible or return flue, F, under the oven of a cooking stove, substantially as shown and described.

2. Flue stopper B′, in combination with flue plates *a* of extension flue C, when constructed as and for the purpose set forth.

3. The construction and arrangement of front-descending flues A A, in combination with extension flue C, substantially as set forth.

4. The arrangement and combination of front-descending flues A A, cross or connecting flue H, extension flue C, and revertible flue F, substantially as shown and described.

5. The construction and arrangement of a front descending and direct flue or flues, A A, and cross-flue, H, united by extension flue, C, with a revertible flue, F, under the oven of a cooking stove, when all of said flues are operated and controlled by one damper, P, substantially as set forth.

78,518.—Gustav L. Enggren, Brooklyn, N. Y.—*Valve for Steam Engine.*—June 2, 1868; antedated May 27, 1868—The oscillating valve controlling the engine ports are in constant or positive gear with the stem of the subsidiary valve or piston, which latter carries the independent valve or slide which determines automatically the cushioning effect at the terminus of the stroke of said piston in both directions of its travel.

Claim.—1. The combination, with the valve or piston D, having a passage, *h*, through it, and aperture *s*, in communication with the exhaust passage H, or its equivalent, of a valve or slide, L, constructed and operating, by the throw of said piston, to effect or regulate the cushioning of the piston at or toward the close of its stroke, but allowing of a free escape for vapor or air on the forward side of said piston, in the early portion of its action, in either direction, essentially as herein set forth.

2. The combination of the piston D with its independent valve or slide L, operating in connection with exhaust passages, as described, and valves J J′, constructed and arranged for action together, substantially as shown and described.

78,519.—Francis H. Escherich, Baltimore, Md.—*Breech-Loading Fire-Arm.*—June 2, 1868.—Means for opening and closing a breech-loading fire-arm, in which the barrel itself is hinged and moved for loading.

Claim.—1. The construction of the angular pins *g g′*, of the forwardly-projecting part *g*, and the downwardly-projecting part *g′*, and operated by the hook *l* of the lever F, substantially as herein described and for the purpose specified.

2. The cam E, provided with projections *g h i*, and bulging part *j*, in combination with the lever F, provided with hook *l* and arm *k*, substantially as and for the purposes described.

3. The cam E and lever F, constructed as described, in combination with the hook *n*, provided with recess *o*, and the hollowed recess *m*, substantially as and for the purposes set forth.

4. The cam E, lever F, and hook *n*, constructed as described, in combination with the pin *q*, provided with a downward projection *q′*, and secured to the spring *r*, and with the hold *p* in the breech, substantially as and for the purposes set forth.

78,520.—Charles H. Fowler, Roxbury, Mass.—*Lathe Tool Holder.*—June 2, 1868.—The plug or double-tapering tube is split at each end after the manner of small drill chucks, so that when it is compressed within and between the bores of the bar and hollow nut it firmly gripes the cutting tool.

Claim.—As an improved tool-holding device for metal-turning lathes, &c., the combination and arrangement of the bar A, screw sleeve or hollow nut *c*, and double-tapering tube *d*, the whole being arranged and operating as herein shown and described.

78,521.—Samuel W. Gear, Whitestone, N. Y.—*Door and Window Catches.*—June 2, 1868.—When the door or shutter is closed one curved spring will fit into and be clasped by the other with sufficient force to hold the door in a closed position.

Claim.—The two springs *b c*, constructed to lock one within the other, as shown and described, and arranged in relation with each other upon the door and frame, substantially as and for the purpose specified.

78,522.—Job Harrison, Whitewater, Wis., assignor to himself, George W. Esterly, and C. C. Lewis, same place.—*Attachment to Cooking-Stove Fire Chamber.*—June 2, 1868.—The arch is designed to concentrate the heat below the front stove holes and to conduce to a more perfect combustion of the the gases.

Claim.—1. So applying the arch D to the fire chamber of the stove that the air chambers *s t* are formed, one between the arch and oven, and the other both back of and above said arch, all in the manner substantially as herein described and shown.

2. The arch D, or its equivalent, constructed substantially as described, and applied to a stove for the purpose set forth.

78,523. — Richmond Hathaway, Chicopee, Mass., assignor to himself and Levi O. Allen, Gardiner, Me.—*Cloth and Clothes Pin.* —June 2, 1868.—A single spring wire is bent around so as to form a coil spring in the center, two jaws at one end which are operated by levers at the other end.

Claim.—As an article of manufacture, the clothes pin constructed as described, viz., with the central coil *a*, the levers *d d*, the central depressions to admit the line, and the pointed and ring jaws, all as set forth.

78,524.—Lawrence Holms, Paterson, N. J.—*Filter.*—June 2, 1868.—The valves are reversed in order that the water may be forced through the filtering beds in a direction contrary to its course during the filtering operation, so as to carry back and discharge any accumulations of matter which may have been deposited upon the wire gauze or gratings or in the chambers.

Claim.—The arrangement of the valves G H, passages *c d e f*, openings *a b a′ b′*, water spaces *i k*, and filtering beds *m x*, as and for the purpose described.

78,525.—Charles Kaestner, Chicago, Ill., assignor to himself and Joseph Becker, same place.—*Barbers' Chair.*—June 2, 1868.—The locking bolts are at right angles with the journals upon which the reversible seat is mounted, and are thrown into and withdrawn from sockets on the frame by the handle through the medium of the pivoted levers.

Claim.—A reversible hollow spring seat, provided with the locking bolts *d*, levers G, and handle D, when constructed and arranged to operate substantially as described.

78,526.—Joseph Kepl[illegible]r, Crawfordsville, Ind.—*Churn.*—June 2, 1868.—The concave breast is studded with tooth-like projections, and the cream is forced over it by the dasher. The cream, impelled by the dasher, passes through an opening in one end of the longitudinal partition and is then conducted to the opposite end of the box whence it flows into the dasher chamber to be again forced over the concave breast. The scroll top is placed above the dasher to prevent undue splashing.

Claim.—The device of a single concave breast, with metal points, the convex-concave bottom B descending from the elevated breast C, through the openings F F, Figs. 1 and 2, in combination with perforated top M, in Fig. 4, dash, Fig. 3, and scroll top, Fig. 6, inclosed in a box, substantially as herein set forth.

78,527.—Emil Laass, Syracuse, N. Y.—*Arch of of Furnaces for Evaporating Kettles, &c.*—June 2, 1868.

Claim.—The arch made in sections, A A, jointed at the crown by the cylindrical keystone B, and resting at the spring loosely upon the ways *a a*, the whole so arranged that the arch, or either section thereof, can be adjusted bodily in or out without elevating, and can be readily taken apart, as herein set forth.

78,528.—James Lee, New York, N. Y.—*Lamp-Chimney Cleaner.*—June 2, 1868; antedated May 22, 1868.—The leather washer protects the rubber disks from the screw head.

Claim.—The lamp-chimney cleaner, constructed as described, consisting of the elastic disks B, secured to the end of the handle A, at right angles to its axis, by means of the screw C, and provided with the flexible washer D, as herein shown and described.

78,529.—Joseph F. Light, Worcester, Mass.—*Shaft Coupling.*—June 2, 1868.—The shafts are held together by the clasps or threaded collars, which are tightened upon the shafts by the nuts, and retained in their relative position by pins or keys.

Claim.—1. The combination of the ends of the shafts, when shaped or cut away and applied to each other, substantially as shown in Figs. 2 and 3 of the drawings, so as to prevent the independent longitudinal movement of the one shaft with respect to the other, with holding nuts for encircling and coupling said shafts in the manner herein shown and specified.

2. The combination, with the clasps B B, of the guide-pieces or pins 2 2, or either, substantially as and for the purposes set forth.

78,530.—O. E. Loomis, Ellenburg, N. Y.—*Soap.*—June 2, 1868.—The ingredients are water, lime, sal-soda, fish-oil, starch, resin, saltpeter, alcohol, and white kaolin.

Claim.—A soap compounded of the ingredients and in the manner herein set forth.

78,531.—W. J. Ludlow, Cleveland, Ohio.—*Seat for Harvester.*—June 2, 1868.—The seat is suspended from and has pivotal attachment to the spring support which is rigidly attached to the machine, so that the lateral motion incident to such machines is not communicated to the seat.

Claim.—A seat for harvesters, mowing machines, and horse rakes, suspended so as to swing laterally, constructed and arranged substantially as and for the purpose herein set forth.

78,532.—Louis A. Matos, Philadelphia, Pa.—*Balance.*—June 2, 1868.—An improvement in the balance, for which United States letters patent No. 39.145 were granted to Sandy Harris, July 7, 1863. Under the present improvement the vial is first placed in the pan, and the balance weight is then adjusted on the bar until the scale is in equilibrium. The index finger is then placed at that part of the vernier indicating the weight required and the fluid is poured into the vial until the scale is again in equilibrium.

Claim.—The adjusting or sliding balance weight L, in combination with the vernier or graduated arc, and the vibrating weight, which is suspended on an arm which is pivoted to the chord of the arc, substantially as shown and described.

78,533.—John McKillop, Brooklyn, N. Y., assignor to Andrew Mackey and John Ward, Jr., same place.—*Safety Bridle.*—June 2, 1868.—The lever jaws are suspended by the ring from the throat latch of the bridle and provided with a rein by which they may be forcibly brought together to compress the horse's windwipe and thus choke the animal into submission. The spring retains the jaws away from the throat of the animal when the device is not in requisition.

Claim.—1. The choking apparatus, composed of the two lever jaws, constructed and combined for operation, substantially as and for the purpose specified.

2. The combination of the spring *f* with the two lever jaws A of the choking apparatus, substantially as and for the purpose specified.

78,534.—Judah Moses, Hartford, Conn.—*Galvanic Spectacle.*—June 2, 1868.—A voltaic pile is secured to the end of each temple or bow, the design being to create an electrical current by the contact of the moisture or perspiration of the head with said piles, and thereby obtain the therapeutic effects due to the application of electricity to the nerves of the head.

Claim.— The combination with the temples or front of a pair of spectacles, of an electric battery or batteries, so arranged and connected therewith that an electrical current may be caused to pass through the same, substantially as and for the purposes herein specified.

78,535.—Charles Mudler, Cleveland, Ohio.—*Button.*—June 2, 1868; antedated May 22, 1868.—This mode of constructing the button is intended to obviate the cutting away of the attaching thread by the edge of the button hole of the suspender.

Claim.—The button, constructed of two plates or disks, A B, having a rigid connection by means of the shank or pin C, and the lower disk being shouldered or grooved out, so as to form a circular depression, in which the thread used for sewing on the button is buried below the plane of the said disk, the whole combined in the manner as and for the purpose set forth, as a new article of manufacture.

78,536.—E. P. Needham, New York, N. Y.—*Reed Musical Instrument.*—June 2, 1868.—The front of the exhaust chamber of the melodeon, or other analogous reed instrument, is made of India-rubber, or other elastic material, impervious to air, said front being attached to rock shafts and to the lower front edge of the reed boards, and provided with apertures, through which wind is admitted to the reed openings.

Claim.—The flexible front *c* of the exhaust chamber A, in combination with the movable reed boards, whereby the requisite movement of the said reed boards is allowed, substantially as herein set forth.

78,537.—Samuel A. Otis, Boston, Mass.—*Railway-track Scraper.*—June 2, 1868.—The scrapers are applied and adjusted so as to be capable of automatic adjustment to suit the varying gauge of tracks. The levers, link, and rock shaft are employed to raise and lower the scrapers.

Claim.—1. The combination and arrangement of the shoes B B, sleeves Q Q, rod M, and fork O O, substantially as described and for the purpose set forth.

2. The combination with the lever G, in a track-scraping machine, of the foot lever G′ G″, substantially as described and for the purpose set forth.

3. The combination and arrangement of the lever L, the link E, and the rocker shaft D, made substantially as described and for the purpose set forth.

78,538.—John B. Perkins and Ai Colburn, Hollis, N. H.—*Seed-sowing Machine.*—June 2, 1868.—The seed drum is attached to the axle and occupies the bottom of the hopper, and the axle also carries pins, which actuate the arm, whereby the seeds are stirred. The spring attached to the pivoted plow beam restores the same to its operating position after it has overridden an obstruction.

Claim.—1. The vibrating plow beam C, held by the spring E, in combination with the coverer V, arranged substantially as described and for the purpose set forth.

2. The agitator K′, arranged and operated substantially as described and for the purpose set forth.

78,539.—William Robinson, Brooklyn, N. Y.—*Lamp Burner.*—June 2, 1868.—The trough around the space between the wick tube and the bottom of the burner secures the return to the body of the lamp of the surplus oil which is drawn up the wick tube. The detachable external trough prevents the condensed vapors from dripping over the external surface of the lamp.

Claim.—1. The trough *f*, arranged in relation with the openings *b*, at the sides of the wick tube, substantially as and for the purpose specified.

2. The annular trough D, made detachable, and constructed with the internal flanch, whereby it may be fitted between the burner and the lamp, substantially as and for the purpose specified.

78,540.—James Ross, North Cambridge, Mass., assignor to himself and Ferdinand Fairbanks, New York, N. Y.—*Lubricator for Steam Engines.*—June 2, 1868.—This lubricator is of the kind in which the cock shuts off the steam passage and opens communication with the feed inlet when the lubricator is to be charged with oil, but which, on being turned, reverses the open and closed conditions of the passages for the purpose of establishing an equilibrium of pressure above and below the oil, to secure its flow, its passage from the cup being effected in consequence of its displacement by the water resulting from the condensation of the steam admitted to said cup from the steam cylinder. The turning of the cock in the present instance varies the altitude at which the steam is admitted to the cup, and likewise the condensing surface thereof.

Claim.—The construction, in a lubricator of the character herein specified, of the cock C and its seat D, with their openings arranged substantially as described, whereby provision is made for varying the extent of steam-condensing surface in the oil cup or reservoir of the lubricator, and thereby regulating the flow of oil or grease, essentially as herein set forth.

78,541.—John Ross, Brooklyn, N. Y.—*Feed Regulator for Mills.*—June 2, 1868; antedated May 25, 1868.—The regulator is adjustable longitudinally on the shaft by means of a yoke, clasp, and lever. The wings act as a screw to urge forward the grain, and, by centrifugal force, they throw it between the stones.

Claim.—1. The use of the feed regulator A, B, and

J, to close partially or wholly the throat of a conical mill, in the manner described.

2. The combination of the cone J with its wings I, to direct the grain into the throat of the mill.

78,542.—ROGER SANDIFORD, Joliet, Ill.—*Plow Clevis.*—June 2, 1868.—The double, segmental clevis has a row of holes in order that the reversible, transverse clevis may be regulated as to height by the bolt passing through the said double clevis. The device enables the depth of penetration to be varied, and also affords facilities for changing the lateral direction of the plow.

Claim.—1. The double, segmental clevis *a*, when constructed, operating, and arranged as and for the purposes set forth.

2. The transverse, oscillating clevis *e*, when constructed and arranged as and for the purposes described.

3. The combination and arrangement of the segmental clevis *a* and transverse, oscillating clevis *e*, when arranged, constructed, and operating as and for the purposes set forth.

78,543.—PETER G. SCHLOSSER, Middletown, Md., assignor to himself and A. P. BAER, Baltimore, Md.—*Composition for Depilating Hides.*—June 2, 1868.—For the depilation of dry or imported hides, the ingredients are spent tan liquor, nitrate of potassa, chloride of sodium, sulphuric acid, tartaric acid or vinegar, and wheat bran. In treating green hides the nitrate of potassa, chloride of sodium, and wheat bran are omitted.

Claim.—1. The composition, substantially as above described, for depilating dry hides.

2. The composition, substantially as above described, for depilating green hides.

78,544.—JOHN SEE, Philadelphia, Pa.—*Composition for Covering Roofs, Pavements, Walks, &c.*—June 2, 1868.—Hydraulic cement, sand, and salt, together with iron ore, turnings, borings, or filings, are mixed together in water, the mass forming a mortar, to be applied with a trowel.

Claim.—A composition of ingredients, herein named, substantially as and for the purposes specified.

78,545.—GIDEON O. SPENCE, Titusville, Pa., assignor to himself, A. R. WILLIAMS, and J. S. LATHROP, same place.—*Process of Treating Petroleum for the Manufacture of Lubricating Oils.*—June 2, 1868.—The ingredients referred to are enumerated as follows: first, chloride of sodium, or any of the haloid salts; second, hydrated potassa, or any alkali of the same or analogous chemical and electrical action; third, muriate of ammonia, or any of the hydro-salts; fourth, spirits of turpentine, linseed oil, or oil of like solvent property; fifth, flour of sulphur.

Claim.—1. The use of the first chemical ingredient, herein specified, in the manufacture of lubricating oil from petroleum or coal oil, or their products, for the purpose specified.

2. The use of the second chemical ingredient, herein specified, in the manufacture of lubricating oil from petroleum or coal oil, or their products, for the purpose specified.

3. The use of the third chemical ingredient, herein specified, in the manufacture of lubricating oil from petroleum or coal oil, or their products, for the purpose specified.

4. The use of the fourth chemical ingredient, herein specified, in the manufacture of lubricating oil from petroleum or coal oil, or their products, for the purpose specified.

5. The use of the fifth chemical ingredient, herein specified, in the manufacture of lubricating oil from petroleum or coal oil, or their products, for the purpose specified.

6. The use of the second and third chemical ingredients, herein specified, in combination, in the manufacture of lubricating oil from petroleum or coal oil, or their products, substantially as and for the purposes specified.

7. The use of the five chemical ingredients, herein specified, in combination, in the manufacture of lubricating oil from petroleum or coal oil, or their products, substantially as and for the purposes specified.

78,546.—ELI F. STACY, Gloucester, Mass.—*Fisherman's Nipper.*—June 2, 1868.—A device used by fishermen as a protection to their hands against the rubbing action of the lines.

Claim.—As a new article of manufacture, a molded elastic gum "nipper," as described, and for the purpose set forth.

78,547.—JOSEPH B. STEARNS, Boston, Mass.—*Telegraph Apparatus.*—June 2, 1868.—A means for transmitting messages simultaneously over a single wire in opposite directions. The keys or other circuit breakers, and the electro-magnets, are so constructed and arranged that the current from the battery of the home station will be divided so as to pass around the cores of the magnet in opposite directions, one portion passing over the line to the distant station, and the other portion passing through a rheostat to the ground; the one portion thus neutralizing the effect of the other portion, and producing no magnetism in the cores or effect upon the armature, while at the same time a current from the distant battery may pass through one-half of the wire, or one set of wires on each helix, to the key or circuit breaker, and thence through the battery to the ground, if the circuit breaker is in contact with the front stop, or through a rheostat to the ground if in contact with the back stop, or through all the wire on each helix and a larger rheostat to the ground, if between the two stops and in contact with neither.

Claim.—1. In an electro-magnet coil constructed of two opposing or neutralizing conductors, making each of the conductors of the same length, and giving them each an equal number of turns, as and for the purpose set forth.

2. A key or other circuit breaker, the back stop of which is connected with the ground by a wire, in which is placed a rheostat or other resistance, and for the purpose set forth.

3. Combining an electro-magnet, constructed as described, or in any other manner, to produce either complete or partial neutralization of its cores, with a key or circuit breaker having a connection between the back stop, or its equivalent, and the ground through a rheostat or other resistance, as and for the purpose described.

4. Combining an electro-magnet, constructed as described, or in any other manner by which either a complete or partial neutralization of its cores is produced, with a key or circuit breaker having no connection between its back stop and the ground, as specified.

5. In combination with an electro-magnet, constructed substantially as described, the key A, the key or circuit breaker C, local battery B, and rheostat F, all constructed and operating substantially as and for the purpose set forth.

78,548.—JOSEPH B. STEARNS, Boston, Mass.—*Telegraph Apparatus.*—June 2, 1868.—The purpose of the two electro-magnets acting upon the armature post in opposite directions is to enable two messages to be sent simultaneously over the same wire in opposite directions. The several parts of the apparatus are so arranged as to maintain an equable resistance to the current of the battery or batteries, and enable the finer adjustments to prevent the movement of the armature to be effected by the movement of the electro-magnet toward or from the armature, without changing the resistance of the rheostat. In connection with the relay, composed of a plurality of magnets operating upon the same armature in opposite directions, a key is employed to close one circuit before or at the same time that it opens another.

Claim.—1. The combination of a relay, consisting of two electro-magnets, so arranged as to act upon the same armature post in opposite directions, with a key that shall close one circuit before or at the same time that it opens another, when the same are constructed and made to operate substantially as described.

2. The combination of the relay, constructed substantially as described, the sounder key S, and rheostat R, when the whole are connected and made to operate substantially in the manner and for the purpose set forth.

3. In combination with the rheostat R′, the double

relay, when the latter is so constructed as to effect the finer adjustments of the forces acting upon the armature or armatures, as set forth.

4. So arranging the several parts of the apparatus that the resistance offered to the current from the battery at either end of the line is always the same, whatever may be the position of the key at the opposite end.

5. In combination with the key S, constructed as described, the rheostat R′, inserted between the key and the ground, substantially as and for the purpose described.

78,549.—ALDEN S. STEVENS, Attica, N. Y.—*Fruit Picker.*—June 2, 1868.—The stems of the fruit are severed by the cutting teeth of the cylinder, into which the fruit falls, to be conducted thence to the ground by the tubular cloth attachment.

Claim.—The combination of the hollow cylinder A, open at both ends, and provided with cutting teeth a^1 at its upper edge, with the conducting bag F attached to its lower edge, and manipulating rod or pole C, connected to its side, as and for the purpose set forth.

78,550.—BENJAMIN D. STEVENS, Decorah, Iowa.—*Axe Handle.*—June 2, 1868; antedated May 18, 1868.—The rubber reduces the effect of the rebound upon the handle. The point of the wedge enters the handle, and after the latter is inserted into the eye of the axe or hammer, the flange of the wedge is flattened down to secure the handle in the eye.

Claim.—1. Inserting India-rubber, or similar elastic substance, in the eye of axes, hammers, and analogous tools, when placed in the position for the purpose substantially as described.

2. The wedge C, when constructed and used as and for the purpose set forth.

78,551.—JAMES SUTHERLAND, Brooklyn, N. Y.—*Liquid Meter.*—June 2, 1868.—The object is to afford abundance of time for the cylinders to fill and discharge. The valves are operated successively by the independent piston or pistons adjacent to that or those which they control; and being operated suddenly, and while the pistons which operate them are at or about midway of their stroke, the desired object is attained.

Claim.—1. A liquid meter, composed of two or more cylinders, fitted with independent pistons, when these latter are controlled by valves, operated so that either one piston or connected pair or set of pistons is or are made to actuate the valve which controls the other piston or connected pair or set of pistons, substantially as specified.

2. The combination of the cylinders C C′ and D D′, with their pistons and valves, so arranged and operating as that either one set of pistons to said cylinders are reversed in their action by the motion of the valves which control them, when the other set of pistons are midway of their stroke, or thereabouts, essentially as herein set forth.

3. The combination of the cylinders C C′ and D D′, with their pistons, yokes H H′, tappets L L′, arms M M′, and valves J J′, for operation together, and in connection with suitable inlet and outlet passages, substantially as shown and described.

78,552.—GEO. W. THOMPSON, New York, N.Y.—*Wagon for Advertising.*—June 2, 1868; antedated May 25, 1868.—Transparent signs for advertising are placed upon the periphery of a reel mounted upon a wagon platform, and revolving upon a vertical axis.

Claim.—1. The employment of the vertically arranged revolving drum of advertisements or signs, substantially as and for the purposes herein shown.

2. The arrangement of the pulley J, with the guide pulleys L L, and the pulley I, for transmitting motion to the axle F, substantially as and for the purpose stated.

78,553.—JAMES K. THOMPSON, Chicago, Ill., assignor to himself and WILLIAM B. HOWARD, same place.—*Turn Table.*—June 2, 1868.—The frame is mounted upon bearing wheels, and moves around the pivot of an ordinary spider; said frame consisting of a bearing circle made up of boiler iron and angle iron, and strengthened by cross beams surmounted by trussed beams, upon which the drawbridge rests.

Claim.—The bearing frame G, consisting of bearing circle H, cross beams *k k*, and trussed bearing beams M M, each of the above said parts constructed as described, and the whole arranged, and operating substantially as and in the manner herein set forth. and specified.

78,554.—NATHANIEL N. TOMLINSON, New York N. Y.—*Machine for Making Treenails.*—June 2, 1868.—The stick out of which the treenail is to be made, is inserted in the flaring opening in which the knife and gauge rest are adjustable, to suit the varying diameters of the treenails, by means of their respective screw and cog wheel connections; the cog wheel pertaining to the knife screw having motion parallel to the elongated cogs of the wheel pertaining to the gauge rest screw as the two wheels rotate together. The diameter to which the rest and knife conform, is indicated by the gauge disk.

Claim.—The combination of the slotted slide *b*, holding the adjustable knife *a*, the movable gauge rest *g*, its connecting rods *i i*, sliding screw *h*, the two screw wheels *c* and *s*, with the gauge disk *k*, constructed and arranged substantially as hereinbefore described.

78,555.—JOHN B. TROXELL, Hancock, Md., assignor to himself and SAM'L H. DAVIS, same place.—*Sausage Stuffer.*—June 2, 1868.—The sausage meat is ejected forcibly from the cylinders into the skin or casing, which is held upon a tube inserted in an opening between the journaled ends of the cylinders. By placing both cylinders in communication with the single discharge opening and providing the intervening valve, the contents of both cylinders may be ejected at one filling.

Claim.—The single discharge-opening for the cylinders A A, valve E, and hollow journals a a^1, combined and operating substantially as and for the purpose set forth.

78,556.—GEORGE VERRY, Norwich, Conn., assignor, to himself and O. G. GRAVES, same place.—*Valve and Steam Passage.*—June 2, 1868.—The live steam entering the cylinder through the steam port at one end has access at the same time to a space directly beneath the corresponding end of the valve and the exhaust steam passing through the port at the opposite end has access to a space at that end of the valve, the object being to relieve the valve of pressure. By turning the plugs, they open or close, or vary the effective area of the steam ports, and hence they serve to stop, start, or change the speed of the engine.

Claim.—1. The arrangement of the receiving and exhaust ports B B′, C C′, and cut-off plugs E E, substantially as herein described.

2. The recesses A A′, in combination with the ports B B′, C C′, substantially as and for the purpose described.

78,557.—WM. W. VIRDIN, Baltimore, Md.—*Tide Motor.*—June 2, 1868.—The object is to obtain sufficient power and motion, from the ebb and flow of tides through bayous or the mouth of inlets, to raise water to a proper height for furnishing a supply of the same at distances remote from the point at which it is raised, also, to obtain power for driving machinery.

Claim.—1. A floating vessel or buoy, B, constructed with water passages through it, and provided with a cut-off, B′, and a water wheel, D, said buoy being arranged in a suitable passage way for water, in such manner that the wheel D will be caused to turn both by the ebb and flow of the tide, substantially as described.

2. The buoy B B′, constructed with bulkhead apartments, substantially in the manner and for the purposes described.

3. The chamber or chambers J′, in combination with a buoy B, having an aperture or apertures, *i i*, and constructed substantially as described, for the purpose of receiving water to be raised by the elevator J, substantially as described.

4. The endless chain of double-chambered buckets, in combination with a perforated drum G, *h i*, sub-

stantially in the manner and for the purposes described.

78,558.—James Walton, Sunfish, Ohio.—*Cider and Wine Mill.*—June 2, 1868.—In making cider the apples are fed through the right-hand hopper, and being reduced to pomace by the corrugated rolls, fall upon the apron which carries the pomace between secondary rolls, which express the juice therefrom. The juice runs down the incline, and dropping through the perforations falls upon a strainer. In making wine the grapes are passed through the left-hand hopper, so that they are not acted upon by the corrugated rolls.

Claim.—The arrangement of the hoppers P Q, grinding rolls B B′, apron F, rolls G G′ G″ I I′, incline M, concaves N and O, and receiver R, substantially as and for the purpose set forth.

78,559.—Miles Waterhouse, Passaic, N. J.—*Apparatus for Dyeing.*—June 2, 1868.—Steam is discharged from nozzles below the supplemental perforated bottom, and acts after the manner of an ejection pump upon the liquid below the same, forcing it upward through the vomiting tubes, whose nozzles discharge it upon the exposed surface of the material to be dyed, such material being packed in the vat above the supplemental bottom. A partial vacuum is produced by the displacement of the liquid dye-stuffs at the bottom, and when the liquid is discharged at the top it is forced downward through the goods by atmospheric pressure, a circulation of the liquid being thus maintained so long as steam is admitted.

Claim.—The combination and arrangement of the several parts, substantially as and for the purposes shown and described.

78,560.—William C. Wells, Philadelphia, Pa.—*Ice Creeper.*—June 2, 1868.—The creeper is secured by buckle straps to the shoe, and prevents the wearer from slipping upon the ice.

Claim.—A "creeper," composed of a piece of leather or other soft material, with metal "spurs" fastened thereon by means of metal "washers," and by riveting, when said piece of leather, with spurs thereon, is constructed separate from the shoe, and is intended to be worn beneath the sole of the shoe, and is attachable to and detachable from the shoe, substantially as shown and described.

78,561.—Isaac N. Wood, Fall River, Mass.—*Hoe.*—June 2, 1868.—The inner edges of the tubular blade and nose are sharpened. The implement is more particularly intended for weeding and stirring the soil.

Claim.—The improved hoe as made with the short, open, tubular blade, combined or provided with an angular nose, arranged with respect to such blade and its shank, substantially as specified.

78,562.—Howell Wright, Taunton, Mass., assignor to Reed & Barton, same place.—*Manufacture of Table Ware.*—June 2, 1868.—This alloy is composed of nickel and copper melted together, and run into bars to be rolled and worked into the desired form.

Claim.—1. The within described alloy of nickel and copper, or any other substantially the same, all as and for the purposes set forth.

2. The improved table ware, made substantially as described.

78,563.—John H. Adams, Portland, Maine.—*Carriage Seat.*—June 2, 1868.—Devices to prevent the seat from being jolted out of place; also, to prevent it from sliding backward and forward in consequence of the motion of the carriage.

Claim.—1. The swinging hinged or pivoted bar *b*, either with or without the studs *h*, in combination with the projection *e*, the said bar *b* being attached, as set forth, to the carriage sides, and capable of being fastened thereto, as set forth, and the projection *e* to the carriage seat as and for the purposes described.

2. The clamp *l*, in combination with the projection *e* on the seat, as and for the purposes described, the said clamp *l* being secured as herein set forth.

78,564.—William Austin, Philadelphia, Pa., assignor to himself and William Opdyke, same place.—*Construction of Sheet Metal Conductor Pipes.*—June 2, 1868.—Designed for conducting water from the roofs of buildings.

Claim.—A water conductor or pipe, made of corrugated sheets of metal, so as to yield to the internal pressure caused by the freezing of the water therein, substantially as described.

78,565.—Quimby S. Backus, Winchendon, Mass.—*Vise.*—June 2, 1868.—The parts of the sectional tube which cover the screw shaft are adapted to slide one within the other, this provision conducing to compactness in such vises as have the screw shaft protected from shavings and filings.

Claim.—The method of protecting the screw shafts of vises with the sectional tubes *h*, *i*, *k*, arranged and operating substantially as described.

78,566.—Addison Barker, Comanche, Iowa.—*Hay Loader.*—June 2, 1868.—As the wagon moves forward, the elevating rope attached to the fork is wound upon the hub, and the weight is thus raised to the desired height; the crane is then turned so as to bring the hay over the wagon, into which the hay is deposited when the hand releases that end of the rope which engages the stop.

Claim.—The drum F, arranged outside of the wheel G, in combination with the sheaves C and O and stop L, for taking in the slack of the rope B, essentially as shown and described.

78,567.—John H. Barnes, Troy, N. Y.—*Toy.*—June 2, 1868.—The object is to combine in the ordinary box whistle, which is blown by the mouth, flared flanches, and a strong cord tied to a loop, so that when the toy is whirled rapidly around, the wind, acting upon the flanches, will produce a fluttering noise, and at the same time the air passing through the holes will produce a shrill and continuous whistling.

Claim.—The combination, in a toy whistle, of the flanches *a′* and *a″*, with a cord and ring fastened by a loop or equivalent, substantially as described, and for the purpose specified.

78,568.—Alma Bedford, Coldwater, Mich.—*Harness Buckle.*—June 2, 1868.—The loop receives the end of the strap through which the tongue of the buckle passes, and it also serves to cover and protect the cross bar around which the strap is passed.

Claim.—A harness buckle, provided with the cross bar E and loop D, when constructed as herein described, as a new article of manufacture.

78,569.—Benjamin Best, Dayton, Ohio.—*Composition for Destroying Insects in Fruit Trees.*—June 2, 1868.—The tree or shrub is surrounded, at a short distance above the ground, with a band of cotton, wool, or straw, saturated with a composition consisting of sperm or whale oil, pine tar, carbonate of ammonia, potash, and coal tar.

Claim.—The mode of protecting trees, by the application of the hereinbefore-described composition to bands of fibrous material surrounding the trees, substantially as described.

78,570.—Wm. N. Bragg, Richmond. Va., assignor to himself, W. H. Trainham, and J. B. Winston, same place.—*Car Seat and Chair.*—June 2, 1868.—The occupant of the chair can adjust the back to any desired angle by means of a hand lever, which, on being released, allows the pawl to drop into the nearest notch in the plate and hold the seat stationarily in the desired position.

Claim.—1. The combination of the arm A with the bars A^1 and A^2, and rock shaft a^3, and the bell crank C^1, and rod *c*, to operate the pawl C, substantially as and for the purpose specified.

2. The combination of the above parts, A, A^1, A^2, a^2, C^1, *c*, and C, with the hook *b* of the leg, with the notched plates d^1, for the purpose specified, and as substantially described.

78,571.—Levi Bronson, Buffalo, N. Y., assignor to himself and James Brayley, same place.—*Shaft Coupling.*—June 2, 1868.—The headless bolts are held against endwise movement in one direction by the guard flanges, and in the other direction by the keys.

Claim.—The guard flanges C C of the ring A, in combination with the forked shafting E, headless bolts D D, held by keys *p p*, the whole arranged as described, and operating in the manner and for the purpose set forth.

78,572.—HENRY S. BROOKS and JACOB S. LEHMAN, Martickville, Pa.—*Mode of Constructing Iron Posts for Rail Fence.*—June 2, 1868.—The fence rails are inserted into the spaces between the iron rods and cast-iron supporting plates.

Claim.—The intervening rail supports *c*, with their perforated flanges *x*, in combination with the two round iron sides A A′, top and bottom plates *d d′*, and bed plate B, all arranged and applied in the manner and for the purpose specified.

78,573.—WALTER G. BROWNSON, Wellsville, Ohio.—*Telegraphic Repeater.*—June 2, 1868.—In this invention, the various instruments in an electro-magnetic telegraph system are so constructed and combined that the main circuit is kept constantly closed by the key or circuit breaker when at rest; and the movements of said key in writing produce, announce, and repeat, in the usual manner, and without reversal, the customary signals upon the sounders, registers, and repeaters of the apparatus, by opening instead of closing the main circuit.

Claim.—1. So combining the local circuit, influencing and operating a registering, repeating, or signal instrument, in an electro-magnetic telegraph system, with a receiving or relay instrument on a main circuit in said system, as that said local circuit shall stand open when the main circuit is closed, and vice versa, all substantially in the manner and for the purpose herein set forth.

2. An electro-magnetic telegraph relay or receiving instrument, so constructed as that the contact of its armature lever with a suitable connecting conducting point to close a local circuit, shall be broken, and the local circuit thereby opened when the receiving magnet becomes excited, all substantially in the manner and for the purpose herein set forth.

3. The combination and arrangement of the armature lever of a telegraphic repeating instrument with the wires of the local circuit, and a connecting and conducting post in said circuit, so as that the local circuit shall be closed through said lever and post when the magnet attracting said lever is inactive, all substantially in the manner and for the purpose herein set forth.

4. So combining the connecting device in a repeating instrument whereby the main circuit is closed, with an insulated pin upon the armature lever thereof, as that said main circuit shall be opened when the magnet of the instrument is excited, all substantially in the manner and for the purpose herein set forth.

5. The improved connecting and conducting post M, in my repeating instrument, when constructed with a horizontal arm, *s*, carrying an adjusting screw and connecting pin *r*, and combined with an elastic metallic strip *p*, from a second conducting post, L, to open and close an electrical circuit, all substantially in the manner and for the purpose herein set forth.

6. The telegraphic switch P, constructed of an insulated pivoted plate, provided with metallic strips, each so disposed thereon as that, by a proper alignment thereof, a connection may be formed thereby between any two detached pins or points beneath the plate communicating with the wires of electro-magnetic batteries, to be broken by turning the plate upon its pivot, so as to change the alignment, all substantially in the manner and for the purpose herein set forth.

7. My improved key or circuit breaker, so constructed as that, when at rest, the main circuit connected therewith shall be closed thereby through its lever, its base plate, and an insulated anvil, substantially in the manner and for the purpose herein set forth.

78,574.—JAMES BURSON, Yates, Ill.—*Paddle Wheel.*—June 2, 1868; antedated May 23, 1868.—The carriers or angular frames are supported upon the same axes as the paddles, and each carrier is provided with four pins or guide rods projecting from the angles. These guide pins successively enter and traverse different ways as the wheel revolves, and the feathering of the paddles is thereby effected.

Claim.—1. The plates or carriers *h*, for holding the guide rods D E in four angular positions, in combination with the ways L N U W and J K Y M, all arranged and operating substantially as shown and described.

2. The combination of four guide rods to either bucket, with separate rails or tracks to either pair of said rods, for operation together, substantially as and for the purpose or purposes herein set forth.

78,575.—J. M. BUTTERS, North Fryeburg, Me. —*Clothes Drier.*—June 2, 1868.—The bars are hung in semi-circular brackets so as to extend radially therefrom, and are attached by a continuous pivot around each bracket. The bars are sustained, when extended, by being set back under the ledges on the brackets.

Claim.—The combination of the bars D D′ with brackets A and A′, pivots *d d*, and projections *a a*, and back B, the whole constructed as described, and operating as set forth.

78,576.—A. B. CANDEE, Hamden, and L. S. TAYLOR, Southington, Conn., assignors to ÆTNA NUT COMPANY.—*Die for Making Axle Nuts.*—June 2, 1868.—Machine for manufacturing nuts which are used upon the end of carriage axles, for securing the wheel thereon. A pair of dies cut off the blank from the bar of heated metal, and transfer the blank to a position opposite the punches, which form the nut in the same die which transfers the blank.

Claim.—The combination of the cut-off block K, griping dies F and H, die L, and punch *a*, all constructed, arranged, and operating in the manner substantially as described.

78,577.—WILLIAM C. CLEVELAND, Cambridge, Mass.—*Spool Guard.*—June 2, 1868.—The spring guard prevents the thread from unwinding from the spool, unless required to do, but allows it to do so freely when required. The thread is cut by being drawn against the edges of the niche in the guard. The guard prevents the spool from rolling when laid down or when it falls.

Claim.—The spool guard C, provided with projections *a*, so constructed as to clamp the spool between them, and to serve as axles for the spool to rotate upon, substantially as herein set forth.

78,578.—SETH L. COLE, Brooklyn, N. Y.—*Gas Burner.*—June 2, 1868.—As the gas is turned off to a small flow the cap is raised to protect the diminished flame from the action of the wind.

Claim.—Adjusting the cap A upon the jet or burner by means of the cogged bar *c* and ratchet wheel *d*, or a section thereof, or by any device that will cause the cap to move up or down, by simply turning the stop cock B, which regulates the flow of gas to the jet or burner, for the purpose substantially as described and shown in the drawings.

78,579.—MONROE M. COPP, Albion, N. Y.—*Thill Coupling for Carriage.*—June 2, 1868.—The clamp hook or convex-headed cap is situated between the branches of the forked thill iron, and forms part of a bolt which is secured in the jack by a nut.

Claim.—The convex-headed cap C, provided with the square shoulder *b* and screw nut *k*, said head being recessed to receive one-half of the draw bolt *h*, and form, with the recess of the bar A, a complete eye, and a shield to exclude dust from the same, in combination with the forked thill iron B and jack A, arranged and operating substantially as and for the purposes set forth.

78,580.—COLEMAN DEFRIES, London, Great Britain.—*Foot Light for Theaters.*—June 2, 1868.—The burners occupy different elevations in front of a reflecting surface, so as to produce a favorable disposition of the light. A glass front protects the dress of the players from the flames. The vitiated air passes off into the chambers of the iron framing, and thence to a flue, a special flame being employed to induce the passage of the vitiated air into said flue.

The chain which carries the colored glass may be revolved by a crank in the hand of the prompter, so as to present the glass before the burners and thus throw a colored light across the stage.

Claim.—The exclusive use of an improved footlight, constructed and arranged substantially as herein described, and shown on the accompanying sheet of drawing, whether the mechanism for raising and lowering colored mediums be or be not applied thereto.

78,581.—THOMAS DOOLEY, South Boston, Mass.—*Manufacture of Toe Calks and Blanks for the Same.*—June 2, 1868.—These toe calks are, by welding, made integral with the shoes. The surface welded to the shoe is of wrought iron, and the surface which comes in contact with the ground is of steel.

Claim.—A calk or calk blank having a relative disposition of iron and steel, produced and shaped substantially as described.

78,582.—JOHN DUCHESNE, Lacon, Ill.—*Side Gear for Threshing Machines.*—June 2, 1868.—When the position of the separator is to be changed, the swiveling post with which the horse-power is connected is unlocked by withdrawing the spring bar from that one of the depressions of the foot plate in which it may rest at the time, and the separator is swung round upon the swiveling post as a pivot.

Claim.—1. The swiveling post *k*, for the purpose of rendering the connection between a horse-power and separator adjustable, substantially as described.

2. The combination of the swiveling post *k*, spring arm *m*, and notched foot plate *h*, as and for the purpose set forth.

3. The combination of the swiveling post *k* with the gearing *l i c d*, and shaft *e*, as and for the purpose set forth.

4. The cap *n*, in combination with the gearing *c d*, as and for the purpose set forth.

5. The slotted case *o*, in combination with the gearing *l i* and swiveling post *k*, as and for the purpose set forth.

78,583.—ABRAHAM DYSON, St. Louis, Mo.—*Street Scraper.*—June 2, 1868.—The scrapers rest upon the ground as the machine advances, and all the refuse matter between the forward scrapers is gathered together and carried along by the rear scrapers until the cam, by acting upon the arm of the lever raises said rear scrapers, which dropping as soon as the cam and arm disengage, leave the dirt collected in a heap. The driver by keeping the lever in a depressed state may hold up the rear scrapers so as to make a continuous line of scrapings.

Claim.—1. The wheels *f f'* and N, blocks *e e' e'' e'''*, shafts *d d'*, and frame D, with their connecting chords *x x'* and elastic bands *l l' l'' l'''*, of a street scraping machine, all arranged relatively to each other and the rest of the machine, substantially as and for the purpose shown and described.

2. The lever O with its arm *v*, link *s*, frame D, and cam *r* of a street scraping machine, all arranged relatively to each other and the remaining parts of the machine, substantially as and for the purpose shown and specified.

3. The combination of the scrapers 1 2 3 4, &c., and *h h'*, with the frames D, E, and F, all constructed, arranged, and operating substantially as and for the purpose shown and specified.

4. A street scraping machine, combining the devices above mentioned, when constructed, arranged, and operating substantially as and for the purpose shown and specified.

78,584.—CHARLES F. ESPICK, Plymouth, Ind.—*Chimney Clasp.*—June 2, 1868.—Designed as a means of protecting house chimneys from the weather; also to ornament the same and bind the material together. The upper flanges of the sections lie upon the top of the chimney, leaving the flue free. The vertical flanges fit snugly against the outside of the chimney.

Claim.—The sections A and B, constructed substantially in the manner specified, of any required size, and bound together around the upper end of a chimney, as and for the purpose set forth

78,585.—CALEB FOSTER, Wappinger's Falls, N. Y., assignor to ELIAS BROWN, same place.—*Die for Cutting the Teeth of Metallic Combs.*—June 2, 1868.—The male and female cutting dies and follower are arranged to operate in such a manner that two combs will be formed simultaneously out of one piece of metal plate, the teeth of one comb being formed by the metal which was included in the spaces between the teeth of the other, and the teeth of both combs being pointed by the same operation.

Claim.—The combination of the male and female dies A B, follower or plunger D, spring E, or its equivalent, and the cutting lips *b b* on the male die, all arranged for joint operation, substantially in the manner as and for the purpose specified.

78,586.—JOHN FRISCH, Albany, N. Y.—*Bread Knife.*—June 2, 1868.—The two rollers are applied to a common table knife and constitute a gauge to secure a uniform thickness of slices which on being cut pass between the blade and the gauge. The lower roller held below the edge of the knife by the spring, protects the table from damage when the knife has passed through the loaf.

Claim.—1. The employment of roller H, when arranged to regulate the thickness of the slice, and also to yield to the pressure of the knife, substantially as and for the purposes described.

2. In combination with the above, spring *m*, bars B C, slides *g g*, and roller *h*, all arranged substantially in the manner and for the purpose set forth.

78,587.—CHAUNCEY W. FULLER, Earlville, Ill.—*Culinary Vessel.*—June 2, 1868.—The steam rises through the inner vessels and passes through the upper perforated plate to the cover, upon the underside of which it gradually condenses, and running down the surface of the cover or falling in drips upon the upper perforated plate, it runs to the lower edge thereof and falls along the side of the boiler to the water below and not upon the articles contained in the vessels.

Claim.—In combination with the boiler A, diaphragm B, and cover D, the vessel C C and perforated plate E, when so constructed and arranged that the drip from the condensed steam shall fall outside of and not into the vessels, substantially as described.

78,588.—JAMES M. GALE and IRVING M. AVERY, New York, N. Y.—*Cooking Apparatus.*—June 2, 1868.—An apparatus for cooking several kinds of food by steam at the same time. The condensed steam dripping through the holes of the upper plate of the diaphragm is conducted by the lower plate to the sides of the vessel, which it follows to the bottom, thus avoiding all the food upon the partitions. The upper chamber contains divisions for hot water, tea, and coffee.

Claim.—1. The construction of the diaphragm C, consisting of the concave and conical disks *c f*, alternately perforated, and connected as described, substantially as set forth.

2. The combination of the removable diaphragm or diaphragms C with the cylinder A and lugs *i i*, substantially as and for the purposes set forth.

78,589.—A. E. GILLILAN, Marion, Iowa.—*Churn.*—June 2, 1868.—The dashers are reciprocated vertically at opposite sides of the vertical slotted board or partition in the churn. The dashers are connected to and operated by the same crank shaft, and each dasher has two bevel-edged slats pivoted between the end pieces of the dasher.

Claim.—The dashers E E and adjustable slotted board B, as constructed in combination with arms *f f*, *g g*, and crank shaft D, when all are arranged and operated as and for the purpose set forth.

78,590.—LEWIS GRAHAM, Plymouth, Ill.—*Wagon Seat.*—June 2, 1868.—A spring seat for vehicles, secured to the wagon body by the levers which are hinged at their inner ends to the middle of the seat.

Claim.—The levers B B, slotted and hinged at their inner ends to the wagon seat A, with the stationary headed bolts E E and tubular rubber springs D D, arranged and used as and for the purposes set forth.

78,591.—C. Watson Guerrant, Leaksville, N. C.—*Combined Square and Calipers.*—June 2, 1868.—An instrument for carpenters and machinists. The device is designed to be used either as inside calipers, outside calipers, try-square, bevel gauge, compasses or rule.

Claim.—The combination of the bars A and B, and slotted arm C, arranged and operating as described, for the purposes set forth.

78,592.—Newton B. Hall and Herbert Jones, Branford, Conn., assignors to Thomas Kennedy, same place.—*Cement for Fastening Door Knobs and for Other Purposes.*—June 2, 1868.—A cement for securing mineral or porcelain door knobs to their metallic necks: alum, sand, and sulphate of zinc, pulverized and mixed in water.

Claim.—The cement, produced by the combination of materials and in the proportions herein fully set forth and described.

78,593.—Sanford V. Hall, McGrawville, N. Y.—*Washing Machine.*—June 2, 1868.—The cap piece prevents the water from being thrown upward by the roller, the spiral springs moderate the pressure of the fluted roller upon the clothes, and the metallic side gauges attached to the machine and standards, adapt the latter, together with the washing roller, to be adjusted vertically to suit the bulk of the clothes to be washed.

Claim.—The spiral springs *g g*, the grooved side gauges *h h*, and the cap piece *f*, in combination with the fluted roller *e* and rub board *a*, all constructed and operated substantially as described.

78,594.—Timothy Holland and John T. Cody, Cincinnati, Ohio.—*Lubricator.*—June 2, 1868.—The amount of oil which flows from the globe may be regulated, as occasion may require, by elevating or depressing the valve so as to increase or diminish the area between it and its seat, the rotation of the valve effecting the desired change in its position.

Claim.—The combination and arrangement, substantially as described, of the globe A *a*, socket B, tubular stem C *c* I D, chamber H *h*, and valve F G *g*, as and for the purpose set forth.

78,595.—H. L. Hotchkiss, New Haven, Conn., assignor to L. Candee and Company, same place.—*Over-shoe.*—June 2, 1868.—Over-shoes in which a portion of the upper is formed of cloth joined to a rubber foxing. The lower edge of the fabric is protected, so as to obviate the fraying thereof, by applying a narrow strip of unvulcanized rubber which lies partially on the foxing, with the remainder upon the fabric at its lower edge. The process of vulcanization whereby the shoe is completed, also secures this binding to the shoe and fabric.

Claim.—The application of the binding *a* to the shoe, and so as to protect the edge of the fabric, in the manner and for the purpose substantially as specified.

78,596.—Gottlob Kaiser, New York, N. Y., assignor to himself and Vossnack and Steins, same place.—*Still for Spirits.*—June 2, 1868.—The dephlegmator receives the vapors from the rectifier, and delivers them, free from refuse, to the condenser, and consists in a horizontal worm pipe, placed in a vessel filled with water of a certain temperature. The lowest points of the worm are provided with return pipes leading to the different compartments in the rectifying column. The less refined spirits are returned, to lower the more refined, and the fusel oil is returned to higher compartments. The mash heater is provided with perforated steam pipes, whereby the mash is stirred and mixed and prevented from adhering to the sides and bottom.

Claim.—1. The within-described combination of two stills, with the mash heater, and rectifier, and column, and defecator, and a condenser, connected and arranged for joint operation, substantially as and for the purposes herein set forth.

2. In connection with the above, introducing the mash into the mash heater gradually or by small increments, so as to maintain a uniform or nearly uniform temperature in the heating vessel, substantially as and for the purpose herein specified.

3. In a mash-heating vessel, B, constructed and arranged substantially as herein specified, the within described provision for agitating the contents, by the injection of steam into the same, in the manner and with the advantages herein set forth.

4. Cooling the dephlegmator with water from the condenser by means of connections and cocks, arranged as shown, so that the cold water is economized, and the cooling of the dephlegmator is gradual and uniform, all as and for the purposes herein set forth.

78,597.—Michael Laufenburge, Two Rocks, Cal.—*Shoe for Separators.*—June 2, 1868.—The sieves are placed at an inclination to each other and are connected by rods to a horizontal driving shaft by which the sieves are driven to and fro in ways. Beneath the shaft is a horizontal screw which conveys the tailings to the elevator.

Claim.—The combination of the screw I with the two inclined sieves C and C′, vibrating in alternation, substantially in the manner and for the purposes herein described.

78,598.—John Lee, Massillon, Ohio.—*Gate.*—June 2, 1868; antedated May 27, 1868.—By raising either of the laterally projecting hand levers the hinged fulcrum is caused to bear down upon the top rail, and the catch being simultaneously retracted, the gate is thrown into a vertical position, opening the roadway. By the depression of the lever the gate is thrown down and locked.

Claim.—1. The blocks or revolving fulcra *d′ d′*, and hinged fulcrum *b*, attached to top rail B of gate, and the hand levers *d d*, when used in combination with the same, constructed and operating as described, and for the purposes set forth.

2. The sliding latch F and inclined plane *l*, and rope *a*, for locking and unlocking the gate, constructed as described, and operating as set forth.

3. The weight box attached to rail B, and operating in slot *f*, on pivot bolt *e*, constructed as described, and operating as set forth,

4. The sliding pivot and guide blocks *i i*, for keeping the gate in a vertical line while being operated, constructed as described, and for the purposes set forth.

5. The levers *a′ a′*, with slots *m*, and concave or convex ends, and convex or concave in post A, to correspond, constructed and operating as described, and for the purposes set forth.

78,599.—Thomas Maitland, Williamsport, Pa.—*Tooth Brush.*—June 2, 1868.—The hollow rubber head is provided with teeth or projections which, being of the same material, form the brush for the teeth. The tenon on the end of the handle is fitted into the hollow head.

Claim.—The hollow head B and its bristles, made of India-rubber, and combined with the handle A, having a tenon on its end, all constructed and used substantially as specified.

78,600.—Robert J. Malcolm, Cincinnati, Ohio.—*Apparatus for Generating Gas.*—June 2, 1868.—The cylinder is divided into three departments. Fluid being poured into the uppermost department runs through one of the valve-guarded pipes into the lowest one, forcing the accumulated gas into the middle department and thence out through a conducting pipe, for use. When the fluid has escaped from the uppermost department the apparatus is revolved so as to reverse the position of the upper and lower chambers.

Claim.—1. Carburetting air by reversing the vessels or chambers *x* and *z*, substantially as described.

2. The combination of vessels or chambers *x* and *z*, so that as the compound vessel is revolved or reversed, air is drawn in and forced out alternately, as described.

3. The valves *f f′*, *g g′*, *h h′*, *i i′*, in combination with their respective pipes, when used as set forth.

4. The floats *d d′*, and cross bar C′, or its equivalent, as specified.

5. The combination of the cylinder A, frame B, and floats *d d′*, when operating as and for the purpose specified.

78,601.—Isaac Marsh, Jr., Milton, Pa.—*Composition Tile or Slab for Floors, &c.*—June 2, 1868.—The supporting frame is made to constitute a part of the tile or slab, in order to obviate the bending or variation in shape to which a resinous composition tile or slab has a tendency.

Claim.—A composition tile or slab for pavements, &c., consisting of the composition surrounding and supported or strengthened by an interior platform or framework, substantially as described.

78,602.—Claburn S. McMahan, Centerville, Ind.—*Pump.*—June 2, 1868.—The lower valve is opened by the rod which extends downward at the outside of the pump stock, passes through an elongated aperture in the stock and thence upward to the valve. The object is to obviate the freezing of water in the pump. The piston is tapered, and its leather covering secured by a band, the object being to dispense with the employment of tacks and such other means of securing the leather covering as injure the inside of the pump by frictional contact therewith.

Claim.—The piston P, in combination with valves C and *d*, when the latter are provided with hoisting appendages, as described, and the whole arranged and operating substantially as and for the purpose set forth.

78,603.—Samuel Norris, Springfield, Mass., and Wilhelm Mauser, and Paul Mauser, Oberndorf, Wurtemburg, assignors to Samuel Norris.—*Breech Loading Fire Arm.*—June 2, 1868.—The breech block has a catch or projection extending from its surface, and is turned upon its axis to close the breech. In opening the breech the catch is turned into line with a longitudinal aperture. The firing pin passes through the cylindrical block and is driven forward by a spring which is held by a catch and released by means of an ordinary trigger.

Claim.—1. The combination of a main spring *k*, formed substantially as herein described, with the handle of the breech block C, and arranged to propel the firing pin or other striking device of a breech loading fire arm, substantially as and for the purpose herein set forth.

2. The sliding block C, handle *j*, spring *k*, and catch *m*, of a breech-loading gun, constructed, combined, and operating in such manner that the piece is cocked by turning the said handle, substantially as herein set forth.

3. Securing the breech block C by means of the recess k^3 and catch *m*, substantially as and for the purpose herein set forth.

78,604.—John K. O'Neil, Kingston, N. Y.—*Weighing Scoop.*—June 2, 1868.—A catch holds the balance in position, so that the two constitute a handle of suitable shape and size. When anything is to be weighed in the scoop the balance is turned up with the bail; the indexes on the balance determining the weight of the article.

Claim.—1. The hollow handle B to the scoop, for the purpose of receiving the balance D, substantially as herein set forth.

2. Securing the balance to the handle when not in use for weighing, substantially as specified.

3. So shaping the balance that it will form a counterpart to the handle, and compose part of it when brought down thereto, substantially as described.

4. The arrangement of the notches *c c*, or their equivalent, upon the scoop, in relation to the bail and balance, substantially as and for the purpose set forth.

5. Attaching the balance to the scoop bail by the extension of the balance spring itself, as herein specified.

6. The combination and arrangement of the weighing rack *t*, swivel shaft *r*, pin *s*, and the balance spring, substantially as and for the purpose herein set forth.

7. The elastic washer *n* around the index pivot, and pressing upon the index, substantially as and for the purpose herein specified.

8. The combination of the adjustable dial and adjustable index, to be used together, for making double or successive adjustments, as specified.

78,605.—Jacob Pfau, Cincinnati, Ohio.—*Manufacturing Fruit Cans.*—June 2, 1868.—An edge is first turned on the sheet of tin and a semi-cylindrical shape is then imparted to the sheet by dies. The semi-cylinder is then placed in a drop press, by which the tin is forced into a die so as to produce a shoulder or ledge which projects outwardly from the cylinder. The cylinder is placed within a drop press which forms the crease around its open mouth.

Claim.—1. The mode of manufacture of a creased and open mouthed fruit can body in one piece, substantially as described.

2. An open mouthed and creased fruit can, whose body and the shoulder for receiving the wax are formed of one piece, in the manner set forth.

78,606.—Enoch Piper, Camden, Me.—*Refrigerator.*—June 2, 1868.—The upper part of the receptacle for the freezing mixture serves as a receiving pan to guide the mixture into the lower part. Articles to be frozen are placed upon the shelves, which are packed in the smaller chamber. Designed as an improvement upon his patent of August 5, 1862.

Claim.—1. A refrigeratory apparatus, one or more of the inner walls of which are deep, narrow vessels of thin metal, to receive the freezing mixture, substantially as described.

2. The employment, in a refrigeratory apparatus, of one or more receptacles B D, for the freezing mixture, constructed of thin metal, in the form and proportions substantially as shown and described, to serve as partitions between the sides, as constructed.

3. The combination of shelves F F, open at the sides and top, and having a bar across the top, substantially as described, with a refrigeratory chamber, C, formed substantially as described.

78,607.—Anson H. Platt, Philadelphia, Pa.—*Lamp Burner.*—June 2, 1868.—Two distinct wicks, of equal and uniform width and thickness, are inserted between the tubes, so that while the circular space at the top of the tubes is completely filled by the wicks, triangular spaces are formed below.

Claim.—The combination and arrangement of the concentric wick tubes or plates 2 3, with open spaces *b b* therein, the movable wick regulator 4, perforated plate *k*, and apron *a*, substantially as and for the purposes herein specified.

78,608.—John Richards, Cincinnati, Ohio.—*Hanger for Shafting.*—June 2, 1868.—The box, mounted on the hanger, vibrates in a horizontal plane and vertically in the line of the shaft, and is also capable of vertical and lateral adjustment independently of the hanger frame.

Claim.—1. The stem C, formed to receive the lugs *d*, substantially as shown.

2. The combination of the adjusting screws *h h* and eye bolt E, when used substantially as herein shown and for the purposes specified.

3. The cylindrical screw piece *o*, for adjusting the box, when formed to receive the bolt E, in the manner and for the purposes described.

4. The screws *h h*, in combination with the stem piece C, for adjusting the box S, as herein shown, and for the purposes specified.

5. The stem piece C, screw piece *o*, eye bolt E, and screws *h h*, combined and operating substantially in the manner and for the purposes specified.

78,609.—Benjamin Robinson, Thomaston, Me.—*Carriage Thill.*—June 2, 1868.—The bolt which connects the forks at the end of the thill is rigidly attached to the thill during the process of manufacture. The bolt is prevented from rattling in its bearing, and the thills are sustained when the horse is withdrawn therefrom.

Claim.—The arrangement of the cap *e* upon the projection *a*, the said cap being secured by bolts 1 and 2, in conjunction with the rubber piece *f*, the rigid bolt of the shaft, the sides 3 of the forked end of the shaft, the projection *h*, and either with the elastic strip, for the two purposes of rendering the shaft holder adjustable and the shaft self-supporting, as described.

78,610.—Max Rosenthal, Philadelphia, Pa.—*Composition for Preparing Paper for Transferring*

Stamps and other Printed Matter.—June 2, 1868.—A mixture of starch, washing soap, rock candy, and glycerine is applied to one side of unsized paper and allowed to dry; it is then coated with another mixture of gum arabic and rock candy.

Claim.—A chemical compound, composed of the ingredients, mixed in the proportions and quantities, and applied to unsized paper, as herein described, and for the purpose set forth.

78,611.—CYRUS W. SALADEE, Newark, Ohio, and JOHN S. HALL, Pittsburg, Pa.—*Hoe.*—June 2, 1868.—The lips are formed by making incisions in the hoe blade and then turning up the metal in the manner shown. The brace is formed of separate cast or stamped metal and riveted to the blade.

Claim.—The lips *w*, *x*, and *y*, when formed substantially as described, as part of the hoe blade, in combination with the brace B, substantially as and for the purposes set forth.

78,612.—CYRUS W. SALADEE, Newark, Ohio, and JOHN S. HALL, Pittsburg, Pa.—*Grater and Slicer.*—June 2, 1868.—The table may have either a grater or a slicing blade secured to its upper surface. The fruit is placed in the holder above the table and pressed downward while the crank is turned. The hollow plug is inserted in the holder when a small fruit or vegetable is to be acted upon.

Claim.—1. The frame A, table B, and crank D, substantially as described, in combination with the grater G, substantially as and for the purposes set forth.

2. The frame A, table B, and crank D, substantially as described, in combination with the slicer S, substantially as and for the purposes set forth.

3. The hollow plug *e*, in combination with the holder E, in the manner and for the purpose substantially as shown and described.

78,613.—JACOB SHELLER, Wilmington, Del.—*Composition for Filling the Pores of Wood for Varnishing.*—June 2, 1868.—Linseed oil, Japan varnish, turpentine, sugar of lead, and arrowroot.

Claim.—The combination of the within-named ingredients, when mixed in the several quantities and proportions as herein described, and for the purpose set forth.

78,614.—BRYAN SMITH, Falkland, N. C.—*Cotton-Seed Planter.*—June 2, 1868.—The cylinder is rotated by the contact of its arms with the earth. As the cylinder revolves the pins pass through slots in the hopper and carry the cotton seed to the ground. The plow prepares the earth to receive the seed, and the coverers smooth the earth and cover the seed.

Claim.—1. The cylinder B, constructed with arms C and pins E, substantially as and for the purposes set forth.

2. In combination with cylinder B, the coverer K, constructed and operating substantially as specified.

3. A cotton planter, having cylinder B, coverer K, and plow G, constructed and operating substantially as and for the purposes described.

78,615.—JOHN SPEAR and JOHN A. HULL, Carbondale, Ill.—*Pruning Shears and Knife.*—June 2, 1868.—The longer cutting blade has two cutting edges, the concave edge being intended for use as a knife, and the forward end of said blade projects beyond the end of the other blade so as to be used as a chisel. The two-part clasp is secured to the handle and has a socket to receive the end of a pole.

Claim.—1. The shears, consisting of the double-curved blade C, the blade B, with the projecting thrust cutting edge or chisel G, and the curved edge D, arranged as described.

2. In combination with the pruning shears herein described, the clasp, Figs. 3 and 4, constructed and operating substantially as specified.

78,616. — ALBERT T. STEARNS, Dorchester, Mass.—*Cutter Head for Planing Machine.*—June 2, 1868.—The two sets of cutters on each side of each center or main cutter are confined by a single bolt, through which they project like bolt keys. Each cutter or set of cutters is supported laterally directly against a cheek or cheeks on the stock, and the main cutter is placed in a plane of attachment on the head beyond the plane of attachment of the side cutters.

Claim.—1. The combination of the slotted screw bolt with the cutter head and side cutters, constructed and arranged substantially as set forth.

2. The cutter head, constructed with the side cutters, arranged relatively to the center cutters, substantially in the manner and for the purpose set forth.

78,617.—WILLIAM STINE, Elmore, Ohio.—*Eaves Trough.*—June 2, 1868.—The cross-bar is made fast to the trough by the wire, which is secured to the bar along its upper edge, bent around the trough and bent or twisted together at the ends.

Claim.—1. The construction and arrangement of the bars *e* and *f*, and cross-bar *a*, for holding an eaves trough, substantially as described.

2. In combination with the above, the wire *b b*, as and for the purpose set forth.

78,618.—DANIEL J. STONE, Warwick, R. I.—*Mop Wringer.*—June 2, 1868.—The end of the mop is fastened to an apron which passes out between the rolls with the mop and thence passes upward around the back roller and under the plate which acts as a floor scraper, said apron being attached to a pulley cord which is attached to the slide in front.

Claim.—1. The combination of the rolls, apron, and rod for operating the same, when arranged as herein set forth, and for the purpose specified.

2. The combination of the rolls C F and plates *x*, as herein set forth, and for the purpose specified.

78,619.—L. C. STUART, New York, N. Y.—*Electro-Magnetic Engine.*—June 2, 1868.—The secondary current induced by withdrawing the electric current from one set of magnets is utilized by directing it into the current supplying the other set of magnets. The coils of the magnets are supplied with the electric current through the medium of the disks whose faces run in contact with the conductors, each of the disks being made of three distinct, insulated parts.

Claim.—1. In the employment of a series of rotary magnets, arranged in pairs, and so connected that the magnetization of one set of magnets is effected before the demagnetisation of the other, substantially as and for the purpose as described, in combination with a series of stationary magnets, when arranged and operating in the manner substantially as hereinbefore described, for the purpose set forth.

2. Alternately energising and demagnetizing the electro-magnets, without breaking the connection between the poles of the battery, in the manner hereinbefore described.

3. Conveying the induced or secondary current from the magnets as they are demagnetized, along with the current running to supply another set of magnets, substantially in the manner herein described, for the purpose set forth.

4. The employment of a series of adjustable conductors, substantially as described, whereby the speed and draught of the engine may be governed at pleasure, as hereinbefore set forth.

5. The combination of the disks *a* and *b*, and the conductors *e*, *f*, *g*, and *h*, when arranged and operating substantially as described.

78,620.—SAMUEL SWAN, New York, N. Y.—*Bench Hook for Carpenter's Bench.*—June 2, 1868.—The spring raises the free end of the tongue to the extent permitted by the position of the screw bolt in relation to the lower threaded socket in which it is held.

Claim.—The bed plate E, constructed substantially as described, and fitted with a hinged tongue, actuated by a spring, as set forth.

78,621.—HOMER TULLER, Ash Grove, Ill.—*Bee Hive.*—June 2, 1868.—The bees have access to the honey boxes through the slatted bottoms of said boxes, which rest upon the slatted bottom of the hive.

Claim.—1. The box or hive A, constructed substantially as described, when used in combination with honey boxes B, as and for the purpose specified.

2. The honey boxes B, having the top side made of

glass, and a series of slats at the bottom and one end, hinged in the manner substantially as and for the purpose set forth.

78,622.—Izaac Van Kersen, Kalamasoo, Mich. —*Mode of Constructing Loose Prairie Fences.*—June 2, 1868.—The intention is to connect together ten or twenty sections or lengths of fence and draw them to the place where the fence is to be situated.

Claim.—Constructing a fence with wheels and axles permanently attached to one end of each panel, while the other end is connected by hooks and eyes, and the panels supported by braces D D, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

78,623.—Smith D. Wackman, Auburn, N. Y. —*Machine for Grinding the Cutters of Mowing Machines.*—June 2, 1868.—The cutters, while being sharpened, are held in a clamp frame suspended from overhanging arms in such a manner that the cutters can be presented to the grindstone at any desired angle.

Claim.—1. The combination, substantially as set forth, with a grindstone, of an oscillating adjustable clamping frame, suspended from overhanging arms, for the purposes set forth.

2. The combination, substantially as set forth, with the frame A, of the vertical detachable turning posts G, the overhanging slotted brackets H, the journals, the swiveling suspension rods, and the clamp bar, for the purposes specified.

3. The combination, substantially as set forth, of a supporting frame, a bed plate turning on a pivot on said frame, a grindstone mounted on and turning with said bed plate, an adjustable overhead supporting frame, and a suspended oscillating clamping frame, for the purposes specified.

78,624.—Awshert H. Wagner, Staunton, Va. —*Grinding Mill.*—June 2, 1868.—The spider and screw rod change the position of the rollers on the inclined planes to raise or lower the bed stone and thus adjust it to the upper stone.

Claim.—The spider V, the rollers U W, the inclines X X, the rod Y, and nut *a*, when arranged and operating in the manner and for the purposes specified.

78,625.—Alvah Walker, Oswego, N. Y.—*Water Elevator.*—June 2, 1868.—A person approaching the well takes hold of the ring attached to the end of the elevating rope, which he draws as he walks, thus raising the bucket of water to the top of the well by the time he reaches it.

Claim.—The curb C, pulley G, pulley or pulleys H, and cord F, arranged horizontally, with the fastening I, all combined and arranged substantially as and for the purposes described and shown.

78,626.— William Walton, East Palestine, Ohio.—*Cultivator.*—June 2, 1868.—Designed for adapting the hoes to various widths of furrow and preventing contact between the handles and the plants.

Claim.—Attaching the handles D directly to the wings B, and providing an adjustable brace in the curved bars H, in the manner and for the purpose substantially as herein set forth.

78,627.—Herman C. Weihe, Philadelphia, Pa. —*Counter Shafting.*—June 2, 1868.—A shifting mechanism for accelerating the back travel of the slide rest of a screw-cutting or other slide lathe.

Claim.—1. The parallel counter-shafting B B′, sliding spur wheel H, fixed pinion I, and the loose cone pulley E, when combined and arranged substantially as shown and described.

2. The parallel counter-shafting B B′, fixed pulley G, loose pulley F, sliding feather *a*, collar *b*, shifting lever K, and the loose cone pulley E, when combined and arranged substantially as shown and described.

3. The parallel counter-shafting B B′, loose pulley F, fixed pulley G, sliding feather *a*, loose cone pulley E, feather *c*, sliding gear H, and the pinion I, when combined and arranged substantially as shown and described.

4. The main shafting A, parallel counter-shafting B B′, pulley C, pulley D, loose cone pulley E, feather *a*, loose pulley F, and the fixed pulley G, when combined and arranged as herein shown and described.

78,628.—George M. White and Charles S. Meeker, New Haven, Conn.—*Curtain Fixture.*—June 2, 1868.—Upon raising the curtain by drawing down the cord, the lever is drawn into a depressed position in which it allows the cord to pass freely through it.

Claim.—The lever K, constructed so as to receive the cord, and permit its free passage therethrough while in a depressed position, or hold the cord, as the case may be, substantially as herein set forth.

78,629.—William Wickersham, Boston, Mass. —*Electro-Magnetic Engine.*—June 2, 1868.—Magnetic power is applied through the medium of chains mounted upon rotating wheels and shafts and made up of magnetic and non-magnetic links, the motion of said chains being effected by the attractive force of helices arranged as stated in the claims.

Claim.—1. In electro-magnetic engines, the arrangement of the magnetic bars in an endless chain, having alternate magnetic bars and links of non-magnetic metal, the chain being so arranged in the engine that all the magnetic bars can pass successively through the same helix or column of helices, substantially as described, and for the purpose set forth.

2. In electro-magnetic engines, the construction of two chain gears on parallel shafts, of suitable form and distance apart to receive the electro-magnetic chain, all arranged in such manner that the gears and chain can revolve together, substantially as described.

3. In electro-magnetic engines, the arrangement of two or any desirable number of chain gears on the same shaft, with the corresponding number of electro-magnetic chains, all working concurrently together and communicating their power to the same shafts, substantially as described and for the purpose set forth.

4. In electro-magnetic engines, out of a thin ribbon-shaped strip of metal, the formation of two or more helices, as described, and so arranging them in the engine, in columns or otherwise, that each shall receive a different series of magnetic bars through it, and so further arranging them that when the circuit is closed through one helix, it shall be closed through all of the series thus formed of said strip, substantially as described.

5. The circuit cylinder, with its spiral conductors so formed and in such connection with the helices, that it shall continue the same relation between the closed circuits and the position of the magnetic bar, or as near as may be, as it advances through the column of helices.

6. Such disposition of these spiral conductors around said circuit cylinder, that one of them will perform the same function for each magnetic bar as it enters a column of helices, or for all the magnetic bars of a series which enter a series of said columns at the same time, substantially as described and for the purpose set forth.

7. Such an arrangement of the spiral conductors *e e e*, on the sides of the cylinder, in combination with its movable arrangement on its shaft, as will close the circuits in such manner in its middle position that there will be no tendency of the magnetic bars to move in either direction, and as will open the circuits in such manner in its upper and lower positions as will give motion to the magnetic bars, but in diverse directions, the upper position in one direction, and the lower position in the opposite direction, substantially as described and for the purpose set forth.

8. In combination with the cylinder, the device, consisting of the sliding bar *o* and the spring *q*, for moving the circuit cylinder to and holding it in any position needful to stop the engine or running it in either direction, as described.

9. Making each alternate helix, of those formed of the same strip of metal, coil around in a diverse direction from the others, in such manner that when an electric current passing through a line of helices, so formed of the same strip of metal, produces a north polarity in one end of a magnetic bar, placed in any

one of said helices, a south polarity will be produced in the same end of a magnetic bar placed in either of the adjoining helices of the same line, the electric current flowing in the same direction through all the helices in the same column, substantially as and for the purpose described.

10. Such an arrangement of the columns of helices on the opposite sides of the engine that through any two columns, one on the back and the other on the front of the engine, through which the same electro-magnetic chain passes, the electric current shall flow in diverse directions, giving north polarity to the upper end of a magnetic bar in one, while it gives south polarity to the upper end of the magnetic bars in the other. and *vice versa*, all substantially as described and for the purpose set forth.

78,630.—WILLIAM WICKERSHAM, Boston, Mass. *Railway Rail Chair.*—June 2, 1868.—The "screw cylinders" clamp the flanges of the rails to the chair, and their upper ends constitute spiral inclines which abut against corresponding surfaces on the chair, so that the partial rotation of said cylinders causes them to move downward and firmly clamp the rails to the chair as often as the readjustment of the clamp is necessitated by the wear of the parts.

Claim.—1. In a railway rail chair, the screw cylinders *a a*, when constructed to work or operate automatically, substantially for the purpose set forth.

2. In combination with the screw cylinders, the springs *d d*, as described and for the purpose set forth.

3. The construction of the screw cylinders *a' a'*, with the spaces *f* and wedge *g*, in combination with the chair, substantially as described and for the purpose set forth.

4. In combination with the screw cylinders, the metallic strips *i i*, as described and for the purpose set forth.

78,631.—JESSE WILKINSON, Urbana, Ill., assignor to HORACE BALLARD WILKINSON, same place. —*Herding and Securing Cattle.*—June 2, 1868.—The halters of the cattle are attached to a sheave which runs upon a taut rope, so that they may feed or graze within limits determined by adjustable stops upon said rope.

Claim. — The combination of the windlass for stretching the rope D, the said rope, the post C, and trusses B B, resting upon the ground, together with the traversing block and pulley E, and adjustable stops G, substantially as and for the purpose set forth.

78,632.—CHARLES A. WINN, Lockhaven, Ill.—*Brick Machine.*—June 2, 1868.—The steam-engine forms part of the machine and supplies power to operate the blades or arms which temper the clay in the pug mill; and it also forms a means for introducing steam, heat, and hot water to the mill, in furtherance of the tempering and reducing process.

Claim.—1. A complete and portable brick machine, composed of the steam boiler A, cylinder C, clay mill D, constructed as described, combined and arranged in one portable apparatus in the manner and for the purpose herein set forth.

2. The formation of the annular chamber *e* of the clay mill D, with the elevated chambers *g g*, the spiral steam tube G, as connected with the boiler, and arranged in the annular chamber E, and the stationary perforated steam pipes H H, passing directly from the boiler through the clay mill, horizontally, all combined in the manner and for the purpose herein set forth and described.

78,633.—VALENTINE WOOD, Richmond, Ind.—*Flood Fence.*—June 2, 1868.—A fence to be located on creek bottoms and such places as are liable to overflow. The fence yields to the water and is prostrated but not liable to be swept away.

Claim.—The fence panel A, the lower bar B of which is pivoted to posts C, and which is supported in an inclined position by braces D, when arranged in relation to the embankment E, to operate substantially as described.

78,634.—CHARLES D. WRIGHTINGTON, Fair Haven, and BENJAMIN P. RIDER, Chelsea, Mass.—*Brick Machine.*—June 2, 1868.—The arm on the upper shaft, actuated by a cam ledge, gives a partial rotation to the feeding screws and causes them to fill the molds while the mold wheel is in motion, and smooth the upper surface of the clay in the spaces between the blades in the bottom of the hopper. The molds being filled, the mold wheel makes one-fourth of a revolution and comes to rest, whereupon a table is brought up against the under side of the mold wheel to sustain the pressure which is applied to the clay in the molds by the descending followers. The table descends with the pressed bricks upon it, they being transferred therefrom to an off-bearing device by an oscillating board attached to swinging arms.

Claim.—1. The secondary motion given to the screws by the cam ledge H and the arm K, in addition to their primary motion for feeding down the clay into the forming tube by the gear wheels, for the purpose of smoothing the clay and finishing out the filling of the tube, substantially as described.

2. In combination with the mold wheel P and pressing followers 9, 10, 11, 12, the rising and falling table Y, under the mold wheel, and the delivering apparatus *s, t, u, v*, when arranged and timed in their motions and periods of rest, to operate together, substantially as described.

78,635.—ARCALOUS WYCKOFF, Elmira, N. Y.—*Pavement.*—June 2, 1868.—The saw dust or tan bark absorbs part of the coal tar which is spread upon the flooring, and prevents the superimposed sand and gravel from working under the ends of the blocks.

Claim.—1. A pavement, formed of blocks of wood of irregular forms and uniform length, resting upon a plank floor, and having the intermediate spaces filled with a fibrous material and gravel or sand and coal tar, substantially as set forth.

2. The arrangement and method of forming foundations between the blocks of wooden pavements, by forming a base of saw dust, tan bark, or analogous fibrous material, and placing thereupon gravel or sand, to fill up such spaces, in the manner and for the purpose herein described.

78,636.—WILLIAM MULLALLY, Boston, Mass.—*Apparatus for Extinguishing Fire.*—June 2, 1868.—In case of fire, the apparatus is inverted, which has the effect of mixing dry acid on the foraminous shelf with the water already charged with the opposite acid, thus producing and charging the water with carbonic acid gas, which, upon the opening of the cock, forcibly discharges the water from the vessel.

Claim.—1. An apparatus for extinguishing fires, composed of the vessel A, the foraminous shelf *e* or its equivalent, and the escape cock *f*, the vessel A being provided with a filling aperture, and the whole being constructed, adjusted, and operating essentially in the manner and for the purpose as herein shown and described.

2. The employment of the foraminous shelf, or its equivalent, as before set forth and explained.

78,637.—LEWIS J. ATWOOD, Waterbury, Conn., assignor to himself and HOLMES, BOOTH & HAYDENS, same place.—*Lamp Burner.*—June 9, 1868.—The cone and chimney holder are formed of one piece of metal, or permanently connected, and are hinged to the burner shell so that the chimney holder and cone can be moved simultaneously.

Claim.—1. A cone or deflector, with a circular range of springs to form the chimney holder, in combination with a perforated burner shell, to which said deflector and chimney holder are hinged, substantially as set forth.

2. A ring *n*, formed around the edge of the burner shell by the sheet metal turned over, in the manner and for the purposes set forth.

78,638.—G. C. AVERY, Waldron, Ind.—*Plow and Planter.*—June 9, 1868.—The standards are jointed to arms attached to rock shafts, which latter being partially rotated in a backward direction, raise the plows, seed boxes, &c., to the position in which they are held when not in use.

Claim.—1. The combination of the rock shafts C C', standards *d d*, and seed boxes H H, arranged and operating substantially as described.

2. The combination of the rake *g*, and seed box H, with the standard *d*, as set forth.

78,639.—**Pierre Joseph Badoux**, New York, N. Y.—*Evaporator.*—June 9, 1868.—Hollow boxes, situated one at either side of the partition, communicate with the interior of the shaft and are perforated to receive the ends of spiral pipes which receive the heating fluid from the hollow shaft at one side of the partition, and conduct it again into the shaft of the other side of said partition.

Claim.—The construction of the within-described rotary evaporator, for evaporating all fluids at a low or high temperature, by means of the hollow spirals or serpentines, with any number thereof, substantially as described and set forth.

78,640.—**Anna E. Baldwin**, Newark, N. J.—*Process of Treating Milk to obtain Useful Products.*—June 9, 1868.—The cream is used as a substitute for animal marrow in making pomatum, ointments, &c., the refuse being employed as soap grease. The curd from the milk is used for feeding or cheese making, and cordial or vinegar is made from the whey.

Claim.—The improved methods of obtaining products from milk, substantially as and for the purposes herein described.

78,641.—**Edmund Bennet**, Nankin, Mich.—*Potato Digger.*—June 9, 1868.—The vines and potatoes are taken up by the slatted scoop and forced upward until they reach the curved teeth upon the upper endless chain which tear off and separate the vines, while the potatoes drop under the teeth of the lower belt and are thereby conveyed to the shaker.

Claim.—1. The method of separating the vines from the potatoes, by the curved teeth in the endless chain K, and endless belt L, and shield N, arranged substantially as described and for the purpose specified.

2. The combination of the above with the frame or box A, the wheels B, the axles C, the cog wheels D and O, the pinions E, H, and P, the shafts G and I, the shaker M, the wheels X, the slatted scoop J, the lever R, the cord or chain S, and the fulcrum T, when constructed substantially as and for the purpose described.

78,642.—**M. G. Briggs**, Boston, Mass.—*Folding or Ironing Table.*—June 9, 1868—When the table in an extended form is to employed as a "press board," the cross frame and supporting legs at one end are detached in order that the dress may be drawn over and extended about the leaf. The auxiliary leaf supports a flat iron, starch bowl, or other utensil.

Claim.—1. The apparatus or device above described, consisting of the leaves A A′, twin cross frames or legs c c' d d', and auxiliary leaf or shelf g, the legs being pivoted to each other and to the leaves, and provided with the stops f or f', and the whole operating together in manner and for the purpose as herein shown and described.

2. Applying one pair of cross frames or supports to the leaf by means of the bar h and pin j, or its equivalent, essentially in manner and for the purpose as explained.

78,643.—**L. Chapin**, Antwerp, N. Y.—*Cheese Hoop.*—June 9, 1868.—The sheet iron exterior is lined with tin, either end of the device answering for top or bottom.

Claim.—The within-described cheese hoop, composed of sheet iron and tin, and formed in the manner specified.

78,644.—**S. B. Chase**, Boston, Mass.—*Making Horseshoe Nails.*—June 9, 1868.—The nails are successively acted upon by dies, the first of which gives the nail its proper curve and the bevel at the point end, while the second acts to force the nail through a hole in the bed, thereby cutting off the superfluous metal at the point and rectifying defects in the shape of the nail.

Claim.—In finishing nails, the process of curving their bodies and beveling their points, and afterwards forcing them through an open die to shear off superfluous metal, substantially as and for the purpose specified.

78,645.—**George R. Clark**, New York, N. Y.—*Hoisting Machine.*—June 9, 1868.—The device may be used as an ordinary crank and windlass, but the wheels can be variously disposed with reference to each other to enable the power to be increased in being transmitted from the crank to the windlass.

Claim.—1. Primary wheels 32 and 33, pinion wheels 16 and 15, in combination with revolving case C.

2. Revolving case C, crank D, and collar O, when constructed, arranged, and operated substantially as herein set forth.

78,646.—**George R. Clark**, New York, N. Y.—*Elevator.*—June 9, 1868.—A revolving wheel is applied under the platform or table and provided with anti-friction rollers above and below, the lower ones meshing with a screw thread lever whose operation is controlled by a lever and clutch, the entire power being transmitted by means of a crank shaft, wheel, and endless belt.

Claim.—1. The combination and arrangement of the hollow and revolving table and worm, parallel guides, rollers, and their supporting brackets, when the whole is operated by means of pulleys and endless belt, substantially as described.

2. The endless belt t, when the same is used in combination with the table or platform p, anti-friction rollers b b, and screw-thread arm t', when the whole is so constructed as to operate substantially as described, and for the purpose specified.

3. The combination of the lever r, the guide bar R, and the clutches q and q', the stop lever H, and the stop pin w', when the same are used and operated in the manner substantially as described.

78,647.—**John C. Cline**, Philadelphia, Pa., assignor to himself and **Henry C. King**, same place.—*Bedstead.*—June 9, 1868.—The slots in the slats, and the journaled head and foot bars constitute a yielding attachment for the slats and allow the full play of the springs under super-imposed weight.

Claim.—The bed bottom, composed of the slats c, attached at head and foot to the bars e and f respectively, said bars being free to turn on end bearings or journals, in combination with springs k and spring bar h, these several parts being constructed and arranged and operating substantially as shown and described.

78,648.—**I. Fremont Colby**, Washington, D. C., assignor to himself and **Daniel C. Colby**, same place.—*Coffee Mill.*—June 9, 1868.—The supply reservoir contains the coffee to be ground, the smaller chamber constitutes a hopper, and the chamber below receives the ground coffee.

Claim.—Providing the coffee mill with a supply reservoir, B, in combination with the smaller chamber C, and chamber E, all arranged for the purposes specified and set forth.

78,649.—**Isaac Cole**, Brooklyn, N. Y.—*Fastening for Gloves.*—June 9, 1868.—Two buttons are connected by a chain which is fastened by one end to one of the buttons, and rove through the other button, the free end of the chain being provided with a knob which prevents it from becoming detached.

Claim.—The glove fastening, consisting of buttons a and b and chain d, the head of one button being hollow or partly hollow, and within which is placed eccentrically a vertical post, e, and having on its periphery openings h k, and a contracted slot f, leading into the hollow head, whereby the chain enters through one opening, then around the eccentric post and out through the other opening, both in fastening and unfastening the glove, substantially as described.

78,650.—**Lewis Cosler**, Yellow Springs, Ohio.—*Thresher for Grain, Clover, Flax, &c.*—June 9, 1868.—The conveying aprons are tightened and slackened by the adjustable arms. The extension sieve catches the grain or seed which may be blown beyond the shoe by the fan. The inclined throat directs the grain to the shoe. The cleaned seed and the refuse matter are respectively discharged by the two horizontal conveying rollers.

Claim.—1. The adjustable arms M, as herein set forth.

2. The extension sieve U, for the purpose set forth.

3. The construction of the inclined-shaped throat L, when located at the top of the apron K, as herein described and for the purposes set forth.

4. The arrangement of the two conveyers R and S, when located and operating with the sieve T, as described and set forth.

78,651.—John O. Couch, Middlefield, Conn.—*Clothes Pin.*—June 9, 1868.—The rubber band causes the arms to spring together, prevents them from passing each other by keeping them approximately in line, and prevents the pin from being thrust down too far upon the clothes line.

Claim.—The employment of a rubber or elastic compound in combination with a metallic clothes pin, made as herein described, and adapted to operate therewith, as and for the purposes herein set forth.

78,652.—John W. Craig, Knoxville, Ill.—*Brace for Bit.*—June 9, 1868.—When the spring catch is raised the lever is thrown outward by the spring and acts with a short purchase to raise the bit and thus liberate it from its socket.

Claim.—The device for holding bits in braces, consisting of the pivoted spring lever C, formed with the toe *b*, which engages with the bit, the free end of said lever adapted to catch under the spring catch D, secured upon the end of the brace, and provided with a round hole for the passage of the bit, all constructed and arranged to operate as herein shown and described.

78,653.—Patrick Donoughe, Loretto, Pa.—*Made of Attaching Handles to Cross-cut Saws.*—June 9, 1868; antedated May 19, 1868.—The shank can be raised or lowered in the opening of the handle so as to adapt the two parts to suit saws of different width. The washer allows the handle to turn readily when it is being secured on the saw.

Claim.—The arrangement of the handle *a*, ferrule *b*, washer *c*, rod *d*, and nut *e*, the whole being constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

78,654.—John C. Durborrow, Ellicott's City, Md.—*Harvester Rake.*—June 9, 1868.—The inclined jointed driving shaft passes through the fixed gear wheel and the incline of the standard, and has a short shaft attached to its end at right angles to its axis.

Claim.—The inclined shaft C, jointed at G, and provided with the fixed gear wheel B, in combination with the revolving gear wheel E, and inclined rake and reel arms, all constructed and operated in the manner and for the purpose set forth.

78,655.—H. G. Eastman, Poughkeepsie, N. Y.—*Penholder.*—June 9, 1868.—Assists the learner to acquire a correct style of penmanship. The ring fits upon the fore-finger near its junction with the hand, and the thumb and middle finger rest upon the supports at the lower end of the penholder. The "form," in conjunction with the above-mentioned parts, is made to keep the hand in the desired position.

Claim.—1. The combination of the egg-shaped hand support or "form" A with a penholder, by means of the swivel joint, or equivalent therefor, substantially as hereinbefore described.

2. In combination with a penholder, the ring F, as hereinbefore set forth.

78,656.—John S. Everitt and Ossian Cook, Oshkosh, Wis.—*Steam-Engine Oscillating Valve.* June 9, 1868.—The opposite boles are respectively provided with inclined planes, which are slotted to receive adjusting bolts, and attached to arms that may slide upon the valve stem, the object being to reset the parts when frictional wear would otherwise render them imperfect in operation.

Claim.—1. The valve boles S S of the valve H, constructed with inclines *n n*, slots *x x*, arranged relatively to the arms *m m*, and valve stem C, as a means of adjustment in compensating for wear.

2. The valve case A A, when constructed as described, and arranged relatively to the oscillating-balance valve H, as herein set forth.

78,657.—John Filkins, Sandwich, Ill.—*Mop Wringer.*—June 9, 1868.—The mop is placed between the rollers, the treadle forced down by the foot, and the crank turned by hand, a pail being set beneath to catch the water expressed from the mop.

Claim.—The combination of the standards C C, D D, rollers P R, springs Z Z, levers J J, having projections L, and treadle O, substantially as herein described.

78,658.—W. G. Freeman, Richmond, Va.—*Petticoat Pipe for Locomotive.*—June 9, 1868.—The smoke and gases passing out of the mouths of the tubes, strike against the cone, which causes them to converge toward the center of its smaller opening, through which they pass and find exit through the petticoat pipe into the stack.

Claim.—The combination of the cone or converging sheet E with a petticoat pipe, D, closed at its lower end, when arranged and operating as described, for the purpose of equalizing the draught through the tubes by converging the escaping products of combustion toward the mouths or nozzles of the exhaust pipes.

78,659.—Gerhard Fuchs and Joseph Luigart, Logansport, Ind.—*Beer Cooler.*—June 9, 1868.—A stream of water is forced upward through the vertical pipes, and cools the beer as it descends in contact with said pipes. The beer is received by the pan situated immediately under said pipes, and conducted thence into the tortuous pipe in the ice box, from one end of which it is drawn off.

Claim.—The pan H and ice pan K, provided with a tortuous pipe, J, through which the beer is passed and cooled, substantially in the manner specified, and arranged under the pipes B B as herein described, all operating for the purposes set forth.

78,660.—Ernst Gessner, Aue, Saxony.—*Fulling Mill.*—June 9, 1868.—A spring or weight forces the tub up to the beaters with a yielding pressure, rendering the tub capable of adjusting itself to a larger or smaller quantity of goods. The beaters are arranged in pairs, each pair being connected together by springs and acted upon by a common eccentric.

Claim.—1. The toothed segments *c*, gearing in pinions *e*, in combination with the beaters and tub or tubs of a fulling mill, substantially as and for the purpose set forth.

2. The springs *v* or *f*, in combination with the tub or tubs of a fulling mill, substantially as and for the purpose described.

3. The springs *k* and adjusting screws *k'*, in combination with the eccentrics L and beaters B of a fulling mill, substantially as and for the purpose set forth.

78,661.—Amos W. Griffith, Boston, Mass.—*Clothes Drier.*—June 9, 1868.—By means of cords attached to the outer end of the side-pieces, and passed over pulleys on the outer end of the frame, the clothes-line containing the clothes may be drawn out of the window by a person standing inside the room. The clothes and line are drawn in again by means of the flexible side-pieces.

Claim.—1. The supports B B, constructed with a recess and openings, in combination with the flexible frame D and the fastenings *d*, as and for the purpose set forth.

2. The flexible sliding frame D D E, as and for the purpose specified.

3. The flexible side-pieces D D, in combination with the cord E and adjustable end-piece D' D', as and for the purpose set forth.

78,662.—Reuben S. Hall, Hamburg, Mich.—*Fruit Gatherer.*—June 9, 1868.—The fruit is detached by means of the wire or rim, the latter affording attachment for the bag, which conducts the fruit to the ground.

Claim.—The combination and arrangement of the semi-circular wires C, the outwardly projecting rim B, and the bag or conductor, as herein represented.

78,663.—Joseph F. Harcourt, Cincinnati, Ohio.—*Tackle Block.*—June 9, 1868.—An improvement in inside iron-strapped tackle blocks, intended to effectually support the pin or axle without reducing the strength of the partitions.

Claim.—A two or more sheave tackle block, whose partitions, C, extend from side to side in one piece, and are formed with grooves, G′, in their sides for the reception of the inner, forked straps D′, all as herein described, for the purpose specified.

78,664.—WILLIAM N. HARRISON and JOHN J. HARRISON, Hornby, N. Y.—*Corn Planter.*—June 9, 1868.—The tubes are adapted to rise or fall with the surface of the soil. The covering rollers are held to their work by the springs, but permitted to yield vertically to obstructions by reason of their attachment to the hinged arms. The seed cells of one series are further apart than those of the other series, and the partition or "slide" enables either to be brought into requisition.

Claim.—The slide tubes J J, attached to cross-bar *j*, the covering rollers K K, connected with hinged arms *m m*, and springs L L, and the double sets of seed holes *f f′*, with shifting slide *i*, the whole arranged as described, and operating in the manner and for the purpose specified.

78,665.—JACOB D. HAYNIE, New Antioch, Ohio.—*Corn Coverer.*—June 9, 1868.—The two series of tines rake the large clods, grass, &c., away from the furrows, the shares throw the loose earth upon the corn, the weighted roller pulverizes the remaining clods and produces a level surface, and, by the adjustment of the clevis, the shares may be made to penetrate the earth to a greater or less depth.

Claim.—1. The arrangement, substantially as described, of the two series of rearwardly diverging tines F F′, adjustable shares G G′, *g g′*, H, and roller I, as and for the purpose set forth.

2. In combination with the described elements F F′, G G′, *g g′*, H, and I of the preceding clause, the adjustable clevis L *l*, M *m*, for the object explained.

78,666.—ASAHEL HAYS, Guy's Mill, Pa.—*Seed Planter.*—June 9, 1868.—The droppers are connected to the slide, which is actuated by cams on the forward gear wheel, the latter being thrown into and out of gear by a lever.

Claim.—1. The slide P and the droppers I I and H H, when operated as described, for the purposes set forth.

2. The whole seed planter, when constructed as described, for the purposes set forth.

78,667.—RUDOLPH HERR, Brooklyn, N. Y.—*Heels for Boots, &c.*—June 9, 1868.—The hollow heel is made of metal, or any suitable hard substance, and combines and contains, in parts or in one solid piece, the yoke or counter, the sole, and the heel proper.

Claim.—The combination of the above-described yoke, sole, spurs, tap hole, and heel, with its filling and cross-bar, as within described, and for the purposes set forth.

78,668.—FLEURY HUOT and CONSTANT BAUDOUIN, New York, N. Y.—*Hat.*—June 9, 1868; antedated May 23, 1868.—Imparts an embellishing luster to the surface.

Claim.—A bonnet, having metallic foil or leaf pressed upon its surface, for the purposes and as specified.

78,669.—DAVID HUTCHISON, San Francisco, Cal.—*Plate for Artificial Teeth.*—June 9, 1868.—Designed to insure the retention of the plate in its proper position, and to avoid irritating the palate, especially when the tissues of the alveolar and palatine arches are of unequal hardness.

Claim.—A flexible cavity plate, having, in part or in whole, the palatine portion of the plate made of flexible material, D, in connection with a compound cavity or series of cavities, united, or otherwise, with a cavity on the center or palatine portion of the plate, and upon the internal or external (or both) borders of the alveolar ridge, substantially as and for the purpose specified.

78,670.—TIMOTHY W. JOHNSON, Granger, Ohio.—*Farm Gate.*—June 9, 1868.—The parallel links cause the gate to rise, so as to avoid obstructions, while it is being opened by means of the shaft, lever, and connecting link.

Claim.—The links B B′, gate A, links F, shaft H, and lever G, as arranged, in the manner as and for the purpose set forth.

78,671.—WILLIAM C. JONES, Orangeville, Ohio.—*Sheep-Shearing Table.*—June 9, 1868.—The table is tilted, the sheep backed upon it, and the table then restored to its horizontal position. The sheep is held by straps and rests upon the curved block while under the operation of the shears. The spring-supporting rests sustain the leaves in the several positions they are made to assume in turning the sheep.

Claim.—1. The tilting table B, with the folding leg M.

2. The spring-supporting rests E E, in connection with the notches J, in the legs C C.

3. The bed B, provided with leaves A A, secured in position by the hook G and staple H.

4. The block D, in combination with the straps I and F F, all operating in the manner described, and for the purposes set forth.

78,672.—ELI KEITH, Wabash, Ind., and ALFRED A. EYLAR, Pontiac, Ill.—*Composition for Tanning.*—June 9, 1868.—Either terra-japonica, gambier, cutch, or bark may constitute one ingredient, to be used in connection with lye, common salt, and *liquor aluminis compositur.*

Claim.—The tanning composition and process, substantially as herein specified.

78,673.—ZENO KELLEY, New Bedford, Mass.—*Bomb Lance for Killing Whales.*—June 9, 1868.—The head is charged with powder, and when the harpoon penetrates the fish, the bar which is pivoted obliquely in the head serves to release the spring-actuated hammer which explodes the cap.

Claim.—The hammer V, spring *h*, rod *j*, pin *i*, and bar *g*, in combination with head E, all arranged as and for the purpose set forth.

78,674.—CHARLES T. MASON, Sumter, S. C.—*Electric Fan for Lamps.*—June 9, 1868.—Increasing the draught of air to an illuminating flame by means of a fan operated by electricity as a prime motor.

Claim.—1. The application of electricity, to cause the revolution of a fan for the production of a draught of air, substantially as and for the purpose described.

2. The combination of the electric coil A and fan F, and their respective equivalents, in manner substantially as and for the purposes described.

78,675.—J. VAUGHN MERRICK and WILLIAM H. MERRICK, Philadelphia, Pa.—*Hoisting Apparatus.*—June 9, 1868.—The weight is connected to the cam levers in such a manner that in the event of the breaking of the hoisting rope the cage will be promptly arrested.

Claim.—The combination, with a hoisting cage, of a weight, arranged to move in a contrary direction to the said cage, when the said weight is attached to arresting cams, levers, or their equivalents, all substantially as and for the purpose herein set forth.

78,676.—E. H. MERRILL and H. E. MERRILL, Akron, Ohio.—*Apparatus for Making Bottles of Clay.*—June 9, 1868.—The bar and eccentric roller serve to lock the hinged sections of the mold when closed. A spiral grooved core is forced into the mold, and the bottom, consisting of a circular slab of clay, is then inserted in the large open end of the bottle. The disk is then slidden up until it covers the opening of the mold and the bottom of the bottle, against which it is pressed and rotated, thereby uniting the bottom to the bottle.

Claim.—1. The combination of the bar G, adjusting stays *a*, roller F, and bottle mold, in the manner substantially as described.

2. The disk C′, provided with curved or radial arms or grooves D′, terminating within a short distance of the margin of the disk, leaving a rim around the entire edge, for the purpose set forth.

78,677.—MARTIN METCALF, Grand Rapids, Mich.—*Machine for Grooving and Swaging Sheet*

Metal.—June 9, 1868.—The function of this machine is to lock and finish a joint of pipe or other seam. The length of pipe being first prepared by having its locks turned, is drawn into the machine by two rollers of the small frame, it being grooved as it passes in, and beaded and swaged in at its small end; in passing out of the machine the seam is turned down and finished.

Claim.—1. The peculiar arrangement and construction of the small frame C C C C, with the rollers 1 2, and the oscillating shaft *d*, Fig. 2, substantially as and for the purpose specified.

2. The construction and arrangement of the small frame C C C C, with the rollers 1 2, and the shaft *d*, in connection with the small lever *b*, slot *f*, and stop pin *n*, substantially as and for the purpose described.

3. The combination of the parts constituting the small frame, with its shaft *d*, rollers 1 and 2, cog wheels 1′ 2′ 3, lever *b*, and thumb screw *h*, with the large frame A A, the stationary roller 4, and swage rollers B B, and eccentric lever D, substantially as and for the purposes specified.

78,678.—ADOLPH A. MEYENDORFF, New York, N. Y.—*Distilling Apparatus.*—June 9, 1868.—The objects of this invention are to prevent loss of the alcoholic contents of the mash, separate the spirits according to their degree of purity, and decompose the condensed liquid in the rectificator so as to cause it to give off any alcohol it may contain.

Claim.—1. Arranging in one distilling apparatus two stills, and connecting them by means of pipes, in such manner that the vapors of one can be forced through the mash in the other, substantially as herein shown and described, for the purpose of completely extracting the alcoholic contents of the mash, as set forth.

2. Arranging, in combination with the double still A B, a testing apparatus, consisting of a tub, *f*, and worm *c*, and so operating that the strength of the mash can be ascertained directly from the still, as set forth.

3. The vapor collector G, arranged between the still and rectificator H of a distilling apparatus, substantially as herein shown and described, for the purpose of condensing the weakest and most impure contents of the vapor, as set forth.

4. The rectificator H, when provided with false bottoms *g* and *h*, between which detaining devices *l l* are arranged, and, when so arranged, that all liquids condensed above the lower false bottom *g* are, by means of pipe *j* and K, or *j* alone, separated from the low wines in the lower compartment of the rectificator, substantially as herein shown and described.

5. The vessel L, containing decomposing or flavoring ingredients, when arranged in combination and connection with the rectificator of a distilling apparatus, substantially as herein shown and described.

6. A distilling apparatus, consisting of two boilers A B of a vapor collector, G, rectificator H, column I, and final condenser J, and of a vessel, L, containing decomposing or flavoring ingredients, all made and operating substantially as and for the purpose herein shown and described.

78,679.—HENRY M. MYERS, Allegheny City, Pa. —*Manufacture of Shovels.*—June 9, 1868; antedated June 5, 1868.—The blank is so formed that it may be drawn or "plated" out by passing it backward and forward between suitable rolls, the drawing action of which is always in a line parallel to the longitudinal plane of the blade and handle straps of the shovel.

Claim.—A blank, for the manufacture of shovel blades, made of steel or iron, of the form, and with the tang portion split, substantially as herein described, and for the purpose set forth.

78,680.—THOMAS NEWMAN, New Orleans, La.—*Switch for City Railroads.*—June 9, 1868.—The supplemental bars are designed for use upon those city roads that, beginning with one, run into two tracks. It necessitates the use of differently constructed wheels upon the two sets of cars.

Claim.—The supplemental short bars B, in combination with an ordinary switch, C, at the point at which a single track city railroad runs into two tracks, when constructed as shown and described, for the purpose set forth.

78,681.—WILLIAM T. NICHOLSON, Providence, R. I., assignor to THE NICHOLSON FILE COMPANY, same place.—*Machine for Cutting Files.*—June 9, 1868; antedated June 5, 1868.—The cutting edge of the tool is much longer than the cut which it is required to make, but the whole length of the cutting edge is made use of progressively during the process of cutting the blank from tip to heel.

Claim.—In a file-cutting machine, a "rolling bed," whose longitudinal axis is set angularly with the line of motion of the carriage, or of the cutting chisel if the former be stationary and the latter movable, in combination with such cutting chisel, substantially as described, for the purposes specified.

78,682.—M. L. NICKELS, Dunlapsville, Ind.—*Grain Drill.*—June 9, 1868.—The reciprocating motion of the seed slide is derived from the ground wheel, the connection being made by the slotted arms and curved pitman.

Claim.—The arrangement of the slotted arms C C, pitman D, slides F F, and plates H H, with the frame A, and its hoppers I, when the several parts are constructed and operating substantially as and for the purposes set forth.

78,683.—J. E. NOLAN, Chicago, Ill.—*Shoe Brush.*—June 9, 1868.—The small brush is so applied that it may revolve and be made to wear evenly.

Claim.—The combination of the brush B with the piece *b*, projection *d*, the connecting piece *a*, the screw *c*, and brush A, as specified.

78,684.—WILLIAM W. NORTON, Dundee, Ill.—*Machine for Threading Thimble Skeins.*—June 9, 1868.—The adjustable slide supports a head and has fixed to it a detachable device for holding the larger end of the skein in position when the screw threads are being cut; an adjustable lever is arranged to slide on a rod attached to the bed plate and is employed to operate the adjustable slide, and the dies which cut the screw are operated by a lever pivoted to the bed plate.

Claim.—1. The improved machine for threading thimble skeins, consisting of the parts herein specified and shown, all constructed and arranged as described.

2. The device G, with the lug H thereon, the slide A′ having a head, B, the rod C, slide D, lever E, and hook F, all constructed and arranged substantially in the manner set forth.

78,685.—DANIEL E. PARIS, Troy, N. Y.—*Grate and Ash Sifter in Cooking Stoves.*—June 9, 1868.—The grate is operated from the outside of the stove and is designed as an improvement on the one for which a patent was granted to the same party December 31, 1867.

Claim.—1. A fire grate made in two parts, having journals eccentrically attached, and arranged to dump or discharge its contents from the center of the fire box, whenever the two parts are moved off their supports and allowed to fall down perpendicularly, substantially as described.

2. The elongated points *o o*, on the shaker E, or stops on the side plate of the stove for the shaker to strike against, or an equivalent therefor, which shall prevent the shaker from driving either part of the grate in too far when in use, and so as to prevent it from dumping while in operation.

3. The support bars *c c*, placed over and in combination with a vibrating fire grate, for the purpose herein described and set forth.

4. A sifting pan, situated below or in front of a fire grate, having attached to its bottom, sides, or ends, two or more open movable sifting grates or sieves, and arranged to vibrate inside of the stove, by means of a pronged or double shaker, operated from the outside of the stove, substantially as herein described and set forth.

5. The lifting and sifting grate G H, or equivalent, in the hearth of a cooking stove, provided with journals I I, projecting through the hearth, and adapted to be shaken or vibrated from the outside, substantially as shown and described.

6. A bail, attached to a sifting pan, or to its movable bottom grate or grates, and so arranged as to move the grate or grates backward and forward, by

raising said bail up perpendicularly and letting it down horizontally, substantially as herein shown and described.

78,686.—Daniel E. Paris, Troy, N. Y.—*Water Reservoir Attachment to Cooking Stove.*—June 9, 1868.—The extension piece or reservoir seat is projected backward beyond the back of the water reservoir sufficiently to form a covering to a warming closet or hot oven attached to and supported by said extension piece.

Claim.—1. A cooking stove, constructed to be used with or without a water reservoir, by means of an opening through the back of the stove, through which the flue passes when used with a reservoir, and which is closed by a movable piece, or by a "pipe collar bag," when used as a plain top stove, substantially as herein shown and described.

2. A pipe collar, or a flue opening, through the rear part of the top plate of a cooking stove or range, arranged to receive a smoke pipe, also an opening through the back plate of the stove, arranged to receive a reservoir seat or flue chamber, so that either opening may be used separately or alternately as an exit passage, substantially as and for the purpose described.

3. A reservoir or water tank, having the whole or a part of the bottom surface elevated sufficiently far to sit over an ordinary pipe collar, and so that the outer edges of the reservoir will set down level on the stove top, substantially as herein shown and described.

4. The extension piece or reservoir seat D, serving both as a sunken pit or flue chamber, underneath the reservoir, and also as a top covering to a warming closet, when said piece or seat is fitted to and combined with an ordinary stove top, and so arranged that the stove can be used with or without said piece, substantially as herein described and set forth.

78,687.—Daniel E. Paris, Troy, N. Y.—*Oven of Cooking Stove.*—June 9, 1868.—Admits of direct radiation from the fire box into the oven through the back fire plate and the front oven plate for roasting or broiling, but this direct radiation is shut off when the oven is used for baking.

Claim.—1. The heating of the oven of a cooking stove by direct radiation from the fire box through the plates intervening between the two, when said plates are constructed with bars and damper, substantially as and for the purpose described.

2. The broiling pan, and rack P and R, constructed and located as and for the purpose described.

3. The self-supporting oven slide I, constructed and arranged as herein shown and described.

4. A slide or rack, placed at or near the bottom plate of the oven, either over or under it, and made self-supporting when partly or mostly drawn out, substantially in the manner and for the purpose herein described.

5. A movable self-supporting roasting spit or rack, arranged with hooks, or appliances for holding meat while roasting, placed at or near the top part of the oven of a cooking stove or range, in the manner substantially as and for the purpose described.

6. A movable oven crane or rack, made to swing in or out of the oven of a cooking stove or range, placed at or near the bottom, or at the top of the same, or attached to the back oven plate, substantially as and for the purposes herein described.

7. For stove ovens, a movable self-supporting rack or spit, for holding meat while roasting, in combination with a movable self-supporting oven slide or crane, made for holding a dripping pan, and placed underneath said spit or rack.

78,688.—Daniel E. Paris and Charles S. Davis, Troy, N. Y., assignors to D. E. Paris, same place, and Clement Olhaber, Cincinnati, Ohio.—*Hot Water Tank on Cooking Stoves.*—June 9, 1868.—A hot water reservoir, designed for attachment to any common stove top.

Claim.—1. The horizontal flue in or under the bottom of the reservoir, formed by elevating a part or the whole of the bottom above the outer lower edges of the reservoir sufficiently high to allow the products of combustion to pass rearward under the same into the exit-pipe, substantially as described.

2. The base slide or bottom piece *g g*, or its equivalent, made either permanent or movable, and forming the rear part of the bottom to said horizontal flue, and connecting both with the reservoir and the back flue piece G or its equivalent, substantially as herein described and set forth.

3. The self-mounting cover or covers C C, together with the back piece D, formed with the concave prongs N N, the convex half rounds O O, the crooked hooks L, and the elongated slot M, or their equivalents, so arranged and hung that the drip of the cover shall fall back into the reservoir.

4. The attaching, fastening, or supporting a reservoir to or by a stove top, by means of bolts, pins, bars, hooks or lugs, inserted in or through the ordinary pipe collar or exit passage opening of the top plate of the stove.

78,689.—A. B. Parsons, Dunton, Ill., assignor to himself and Edward Redhead, La Crosse, Wis.—*Tube Well.*—June 9, 1868.—The tube is grooved vertically and has a coil of wire around it, and is covered by a cylindrical screen; the object being to obtain a protected space to insure the entering of the water into the tubes.

Claim.—The combination of the tube B, provided with grooves and holes, the spirally arranged wire coil E, and the gauze screen F, arranged and operating in the manner and for the purposes set forth.

78,690.—John W. Pugh, Grand Rapids, Mich.—*Caster.*—June 9, 1868.—The edges of the slot in the sliding plate engage the grooves in the caster shank and hold the latter in place.

Claim.—The disk A, with a square opening in its center, and provided with a space within which works a slotted metal plate, C, when used in combination with the caster, having a shank, B, with grooves on three sides, as herein set forth, all constructed and operating substantially as specified.

78,691.—Amos D. Purinton, Dover, Mass.—*Composition for Setting Posts, Timber, &c.*—June 9, 1868.—Composed of water, clay, and pyroligneous acid, and is run into the hole prepared in the earth for the post or timber.

Claim.—The above-described argillaceous composition, as well as the employment or use of it, substantially in manner, and under circumstances, and for the purposes, as described.

78,692.—Julio H. Rae, Syracuse, N. Y.—*Lumber Drier.*—June 9, 1868.—The water resulting from the condensation of the vapor eliminated from the material to be dried is allowed to flow out through the gutters and traps, but the latter prevent the escape of heat. The vapor rising from the water contained in the wells supplies the requisite quantity of moisture to prevent the checking or cracking of the lumber.

Claim.—A kiln, A, for drying lumber, peat, or other materials, containing the following combination, to wit, a corrugated metallic roof and metal lining, *r a*, gutters *d e*, traps *h*, and wells F, substantially as and for the purpose described.

78,693.—O. P. Rice and J. H. Gerry, Springfield, Mass.—*Stem Winding and Setting Watch.*—June 9, 1868.—By withdrawing the winding arbor from the stem of the watch the winding gear is disengaged and the gear for setting the hands engaged.

Claim.—The reciprocating arbor K, having the incline *d* and annular groove *e*, in combination with the segment *x*, spring lever *q'*, when constructed and operating substantially as herein described and set forth.

78,694.—John Shellaberger, Shane's Crossings, Mo.—*Tile Cutting Machine.*—June 9, 1868.—The clay tube is cut into lengths by wires attached to pivoted carriers. When the latter are operated independently the cutting wires move in a circular path, giving a corresponding convex and concave shape to the cut ends of the pipe. The frame and cutting wires can be operated in a vertical plane so as to cut in a direct line across the tube.

Claim.—1. The pivoted cutters C E D F, constructed and operating substantially as and for the purpose described.

2. The hinged frame B, in combination with the cutters C D E F, for the purpose of adapting them to cut in a vertical plane, substantially in the manner and for the purpose specified.

78,695.—William C. Smith, Warrensburg, Mo. —*Sugar Evaporator.*—June 9, 1868.—The upper pans are filled with juice containing the defecating agent, and the flue dampers are adjusted so as to direct the entire heat under one of said pans, and subsequently under the other pan. As the contents of the pan in front of the driver are reduced by evaporation they are kept at the desired depth by an occasional movement of the crank. The series of dampers check the boiling at the finishing end of the pan.

Claim.—1. The pan A A, as arranged on the body R of the device, and in connection with the flues formed by the partition D and the dampers *m m*, and the pan B B, divided by the partition *r*, having a gate, *h*, when used in connection with the movable frame F, carrying the skimmer *i*, and a driver, J, moving upon the cogs L by means of the cog wheels *e*, operated by the cranks *n n*, and used substantially as described, and for the purposes set forth.

2. The dampers *g g g g*, with the connecting bar G, and the ash pit S, when applied to a sugar evaporator, substantially as and for the purpose specified.

78,696.—Caleb S. Stearns, Marlboro, Mass., assignor to himself, Charles F. Davis, and Thomas Corey, same place.—*Machine for Cutting Leather.* —June 9, 1868.—An improvement on his patent of September 25, 1866. The presser block employed in the previously patented machine is dispensed with, the cutter being depressed by a mechanism attached directly to the frame, and thrown into action at the required time by a clutch.

Claim.—1. Attaching the cutter or die to a movable frame, so that it can be brought over any portion of the table B, in combination with a mechanism attached directly to the frame and moving therewith, for depressing the cutter, substantially as described.

2. The frame U, in combination with the movable frame C and the clutch for throwing the mechanism into action, which operates the cutter, substantially as set forth.

78,697.—Caleb S. Stearns, Marlboro, Mass., assignor to himself and Thomas Corey, same place. *Machine for Splitting and Rolling Leather.*—June 9, 1868.—The leather, having been split, is led down between the carrying cylinder of the splitting machine and a roller, which is brought up thereto and made to press it upon the surface of the cylinder. A spring presser bar is provided with independently acting blocks to insure the feeding of the leather to the knife and insure a strip of uniform thickness. The knife, instead of the carrying cylinder, is adjusted in order to regulate the thickness of the leather to be split.

Claim.—1. The roller S, for rolling leather, in combination with the carrying cylinder C, when the roller S is acted on by levers T, or their equivalent, all constructed and arranged substantially as and for the purpose described.

2. The blocks M, with the springs N, acting independently of each other, and constructed substantially as described.

3. The screws Q and plates R, in combination with the knife E, substantially as set forth.

4. The roller D, for feeding the split leather out of the machine, when used in combination with the carrying cylinder C, and arranged substantially as and for the purpose set forth.

78,698.—Ambrose Tower, New York, N. Y.— *Pen and Pencil Holder.*—June 9, 1868.—The stamped plate is formed into a pen slide, which is fitted to move within the pen barrel. An ordinary lead-pencil is likewise fitted to slide in the barrel and serves as the penholder. The pencil may be slid out of and retracted within the barrel independently of the pen, and *vice versa*.

Claim.—A pencil-point protector, having barrel *i* and slot *s*, in combination with the stamped plate, Fig. 1*b*, constructed and operating substantially as specified, and all equivalents of the same.

78,699.—James Tyzick, St. John, New Brunswick.—*Nail Extractor.*—June 9, 1868.—A pin prevents the clasp of the fulcrum from sliding off the bar. The respective functions and conjoint operations of the three parts are obvious.

Claim.—The combination of the lever A, sliding fulcrum D, and hook or griper E, the whole constructed and arranged to operate substantially as specified.

78,700.—John Underwood, Muscatine, Iowa. —*Harvester Rake.*—June 9, 1868.—The grain, as it is felled by the cutters, is moved backward and upward and delivered upon a platform, upon which it is moved laterally toward the inner side to a position where it may be conveniently bound by hand.

Claim.—1. The combination of a revolving rake and gatherer, a concave grain receiver, B, a rear elevated platform, C, a reciprocating follower, P, and a binder's support, K or D, operating substantially in the manner and for the purposes described.

2. The revolving rake and gatherer, with its teeth applied to a rocking bar, in combination with the devices described and shown for causing the teeth to assume in their circuit the different positions required, and with a concave grain receiver, substantially as and for the purpose described.

3. The binder's support K, which is attached to the finger-bar, in combination with the elevated platform C and reciprocating follower P, substantially as described.

78,701.—Arzy Emons Van Gieson, Newark, N. J., administrator of the estate of Amzi H. Van Gieson, deceased, assignor to Newark Patent Leather Company.—*Knife for Splitting Leather.*— June 9, 1868.—The knives are of great length, the blade is made in pieces of convenient length for tempering, such pieces being secured together by clamps or otherwise.

Claim.—The construction of a knife for splitting leather, in sections, forming together a continuous knife, substantially as hereinbefore set forth.

78,702.—Abraham V. W. Van Vechten, New York, N. Y.—*Head and Shoulder Rest.*—June 9, 1868.—The main strap is suspended from the ceiling or side of a room, over a bed or chair, or from the roof or side of a car, over a car seat, the occupant of the seat or bed being thereby enabled to support his head and body in a comfortable position.

Claim.—A head and shoulder rest, composed of the main strap A, branches B, loops D, and head rest E, all as shown and described.

78,703.—Samuel Wehrly, San Francisco, Cal., assignor to himself and E. V. Sutter, same place.— *Spur.*—June 9, 1868; antedated May 4, 1868.—The curved steel dog is inserted between the top of the heel and the counter of the boot. The strap attached to the plates which slide upon the main band is adjusted snugly against the front part of the boot heel, the springs force the arms against the racks, and thus the spur is held firmly upon the heel.

Claim.—A spur, having the dog *o*, the rack *m*, and arm *d*, together with the spring *c* and slotted plate *b*, the whole constructed and operating substantially as and for the purpose described.

78,704.—Isaac P. Wendell, Philadelphia, Pa. —*Lubricating Journal of Car Shaft.*—June 9, 1868; antedated May 23, 1868.—An air chamber, an oil distributing plate, and a tube are so combined that the pressure of the air in said chamber assists the tubes in supplying the journals with oil; the chamber being designed as an additional improvement upon the invention set forth in a United States patent granted the same party January 1, 1867.

Claim.—1. The combination of the air chamber D with the oil-distributing plate B and supply tube C, arranged in the oil box A, or other oil reservoir, substantially in the manner above described, and for the purpose set forth.

2. The box A, having a division plate, *a*, and oil

chamber, *b*, beneath it, in combination with the distributing plate B, substantially as described and for the purposes specified.

3. The construction of the distributing plate B, with inclines and scrapers, substantially as described and for the purpose set forth.

78,705.—John L. Whipple, Detroit, Mich.—*Spring Seat.*—June 9, 1868.

Claim.—The spring seat herein described, the same formed by the combination with the frame A of the series of double-coil springs D on the four sides thereof, and having their loops or bights pointing inwardly, and connected by the transverse and longitudinal interlaced webbing, as and for the purpose set forth.

78,706.—Melvin Wood, Babe's Corners, Mich.—*Churn.*—June 9, 1868.—The dashers are operated in a cream chamber situated in a box for containing hot water.

Claim.—The combination of the box A, posts B B, double crank C, the connecting rods D D, the oscillating dashers E E, the cover F, the false bottom G, the openings H I J, and the balance wheel K, and water spaces L L, when arranged and operating for the purposes herein set forth.

78,707.—William P. Yeoman, Waukegan, Ill.—*Machine for Edging Wall Paper.*—June 9, 1868.—An adjustable table supports the paper and guides it between the rolls, which are covered with cloth and provided with circular knives, and a spring for keeping them in position for trimming the edges of the paper.

Claim.—1. The combination of rollers J K, spring P, knives S S, cloth *m m*, and rings N O, substantially as and for the purpose set forth.

2. The combination of the table D with rollers J K, substantially as herein specified.

78,708.—G. W. N. Yost, Corry, Pa., assignor to Corry Machine Company, same place.—*Harvester.*—June 9, 1868.—When the driver depresses the lever the caster wheel constitutes a fulcrum therefor, and the point at which the bar carrying said wheel is pivoted to the shoe being thereby raised, the whole shoe, together with the cutter bar and lower part of the frame, is raised at the same time.

Claim.—1. The frame A of a mowing machine, when constructed of a single bar, *a*, approximating in form to a horseshoe, and a transverse strengthening bar, *b*, when the extremities of the bar *a* are bent down for the attachment of the shoe E, and finger-bar, substantially as herein shown and described.

2. In combination with the above, the main wheel C, when arranged between the driver's seat and the transverse bar *b*, substantially as and for the purpose set forth.

3. The wheel J on the hinged bar I, in combination with the slotted shoe E and with the lever *f*, all made and operating so that the finger bar can be easily raised by means of the lever *f*, as set forth.

78,709.—G. W. N. Yost, Corry, Pa., assignor to Corry Machine Company, same place.—*Harvester.*—June 9, 1868.—On the platform is a seat for the person who binds the grain. To adapt the quantity of grain cut to the ability or skill of the binder, one of the shoes at the end of the finger bar is adjustable so that the width of the swath may be varied.

Claim.—The movable adjustable shoe G, when arranged substantially as described, so as to adjust the width of the swath to the capacity of the binder, as set forth.

78,710.—G. W. N. Yost, Corry, Pa., assignor to Corry Machine Company, same place.—*Harvester.*—June 9 1868.—The finger beam is hinged to a bar or holder, which is pivoted to the frame and connected at its free end to a rope operated by a lever which may be locked in a ratchet plate so as to hold the finger beam at any desired height. The guide posts brace the bar or holder against horizontal strain.

Claim.—The described combination with each other of the finger bar G, finger-bar holder F, pivot *a*, posts J and J′, cord or chain *b*, and lever H, all made and operating substantially as and for the purpose herein shown and described.

78,711.—G. W. N. Yost, Corry, Pa., assignor to Corry Machine Company, same place.—*Harvester Reel.*—June 9, 1868.—The reel is adapted to grain of different heights, and is so constructed that it shall not thresh out the grain while bearing it to the action of the cutters.

Claim.—1. Making the sweeps of harvester reels of flexible bands or straps, substantially as herein shown and described.

2. Making the arms by which the sweeps of a harvester reel are connected with the shaft A of spring metal, so that they can be folded against the shaft when the sweeps are taken off, as set forth.

3. A harvester reel, when composed of the shaft A, spring-bars B, and bands or straps C, the latter being adjustable on the bars B, and all made and operating substantially as herein shown and described.

78,712.—G. W. N. Yost, Corry, Pa., assignor to Corry Machine Company, same place.—*Mowing Machine.*—June 9, 1868.

Claim.—1. Hanging or pivoting the vibratory lifting bar Q upon the crank shaft, substantially as and for the purpose set forth.

2. In combination with the vibratory or lifting bar Q, the stationary segment, traveling pinion and hand lever, or its equivalent, by means of which the said bar Q may be readily manipulated by the driver, which at the same time it is free to move, as required, when not controlled by him, substantially as described.

78,713.—Nicholas E. Yost, Corry, Pa.—*Road Scraper.*—June 9, 1868.—The coupling bolt at the converging ends may be withdrawn and the opposite ends of the timbers brought together and held by said bolt.

Claim.—1. The reversible timbers A A′, pivoted upon a center brace, when constructed and operating substantially as and for the purposes set forth.

2. The timber A, in combination with the two plow points, B B′, constructed and operating substantially as and for the purposes set forth.

3. The timber A′, in combination with the two castings C C′, constructed and operating substantially as and for the purposes set forth.

4. The extension brace E E′, in combination with mortise *e*, tongues *f*, bolt *g*, and castings D D′, constructed and operating substantially as and for the purposes set forth.

5. The tongue I and cross-bar J, when secured to the scraper by means of bolts *c* and *g*, and in combination with the timbers A A′, constructed and operating substantially as and for the purposes set forth.

78,714.—J. C. Zimmerman, Eberly's Mill, Pa.—*Corn Sheller.*—June 9, 1868.—The inclosing case of the sheller is made in sections which are permitted by the springs to expand and contract according to the size of the corn to be shelled.

Claim.—The combination of the casing B, its springs *x x* and sheller F, with the sieves S R, fans *h h*, conveyer P, operated, the shafts D H and their cogs, the whole constructed as and for the purposes specified.

78,715.—William Armour, Belfast, Ireland.—*Paper Box.*—June 9, 1868.—The two main parts, which are joined by the flexible connection, are of pasteboard covered by thin or ornamental paper, and each is provided with a cover. The box is held in a closed position by an elastic band made fast to one of the main parts.

Claim.—1. A paper box, composed of the two covered boxes A A, united by the hinge *a*, in the manner described.

2. The elastic fastening C to the hinged boxes A A, as described.

78,716.—Benjamin Arnold, East Greenwich, R. I.—*Net for Fishing.*—June 9, 1868.—This net is made of a single strand of small twine, the object being to expedite and cheapen the manufacture of the article, by obviating the frequent filling of shuttles and the doubling and twisting operations heretofore required.

Claim.—1. The method herein described of interlooping, twisting, and forming a net of a continuous length of cord, substantially as described.

2. Netting constructed as herein described, as a new article of manufacture.

78,717.—JOHN BINNS, Oskaloosa, Iowa.—*Flue Block.*—June 9, 1868.—The block encircles the stove pipe where it passes through a partition or flooring. It is molded of clay and then baked to form a material like common brick or fire brick.

Claim.—The combination of the hollow cylindrical block A, having an outer shoulder *a*, the outer cylindrical block C, having internal shoulders *b* under its upper end, to form a square chamber, the core B, sections *e*, and perforated cap E, all constructed and arranged as shown and described, for the purpose specified.

78,718.—WILLIAM BLAY, Helena, Montana Territory.—*Pick Handle.*—June 9, 1868; antedated June 4, 1868.—The strap passes across the end of the handle and down its opposite sides, to which it is riveted. It strengthens the handle and permits the ready attachment and detachment of the pick.

Claim.—The metallic strap B, constructed and applied to the pick handle, as shown, and adapted to be pressed through the eye of the pick, and secured therein by means of a key *m*, as described and represented.

78,719.—WALTER BRITTON, Abingdon, Ill.—*Tire Shrinking and Punching Machine.*—June 9, 1868.—The heated tire is placed in the lugs and keyed fast, and the cam levers being actuated backward the tire is compressed or shrunk. When the machine is to be used for punching holes, a rest plate or stirrup having clamp edges is set on the frame, and a plate having a punching point is keyed to the plate which is actuated by the cam levers.

Claim.—1. The plate D, bearing slotted lugs *a a*, the cam levers E E, spring *b*, in combination with the frame plate G, slotted lugs *e e*, all constructed, arranged, and operating substantially as shown and described, and for the purpose set forth.

2. The plate and punch M and *n*, and stirrup L, for joint use with the subject-matter of the preceding claim, in the manner and for the purpose described.

78,720.—EDOUARD CHÂTELAIN, St. Imier, Switzerland, assignor to ERNEST FRANCILLON, same place.—*Watch.*—June 9, 1868.—A mechanism for winding and setting watches by means of the stem, a longitudinal motion of the same throwing it into gear with the barrel or with the minute wheel.

Claim.—1. The sliding stem carrying the loose wheel B, and the sliding clutch C, in combination with the oscillating levers D and E, which operate so that the clutch will, by them, be moved in an opposite direction to the sliding motion given to the stem, substantially as and for the purpose herein shown and described.

2. The above in combination with the spring F, made and operating as described.

3. The loose bevel-gear wheel B, which is only turned when connected with the sliding clutch C, in combination with the bevel-gear wheel H, by means of which motion is imparted to the wheel which winds up the spring, as set forth.

78,721.—ANDREW CLARK, Lafayette, Ind.—*Apple Parer, Corer, and Slicer.*—June 9, 1868.—An apple is placed on the fork and pared by turning the crank. Another apple is then placed above, in contact with the first, and the treadle pressed upon causing the cross-piece to bear the second apple and the fork downward, when the pared apple encounters the coring tube and the radial cutters whereby the apple is severed into a number of parts.

Claim.—1. The cam plate R and its dependent mechanism, substantially as described, for the purpose of paring apples and other similar fruit, all as set forth.

2. A sash, D *f f* C, and a yielding fork, O, with its proper mechanism, substantially as described, in combination with the radial cutters *c*, coring tube *d*, and cylinder V, all as set forth.

3. The cam plate R, wheel T, plate S, and arm U, all constructed and operating substantially as and for the purpose set forth.

4. The arrangement of the several parts of the machine, substantially as shown and described, and for the purpose set forth.

78,722.—E. DETWILER, Milwaukee, Wis.—*Spittoon.*—June 9, 1868.—The cover is raised by pressure upon the treadle, and falls back to its place, closing the spittoon, when the pressure is removed.

Claim.—A spittoon, constructed with outside shell A, with cover B, with inside curb C, with receptacle D, lever E, with treadle F, and connecting-rod H, secured together with springs I I, substantially as and for the purpose specified.

78,723.—RUDOLPH D'HEUREUSE, San Francisco, Cal.—*Friction Railway Brake.*—June, 9, 1868.—When the cars are to be stopped the wheels are lowered upon the rails, and the brake blocks pressed into their grooves from above.

Claim.—The double-flanged or grooved wheels for brakes on railway cars applied and operated substantially as herein described and represented.

78,724.—JOSIAH DODGE, Grass Valley, Cal.—*Hoe.*—June 9, 1868.—The forks of the shank brace the pick and hoe blade respectively, the pick being intended to fulfill the requirements of deep cultivation, and work the ground where a plow could not be conveniently used.

Claim.—In combination with a hoe, the pick B and the forked shank D, substantially as and for the purposes herein shown and described.

78,725.—LUTHER H. DODGE, Oshkosh, Wis.—*Shingle Machine.*—June 9, 1868.—The carriage holding the shingle block is moved back from the saw by the positive action of a revolving arm and stud, the object being to dispense with the use of the objectionable spring commonly employed for the purpose in question.

Claim.—The combination of the shaft P, sleeve *m*, bevel wheels M N Q L, the arms *a b*, arm D, and plate E of the carriage, substantially as described, for the purpose specified.

78,726.—PATRICK W. DOLAN, Jersey City, N. J.—*Tailors' Rule.*—June 9, 1868.—The head-piece is placed in the crotch, and the rule extended to a point as near the floor as may be desirable. The remaining measurements are taken with the tape, and noted in the usual manner.

Claim.—1. The rule, consisting of the parts A C, grooved in each edge, to receive the ends of the clasps D E, the latter being provided with a set screw, G, all constructed and arranged to operate in the manner and for the purpose substantially as herein set forth.

2. In combination with the adjustable rule A C, the head-piece F, having a curved upper surface, and the pivoted tape H, substantially as and for the purpose set forth.

3. The adjustable rule A C, provided with the head-piece F, shaped substantially as shown, and the tape measure H, the whole arranged substantially as described, for the purpose specified.

78,727.—JOHN F. W. DORMAN, Baltimore Md.—*Brush.*—June 9, 1868.—The packages of bristles are designed to be made and sold independently of the handle, a device being provided to enable them to be readily attached and detached.

Claim.—The combination of the package A, when constructed as described, with the handle B, having a male screw on its lower end, and the tapering ferrule D, having at its upper end a female screw, to receive and hold the handle, the several parts being constructed to operate in the manner and for the purposes set forth.

78,728.—FRANK DOUGLAS, Norwich. Conn.—*Planing Machine for Wood.*—June 9, 1868.—A method of adjusting the cutters in the head, adapting them to be held more firmly, and enabling two single or cap cutters to be employed; also, a peculiar form of spindle and method of attaching it to the shaft, whereby it may be instantly and accurately adjusted; also, a method of adjusting the spindle shaft, enabling it to be readily adjusted and oiled.

Claim.—1. The braces *e e*, when constructed in the double inclined form, and used in connection with the plug or wedge F, in the manner and for the purposes specified.

2. The fixed guide G, when employed in connection with the cutter head C, and the table B, substantially as and for the purpose set forth.

3. The combination of the tapering spindle B, having a cylindrical screw on its lower end, with the tapering socket, having its lower end cylindriform, and cut into a female screw to receive the screw on the lower end of the spindle, when said parts are constructed to operate in the manner described, and employed for the purpose of attaching a cutter head to its shaft.

4. The combination of the taper-bearing box *n* with the oil cup *m*, when made so as to slide one on to the other, to adjust shaft A to its proper bearing, and to compensate for the wear of said parts in the manner specified.

78,729.—George A. Fairfield, Hartford, Conn.—*Sewing Machine.*—June 9, 1868.—In this machine novel means are employed for lubricating the bearing surfaces of the needle bar, the journal of the thread conductor, and the needle bar actuating link; also for regulating the feed and the tension of the thread, adjusting the pressure of the foot, and preventing rattling of the shuttle during operation.

Claim.—1. The combination, with the oil hole above the needle bar, of the crossing distributing passages in the top of the needle bar, whereby all the sides or faces of the bar may be oiled at the same time from a single orifice and from the outside of the casing.

2. The combination, with the oil grooves in the needle bar, of the orifice for conducting oil to the axis or pivot of the thread conductor, substantially as shown and described.

3. The combination, with the devices last above claimed, of an oil passage, for lubricating the link which actuates the needle bar.

4. The tension device described, the same consisting of a flanged roller, and a rigid curved yoke spanning part of its periphery, and adjustable, as to its pressure, by a spring.

5. As a means for varying the feed, the employment of an adjustable rod, having a pin or projection thereon, movable within a slotted sleeve, upon the rock shaft, that imparts motion to the feed bar, substantially as shown and described.

6. The combination, with the lever *q*, and its plate, of the rod, sleeve, and rock shaft, substantially as and for the purpose set forth.

7. The spring R, for imparting adjustable pressure to the presser foot, when constructed, arranged, and operating as described.

8. A shuttle race, slightly inclined to the line of traverse of the shuttle driver, as and for the purpose set forth.

9. A shuttle race and shuttle driver race, cast in one piece, when the same are in lines which approach each other.

78,730.—Levi S. Fales, New York, N. Y.—*Manufacture of Fertilizers.*—June 9, 1868.—The nitrogenized material is placed in a tank and subjected to the action of steam, generated from the waste ammoniacal water of gas factories and waste acid from oil refineries. The mass is thus dissolved to a pasty consistency, and being afterward allowed to cool, assumes the form of fine powder. A preparation of blood and sulphuric acid, diluted with water, is added to the powdery mass, and the whole incorporated with peat or sea sand.

Claim.—1. The within-described process of preparing the bones or equivalent highly-nitrogenized substances, previous to their admixture with other materials, substantially as herein set forth.

2. The manure composed of the several materials set forth, combined in the manner and in about the proportions herein specified.

78,731.—William T. Fry, New York, N. Y.—*Breast Pump.*—June 9, 1868.—The purpose of the breast shield is to relieve the nipple of pressure during the operation of the pump.

Claim.—A breast pump, in combination with an India-rubber breast shield, when the latter is applied directly to the milk receptacle of the former, and all arranged substantially in the manner as and for the purpose set forth.

78,732.—E. Gibbs and O. W. Gibbs, Richland Center, Wis.—*Bed Bottom.*—June 9, 1868.—The upper slats, which are mounted upon springs, are confined at the ends within wire loops fastened to cross-bars fixed to the head and foot boards, said loops being covered with cloth to prevent the slats from making a noise when they move.

Claim.—An improved spring bed bottom, formed by the combination of the cross slats D, staples F, longitudinal spring slats E, coiled wire spring J. longitudinal spring slats G, wire loops H wound with cloth, or its equivalent, and cross-slats I, with each other and with the side-rails B and end-rails C, of the bedstead, substantially as herein shown and described, and for the purpose set forth.

78,733.—Theodore A. Goff, San Francisco, Cal.—*Apparatus for Turning Wrist Pins, Crank Pins, &c.*—June 9, 1868.—The several parts are readily detached and rejoined in order to bring the cutters into proper position to turn off a cross head wrist pin or crank pin in place. The cutters are adjustably secured to a two-part ring worked by an eccentric pawl and ratchet, and having a sliding, as well as rotary, motion.

Claim.—The arrangement of the several parts of the machine as herein recited, whereby it may be used to turn off a wrist pin or a crank pin in place, as set forth.

78,734.—George H. Goldsmith, Waverly, Ill.—*Sheet Metal Folding Machine.*—June 9, 1868.—By turning the crank a cam on the internal surface of the barrel is brought in contact with a stud pin, whereupon the arm attached to the break bar rises to a vertical position, carrying the break bar with it; and, at the same time, a flute of the revolving roller is brought against the projecting end of the metal, and as said roller revolves the lap is formed. By continuing the turning of the crank the cam is disengaged from the stud pin, allowing the break bar to fall to its primary position.

Claim.—1. The cog-wheel E, bearing cam blocks *h*, or other equivalent device, substantially as shown and described, for the purpose of operating the break bar F, all as set forth.

2. The arm *i* and stud *k*, or the equivalent thereof, substantially as shown and described, in combination with the break bar F and cog-wheel E, all as and for the purpose set forth.

3. The fluted roller A, substantially as shown and described, in combination with the blade bar I, break bar F, and cog-wheel E, all as and for the purposes set forth.

4. The channel *l* of the blade bar I, substantially as shown and described, and for the purpose specified.

5. The pinion D and cog wheel E, substantially as shown and described, in combination with the roller A, break bar F, and blade bar I, all as and for the purpose set forth.

78,735.—E. R. Hall, Utica, N. Y., assignor to himself, D. M. Golden, and B. G. Eaton.—*Horse Hay Rake.*—June 9, 1868.—By pressing on the main lever the pivoted lever is raised from the rear projection, allowing the rake to revolve and discharge the hay, back action of the rake being prevented by the spring stop. An adjustable shaft is provided with cleaners which pass between the teeth of the rake and scatter the hay.

Claim.—1. Levers *m* and *n*, in combination with the stop *h*, substantially as and for the purpose specified.

2. Main lever H, constructed and operating in connection with rake shaft F, substantially as set forth.

3. The combination of levers *m* and *n* with lever H, substantially as described.

4. The employment, in a horse hay rake, of foot

lever T, in combination with pawl S, and connecting rod P, substantially as and for the purpose specified.

78,736.—Lydia Hays, Ames, Iowa.—*Pad Billet.* June 9, 1868.—The billet is formed of metal and has a series of holes to receive the ends of thumb screws passing through the leather strap of the harness saddle, by which means the billet may be made longer or shorter as required. The lower end of the billet forms a loop to receive the buckle, which is kept in place by a plate screwed to the loop.

Claim.—A metallic pad billet, B, having the buckle E attached, as shown, and secured to the leather strap A by the screws C C, substantially as shown and described.

78,737.—Chester Heald, Marshalltown, Iowa. —*Sleigh.*—June 9, 1868.

Claim.—A wrought or malleable iron sleigh knee *a a b*, when welded to a cast iron runner, so as to form braces, and to equalize the weight of load on all parts of the runner, substantially as shown and described, in combination with a cross beam plate, H, runners A, cross beams D D, all substantially as shown and described, and for the purpose set forth.

78,738.—Henry Henley, New Garden, Ind.—*Press.*—June 9, 1868.—One end of the beam is kept in place by an adjustable stirrup, while the other is attached by means of a piece, rectangular at its lower end, which fits into a mortise, and is secured by a pin on which it hinges, while the top of the piece being round forms a swivel.

Claim.—1. The beam *b*, hinged at *n y*, and secured in an adjustable manner to upright *d* by means of stirrup *r*, (or its equivalent,) substantially as set forth and for the purpose specified.

2. The flexible rods *e* and *e'*, in combination with the uprights *d* and *d'*, and beam *b*, substantially as set forth, and for the purpose specified.

78,739.—D. H. Heyen, New York, N. Y.—*Propeller.*—June 9, 1868.—The ball-joint allows the propeller wheel shaft to be moved laterally. In navigating canals by steam, especially when there is a side wind, or in turning short curves, this device enables the bow of the boat to be moved laterally, either with or without headway.

Claim.—1. The combination of the propeller wheel C and shaft D, when adjustable laterally upon the central pivot E, slotted segmental plate F, support G, pinion *h*, upon the upright shaft J, engine shaft O, pulley P, and pulley R, all arranged as described for the purpose specified.

2. The combination of the propeller C, shaft D, having the ball-joint E, slotted segment F, and pinion *h*, upon the shaft J, all constructed and operating as and for the purpose specified.

78,740.—John C. Hofer, Bell Air, Ohio.—*Coopers' Croze.*—June 9, 1868.—When the two parts are brought together, they form a V-shaped cutting edge, and the manner of attachment adapts the bits to be placed nearer to the edge of the guide, so as to bring the cutting edges against the staves in the most favorable position for action.

Claim.—The bit A, formed in two parts, having the alternate corners of their forward ends beveled or ground off, said parts secured to each other and to the guide B by the slotted clamping bolt C, as herein described, for the purpose specified.

78,741.—Francis H. Holton, Brooklyn, N.Y.—*Nursing Nipple.*—June 9, 1868.—The stop flanch prevents the nursing nipple from passing too far into the infant's mouth.

Claim.—1. The India rubber-nipple, having the annular or circumferential stop-flanch, constructed in one piece therewith, substantially as and for the purpose specified.

2. The hollow flanch *b*, for attaching the nipple to the tube, by means of the perforated button B, substantially as shown and described.

78,742.—C. S. Hunt, Parish of Terrebonne, La. —*Heating Device for Chairs, &c.*—June 9, 1868.—Designed to keep the human body warm through the medium of a chair, stool, or the like, under circumstances in which stoves or other ordinary means of heating are not available.

Claim.—A chair constructed substantially as herein described, that is to say, provided with the metal bottom, and the combustion chamber, adapted to receive a gas jet or its equivalent, substantially as and for the purpose described.

78,743.—Gaspar Hunziker, Summit, Miss.—*Apparatus for Distilling Wood.*—June 9, 1868.—Provision is made for the admission of hot air and steam, and for the escape of hot air and gas; also, for condensation. The apparatus has an interior railway track, so that the wood or other substance to be distilled may be conveniently conveyed into the oven.

Claim.—The oven A, constructed as described, having the rounded lower edges, and the central longitudinal inclined trough G, whose inclined wings, *a*, support the vertical strips and rails *e*, for the carriages C, the inclined plates *a'*, above the wings *a*, the cold-air pipes *y*, beneath said inclined wings, and between the flues F, the top of said oven provided with the condensing dome T, all arranged as described for the purpose specified.

2, The arrangement of the furnaces K, inclined flues F, trough G, cold air pipes *y*, draught pipes *h*, steam pipes *t*, hot air chambers M, and carriage-supporting rails *e*, as herein described, for the purpose specified.

3. The door P, provided with a track upon its inner side, whereby, when it is swung down in a horizontal position, it receives the carriages C, which are rolled out upon it to discharge their loads, as herein shown and described.

4. The furnace flues F, when arranged to pass beneath the curved bottom of the oven A, upon each side of the projecting trough G, and curving outward, extend in an inclined direction upon each side of said oven to the front thereof over the furnaces, to unite in the chimney S, as herein described for the purpose specified.

78,744.—Lyman Jennings, Winchendon, Mass.—*Shingle Machine.*—June 9, 1868.—The cutters are moved by cog wheels, which gear with a rake on the top of the back plate, and the shingle block is raised and pressed against the cutters by pinions on the ends of the shaft, which actuates the cog wheels, and which gear with the racks on the lifting uprights.

Claim.—The combination of the horizontally sliding cutters *g g g* and the rack *c* with the wheels I I, pinions *d d*, racks *k k*, for operating the sliding block rest D, as described.

78,745.—Chester L. Johnson, Utica, N. Y.—*Top.*—June 9, 1868.—The top may be made to run within the casing while held in the hand, but if thrown upon the floor, the two will whirl together, by reason of the contact of the upper shoulder of the top with the casing.

Claim.—The top A and casing C, constructed substantially as described.

78,746.—T. B. Johnson, De Witt, Iowa.—*Vise.* —June 9, 1868.—The vise adapts itself to the shape of the object to be held, whether the same be straight-sided or tapering.

Claim.—1. The elbow shank C, and movable jaw E, constructed and arranged substantially as herein shown and described, in combination with each other, and with the stationary jaw A, and clamping screw D, as and for the purpose set forth.

2. The combination of the spring F with the elbow shank C, and with the movable jaw E and screw D, arranged substantially as herein shown and described and for the purpose set forth.

78,747.—John Johnson, Boston, assignor to himself and N. A. Brickett, Quincy, Mass.—*Machine for Enameling Molding.*—June 9, 1868.—For enameling moldings preparatory to gilding the same. The invention includes means for warming the preparation, distributing the same evenly on the molding, smoothing it, and scraping off the surplus.

Claim.—1. The brushes G, mounted upon the vertical shafts E, one of which is adjusted laterally by the screw F, and both bearing beneath the brushes the disks H, arranged in relation with the vertically adjustable brush L, as herein described, for the purpose specified.

2. The combination of the furnace P, feed rollers B U, brushes G G L, and laterally-adjustable scraper N, all arranged and combined to operate in the manner substantially as and for the purpose set forth.

3. The combination of the furnace P, brushes G G L, elastic roller B, feed roller U, scraper N, and guides T V, all arranged as described, for the purpose specified.

78,748.—Joel F. Keeler, Pittsburg, Pa.—*Hollow-Headed Scale Beam.*—June 9, 1868.—The scale beam is constructed in such a manner that while the weight and the fulcrum are brought near to each other, they are kept on separate pivots, held firmly in their respective places. The fulcra of the main beams rest on fixed bearings, while the weight is suspended on platform bearings that oscillate, or *vice versa.*

Claim.—1. Adapting hollow-headed scale beams, of any known construction, to use as primary levers in the construction of compound lever platform scales, substantially as herein described.

2. The use of the combined link-bearer *f'* and link *f*, in the construction and operation of platform scales, substantially as described.

78,749.—J. Dwight Kellogg, Jr., Northampton, Mass.—*Churn Dasher.*—June 9, 1868.—The dasher is rotated in one direction to make the butter, and in the opposite direction to gather it.

Claim.—A churn dasher, constructed with spiral rows of arms, a a^1, a^2, &c., and strips M M' N N', attached to the arms, and arranged in combination with each other and with the shaft A and the rows of arms, in the manner described, and for the purposes specified.

78,750.—Frederick W. Mansfield, Fitchburg, Mass., assignor to himself and H. C. Hitchcock, same place.—*Saw-horse.*—June 9, 1868.—Two curved levers, serrated on their upper inner sides, are so arranged upon a saw-horse that by pressing upon the lower end of one of the levers, the jaws will firmly hold the wood while being sawed.

Claim.—The construction of the curved serrated levers A C, composing the clamp attachment, when arranged and adapted to be applied to a saw-horse, in the manner and for the purpose herein shown and described.

78,751.—John McCloskey, New York, N. Y., assignor to Henry McGuckin, same place.—*Cooking Range.*—June 9, 1868.—A chamber communicating with the fire chamber retards the products of combustion sufficiently to burn the escaping gases. When either of the broilers are slidden into position for use, the shifting of a plate or damper throws the fire-chamber into communication with the ovens, and though them with an air space under the cover of the range, whence the odors and vapors are conducted into the exit pipe. The divisions of the water back have separate induction and eduction pipes, which supply fresh water from, and conduct heated water to, independent cylinders separated by an annular chamber, which has inlet and outlet pipes, and is used as a means of supplying heated air.

Claim.—1. Forming an air chamber across the back of the range in communication with both the ovens of the range substantially as described, so as to form a continuous oven and hot-air space along three sides of the fire chamber.

2. The gas-combustion chamber, placed above the air chamber and beneath the smoke-exit pipe, substantially as described.

3. The broilers I, one or more, arranged over the ovens, so that they can be projected over the fire chamber, substantially as described.

4. The bottom grate, when made in the form here shown, supported by journals at its ends, so that it may be taken out and turned upside down, thus enabling one to use it as a concave or a convex grate, substantially as described.

5. Separating the divisions Q Q of the water-backs, by an air space, so that the temperature of the water in one will not affect the temperature of the water in the other, substantially as described.

6. The inlet and outlet air pipes in the annular air chamber, that is placed between the water cylinders, substantially as described.

7. Conducting the hot water pipe that leads from the water back to the inner cylinder V, through the outer cylinder U, and across the annular space W, substantially as described.

8. Providing a range with staples *a*, or their equivalents, for the purpose of suspending it from a ceiling, as board, substantially as described.

78,752,—Thomas Milner, Houston, Texas.—*Circular Saw Guide.*—June 9, 1868.—The movable jaw supports one of the plugs which are set up against the saw near its periphery, to steady the same in operation. The guide rods, flange, and shoulder serve to steady and guide the jaw as it is moved by the screw bolt. The flange also excludes dirt from the screw threads.

Claim.—1. The arrangement of the bolt C within the plate A, the rods *r r*, working in the holes *o o*, acting in combination to operate the movable jaw K, as and for the purpose specified.

2. The flange P and shoulder *s*, constructed and arranged to operate substantially as and for the purposes shown and described.

78,753.—Thomas B. Moore and Garret De Bow, Bridesburg, Pa.—*Bed Bottom.*—June 9, 1868.

Claim.—1. The slats B of a bed bottom, joined together by a continuous webbing, C, which also serves as the covering for the padding, substantially as and for the purpose described.

2. The covering for the slats of bed bottoms, secured to the slats by means of the grooves in the edges of the slats, and the strips fastened therein, substantially as and for the purpose described.

3. The rails of a bed bottom frame joined together by means of the metallic plate D, having the several lips and flanges described, and the button *a*, substantially as and for the purpose set forth.

4. The combination with the slats B and springs F, of the saddle E, substantially as and for the purpose described.

5. The combination, with the springs and the rails, of the rod upon which the springs are wound, provided with the movable brackets G, and arranged in the said combination, substantially as and for the purpose described.

78,754.—Smith Morton, Valparaiso, Ind.—*Attachment for Bake Oven Doors.*—June 9, 1868.—When the temperature of the oven reaches a point at which the contents may burn, the metal will fuse and the door open, and give an alarm.

Claim.—The application to the doors of ovens of a latch or catch held immoveable by the within-described metal or metallic alloy while it is unfused, but which, when the said metal is fused, turns and unfastens itself, in combination with a weight or spring, to open the door, and the fusible metal and alarm on the inside of the oven, substantially as shown and described.

78,755.—Gustav Muller, Newark, N. J.—*Dobereiner Self Lighting Lamp.*—June 9, 1868; antedated June 4, 1868.—The main vessel contains dilute sulphuric acid, and a piece of suspended zinc is situated within the lower part of the internal flask; when the cook is opened the air in the flask is displaced and hydrogen is evolved by the contact of the zinc with the acid. This gas is directed against the platinum, combining with the oxygen condensed within the same so as to form water. The heat thus liberated ignites the platinum to inflame the gas which subsequently issues from the jet.

Claim.—1. Providing an inflammable lamp with a vertical or inclined channel, *c*, substantially as described, for the purpose of preventing the accumulation of sulphuric acid in the channel, as set forth.

2. Securing the spongy platinum of an inflammable lamp within a bell, G, for the purpose of protecting the same, as set forth.

3. A self-lighting lamp, when provided with a vertical or inclined channel *c*, and with a bell, G, suspended above the outlet of the channel, all made

and operating substantially as and for the purpose herein shown and described.

78,756.—John B. Munson, Bailey Hollow, Pa. —*Bed Clothes Holder.*—June 9, 1868.—The bed clothes are clamped at each side by a long bar attached to arms connected with the side rails of the bed, the bar being operated by means of a cord, pulley, and crank from the head of the bed.

Claim.—In combination with the cross bar F, secured to arms D d′, which are hinged to staples E, fixed in the rail B, the cord H, pulley J, drum K. crank L, ratchet wheel N, and pawl M, all arranged to operate as and for the purpose herein set forth.

78,757.—Thomas Newman, New Orleans, La. —*Rope Trace.*—June 9, 1868.—The end of the rope which is used for a trace is provided with a leather covering and metal clips so as to form a ready means of attachment to the harness and hames.

Claim.—In combination with the rope trace A, the leather coverings, metal clips B, Cx, and E, and the chain D, all arranged as described for the purpose specified.

78,758.—Manly Packard.—North Easton, Mass.—*Sole Edge Plane.*—June 9, 1868.—The shank of the throat piece is pivoted to the stock so as to enable it to be turned and adjusted in relation to the knife, as desired.

Claim.—1. As my invention or improvement in the sole edge plane, the knife C, the throat piece D, and stock A, as constructed in separate pieces, and arranged together and combined by means substantially as described, so as to enable the knife to be adjusted with respect to the throat piece, and such throat piece to be moved relatively to the knife, all as and for the purpose or purposes as explained.

2. The arrangement and combination of the abutment or supporting projection c, the stock A, the adjustable knife C, and the throat piece D, movable relatively to the knife, as and for the purpose hereinbefore described.

78,759.—William T. Parsons, Thomasville, Ga.—*Car Brake.*—June 9, 1868.—Pendent shoes are employed in connection with mechanism whereby they are let down under the wheels so as to partially receive the weight of the latter and act as a chock to stop their revolution.

Claim.—1. The combination of the flanged shoes S, pivoted to the lower ends of the bars D D′, which are hung from the frame A, by means of pivots e e′, with the shaft g, bearing grooved pulleys P P′ P, ropes or chains m m′, drum d′ and spring R, all constructed and arranged to operate in the manner and for the purpose herein set forth.

2. The device for retaining the shoes S in an elevated position, away from the wheels, said device consisting of the beveled pin b fixed in the shaft g, centrally-pivoted lever L, having projecting pin i and spring u, all constructed and arranged to operate in the manner substantially as herein set forth.

3. The flanged shoe S″, hung to the lower end of the single bar D″, which is connected to the pivoted lever L′ by a yielding joint, substantially as described.

4. The combination of the slotted shoe S, pivoted bar D‴, lever l, pivoted at g, and springs v v″, all constructed and arranged to operate in the manner and for the purpose substantially as herein specified

78,760.—J. D. Perrin and Joseph Saunders, Brooklyn, N. Y.,—*Retort for Concentrating Sulphuric Acid.*—June 8, 1868.—At the upper part of each retort is arranged a spout or pipe leading into a funnel on the upper end of a pipe which extends nearly to the bottom of the next retort.

Claim.—Providing a retort with a projecting pipe or spout, a, and with a pipe, B. substantially as described, so that communication between various retorts can be established, as herein specified.

78,761.—Amos H. Rhodes, Fall River, Mass.—*Gib.*—June 9, 1868.—A recess is formed in the "gib," in which is fitted a metallic block secured by bolts, screws, or shoulders so as to admit of the ready removal of the "gib" when necessary.

Claim.—The construction and arrangement of "gib" A^1, removable block B^1, and bolts D^1 and E^1, operating substantially as and for the purpose set forth and described.

78,762.—Rodney Rice, Pittsfield, Vt., assignor to himself and J. H. Spaulding.—*Wagon and Carriage Brake.*—June 9, 1868.—Upon the depression of the treadle the inner ends of the brake levers are drawn forward and the brakes applied through the medium of the jointed levers and connecting rods.

Claim.—1. The treadle c, levers b b, and links a a^1, in combination with the brake levers F F^1, arranged and operating substantially as described.

2. The brake levers F F^1, provided at their inner ends with interlocking hooks, f, working in the loop G, substantially as and for the purpose described.

3. The independently-hinged brake levers F F^1, connected centrally by a sliding or hook joint, and operated by means of levers and connecting links, arranged substantially as described.

78,763.—Thomas H. Savery, Wilmington, Del.—*Expanding Pulley.*—June 9, 1868.—The sectional rims of the expanding pulley are moved in and out radially by means of a spiral or scroll slot in the face of a disk, which latter revolves on the shaft of the pulley and is engaged by corresponding teeth on the face of the arms which form part of the sectional rims composing the rim of the pulley.

Claim.—The expanding rims C of a pulley, operated by means of a hand wheel, E, and scroll disk, A, both working on the pulley shaft D, and connected by any suitable train of gear wheels, substantially as shown and described.

78,764.—Austin Seely, Alton, Ill.—*Valve Gear for Steam-Engine.*—June 9, 1868.—Designed as an improvement upon the patent granted to B. F. Day in 1854.

Claim.—1. The additional throttles T, arranged with reference to both cylinders, substantially as shown, for the purpose of operating the engines, and controlling and modifying the expansion of the steam used, all as set forth.

2. The expansion of cylinder B, in combination with the additional throttle T′, substantially as and for the purpose shown and described.

3. The additional throttle valves T′ T″, arranged in the pipe connections, substantially as shown, and for the purpose specified.

78,765.—David Smith, Newburyport, Mass.—*Brick Machine.*—June 9, 1868.—A series of presses moves in a circular track, and has a corresponding intermittent movement; each press coming to rest directly against and simultaneously with one of the molds; at the same moment the follower has a movement from a point within the track of the molds toward one of the presses, moving the brick from the mold into the press, and properly pressing it.

Claim.—1. The annular series of open molds l, operating in combination with arms j k, substantially as described.

2. The intermittent rotary series of presses m o, constructed and operating, in combination with the follower n, substantially as described.

3. The combination and arrangement of the annular series of molds l, and the intermittent rotary series of presses m o, constructed and operating substantially as described.

78,766.—John P. Smith, Claverack, N. Y.—*Shaker for Thrashing Machine.*—June 9, 1868.—The upper part of the carrier, whereby the straw is conveyed from a thrashing machine, is alternately lifted and dropped by the shaking arms.

Claim.—1. The rotating shaking arms f, in combination with the endless carrier or shaker B, substantially as and for the purpose specified.

2. The arrangement of the shaking arms f, transverse shaft e, endless carrier or shaker B, and framing A, substantially as and for the purpose specified.

78,767.—Edward Spaulding, Brooklyn, N. Y. —*Mosquito Screen.*—June 9, 1868.—Relates to mosquito screens for closing door or window openings, and which, when not required for use, are wound upon a roller by the force of a coiled spring.

Claim.—So constructing and arranging the spring H with the roller F and screw bearing *o*, that the uncoiling force of said spring is exerted to tighten the bearings, and the contractile force to keep the screen in place, and permit its removal when required, substantially as described.

78,768.—HEDGES L. SPENCER, Social Circle, Ga.—*Millstone Dress.*—June 9, 1868.—The furrows are so arranged as to cause the stones to move rapidly and thoroughly comminute the grain.

Claim.—The improved millstone dress, composed of the furrows *a b c d*, made and arranged as herein shown and described.

78,769.—JAMES SWAN, Seymour, Conn.—*Manufacture of Augers and Bits.*—June 9, 1868.—The upper surfaces of the holding dies are grooved to conform to the desired shape of the cutters, and the parts are so arranged as to reduce the lips and bring them to a knife-like edge at their cutting parts.

Claim.—1. The rising and falling and partially-rotating arbor H, provided with the swaying and drawing dies J J, in combination with the holding dies B B, all arranged substantially as and for the purpose set forth.

2. The combination of the cam N, bevel wheels K L, pins *d e*, arbor H, and the spring I, all arranged to operate the arbor in the manner substantially as and for the purpose set forth.

78,770.—H. G. TAYLOR, Port Hope, Canada West.—*Combined Square and Bevel.*—June 9, 1868.—One part of the stock and the blade always preserve their relative positions, and constitute the square. The other part of the stock and the blade form the bevel, the two parts being held against casual movement by means of the screw and nut.

Claim.—A combined square and bevel, composed of a stock formed of two parts, A A′, connected by a screw and nut, B, and a blade, C, fitted between said parts, and connected with part A, all arranged substantially as shown and described.

78,771.—AUGUSTUS THAYER, Albany, N. Y.—*Implement for Sharpening Cutlery.*—June 9, 1868.—The peculiar construction of the "cutters" furnishes a variety of grooves in which to sharpen cutlery. The "cutters" are, when not in use, covered by a movable tube. A polygonal collar upon the neck of the steel prevents the device from rolling when laid upon a table.

Claim.—1. The cutters C, two or more, constructed as shown, with beveled ends, and fitted in a slot in a tang, B, and secured therein by a screw or wedge, substantially as and for the purpose set forth.

2. The grooves *d* in the ends of the cutters, for burnishing or hardening the cutting edges, substantially as set forth.

3. The beveled shoulders *c*, in combination with the cutters C, substantially as and for the purpose specified.

4. The sliding or adjustable tube E, either with or without the polygonal plate F, substantially as and for the purpose set forth.

78,772.—RALPH THOMAS, Waterbury, Conn., assignor to himself and E. PARKER, same place.—*Sash Fastener.*—June 9, 1868.—The spring bolt and the hinge cap are respectively secured to the sashes, which they serve to lock together.

Claim.—A sash fastening, consisting of the case A and spring bolt C, in combination with the hinged cap D, all made and operating substantially as herein shown and described.

78,773.—G. J. THORN, Pecatonica, Ill.—*Windmill.*—June 9, 1868.—Under any direction of the wind the wings on one side of the shaft will be at right angles to said direction, when the sleeve is down, and when any wing passes to the other side of the shaft by the revolution thereof the same will be thrown down "into the wind," while the opposite wing will be thrown up before the wind. When the tank is filled the float rises and gives a corresponding movement to the sleeve to stop the mill.

Claim.—1. The windmill, having each of its arms B provided at opposite ends with wings C, placed at right angles to each other, said arms passing in different vertical planes through the vertical shaft A, and through openings a^1 in the sleeve E, all arranged as described for the purpose specified.

2. The sleeve E, suspended upon the shaft A by the rods F, attached to the arms of the governor, and provided with a series of openings, a^1, in different vertical lines, for the passage of the arms B, and for the operation of the cams a^2, as herein described, for the purpose specified.

3. The device for changing the position of the wings C, consisting of the V-shaped cranks a^2 upon arms B, and the V-shaped openings a^1 in sleeve E, substantially as shown and described.

78,774.—ELISHA WIARD WALTON, Stockton, Cal., assignor to himself and WILLIAM H. DERRICK, same place.—*Horse Hoe.*—June 9, 1868.—A brace between the handles enables either handle to be set in line with the beam. The shares are made with two sharp edges, so as to be reversible and self-sharpening, and are provided with a point having a mortise for the reception of the lower ends of the standards.

Claim.—1. The regulating brace *m*, constructed substantially as and for the purpose above shown.

2. The standard E E of a horse hoe, constructed substantially as above described.

3. The reversible hoe point D, with its slot or mortise X, constructed and operated substantially as above shown.

4. The reversible shares A, and also their two sharp-cutting edges, constructed and operated substantially as above shown.

5. The mold-board B, in combination with the share A, substantially as above shown.

6. The wedge L, with its screw and nut, constructed and used substantially as and for the purpose above described.

7. A horse hoe, with or without the mold-board B, constructed and operating substantially as above described.

78,775.—THOMAS P. WARREN, Norfolk, Va., assignor to D. W. WARREN—*Clevis Iron.*—June 9, 1868.—A plate provided with holes is attached to a bent rod or bar, which forms the clevis, so that by placing the plate in a horizontal or a vertical position, and adjusting the attachment of the same, the plow may be made to cut a deep or shallow furrow, or be made to take more or less land, at pleasure.

Claim.—1. The combination of the perforated plate D with the bent rod C, when the said parts are constructed to operate in the manner set forth.

2. In combination with a perforated draught plate D and a rod or link, C, for attaching it to the plow beam, the screw nuts *n n*, by which the plate can be adjusted back and forth on the rods or link, so as to cause the plow to run more or less to land, in the manner described.

78,776.—WILLIAM WERTS, Pana, Ill.—*Car-axle Cap.*—June 9, 1868.—The door is secured to the box by means of bolts on either side, placed within chambers and surrounded each by a spiral spring. By adjusting a nut at the bottom of the bolts the tension of the springs may be regulated to hold the door closed with any desired power.

Claim.—1. The combination of the eye bolt D, coiled spring F, and chamber E, with each other, with the door B, and with the cap or box A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the cross-head bolt G, coiled spring I, and chamber H, with each other, with the notched or grooved slotted projection b^3, formed upon the door B, and with the cap or box A, substantially as herein shown and described, and for the purpose set forth.

78,777.—WARREN W. WHITE and MARTIN KING, Lowville, N. Y.—*Refrigerating Milk Can.*—June 9, 1868.—By means of this can a cooling liquid is accommodated in chambers so arranged as to present a cool surface to the inclosed milk all around.

Claim.—The combination of the jacket A B and cylinder D, together with the hollow lid H, the ventilating tube J, and the connecting tube E, substantially as specified, and for the purposes therein set forth.

78,778.—CHARLES I. WILMANS and WESLEY J. WOLFE, Olney, Ill.—*Dough Kneader.*—June 9, 1868.—The three compartments contain respectively the flour, the rising dough, and the kneading and rolling apparatus. The adjustable rollers roll out the dough to any desired thickness, for crackers, cakes, pastry, &c. The removable sectional cover forms, in connection with an extensible frame beneath the box, a table to receive the dough as it comes from the roller.

Claim.—1. The combination of the pivoted kneader M *m* P, the stationary kneading board P' and curved bottom H, all constructed, arranged, and operating as described, for the purpose specified.

2. The adjustable roller Q Q', arranged and operating in combination with the kneader P substantially as specified.

3. The removable covers L L', in combination with the sliding frame W and hooks X, substantially as and for the purpose set forth.

4. The removable kneading board P', in combination with the grooves a^2, roller Q Q', and kneader M P, for the purpose set forth.

5. The relative arrangement of the compartments C D E, removable partition F, stationary partition G, bottom H I, and cover K, substantially as and for the purpose set forth.

78,779.—MORITZ WOLF, Philadelphia, Pa.—*Jacquard for Looms.*—June 9, 1868.—The invention relates to a new arrangement of the jacquard attachment of a carpet loom, and consists in the use of a double set of needles, by which the harness is operated.

Claim.—1. Operating the cylinder A by means of the cylinder F, needles *o*, strings *l*, slotted extension *n* of the lifter D', the frame K, all made and operating substantially as and for the purpose herein shown and described.

2. Two or more independently-acting cylinders, in combination with the vertical needles, substantially as described, for the purpose specified.

78,780.—DAVID WRIGHT, Boston, Mass.—*Composition for Gilding Moldings.*—June 9, 1868.—Composed of China chalk, borax, gum arabic, and glue, dissolved in water.

Claim.—The preparation or compound for preparing frames, moldings, ceilings, and all surfaces for gilding in gold and silver, substantially as set forth and described.

78,781.—THOMAS P. AKERS, New York, N. Y.—*Steam and Water Indicator for Boilers.*—June 9, 1868.—When steam takes the place of water in the tube it expands, and imparts motion to a system of levers and rods, and thereby opens the valve of the whistle, giving an alarm. The inverted valve, under excessive pressure of steam, yields, and in consequence thereof the valve of the whistle is operated upon in a reverse direction, allowing the steam to escape, and giving an alarm as before.

Claim.—1. A low-water and high-pressure indicator, in which the adjusting parts are so constructed and arranged as to be locked in their adjusted position independent of any covering or other surrounding devices, substantially in the manner shown and described.

2. The combination of the expansible tube A with the levers I and K, the jointed lever L, and the part M, together with their connections and fastenings, substantially as and for the purpose set forth.

3. The combination of the inverted valve Y', the valve stem Y, the nut X, the cap G, the spiral spring W, and the whistle E, substantially as shown and described.

4. The tube A, and the levers I, K, and L, with their connections and fastenings, when combined with the inverted valve Y', the valve stem Y, the nut X, the cap G, and the spiral spring W, whereby to produce the double effect of indicating low water and excessive pressure of steam, substantially as herein set forth.

78,782.—WILLIAM BELLIS, Richmond, Ind.—*Governor.*—June 9, 1868.—Designed to close automatically in the event of the snapping or running off of the governor belt, or the sudden suspension of governor action from any cause. A device is employed for holding said governor valve open when the throttle is shut, so as to enable the engine to be started by the opening of the throttle.

Claim.—1. The construction of the triple-disk valve I J K *i j k*, substantially as and for the purpose set forth.

2. The diaphragm D *d* E F *f* G H, constructed as described, when arranged in relation to the triple-disk valve I J K, substantially as and for the purpose specified.

3. The combination of the adjustable bracket S, weighted prop or latch R *r*, and weighted lever P *p*, with the governor valve I J K and governor N, all constructed, arranged, and operating substantially as and for the purpose described.

78,783.—LOUIS W. BOSART, St. Marie, Ill.—*Portable Fence.*—June 9, 1868.—Arms project from the gate post between the vertical panels, which connect the horizontal fence rails, pins being passed through said arms in order to secure the fence section to the gate post. The fence is sustained by trestles introduced between the sections.

Claim.—1. In combination with the panels, the gate posts D, constructed and arranged substantially as and for the purpose set forth.

2. The trestles C, with slots and notches c'', and projections c', in combination with the panels A and A', substantially as described.

78,784.—PURMORT BRADFORD, New Haven, Conn., assignor to SARGENT & CO., same place.—*Cast Metal Bracket.*—June 9, 1868.—The parts are so formed that they may be locked and held together without the use of rivets.

Claim.—The base A, shelf B, and brace C, constructed so as to be united and locked together by hooks or projections on one part, and corresponding mortises or recesses in the other, so that when the three parts are set together, they will be locked and held in place, substantially as set forth.

78,785.—CHARLES BROWN and LEONIDAS GERTH, Peoria, Ill.—*Plow.*—June 9, 1868.—The knives precede the plows, cutting the sod into strips in order to render the action of the plows more perfect. The plow frame may be replaced by a cultivator frame, and the knives dispensed with when desired. The levers regulate the position of the frames vertically.

Claim.—A combined plowing and cultivating machine, having levers B and F, with ratchets thereto, rod C, chains D, knives G, frames H, P, and O, and swinging bars M, constructed, arranged, and operating substantially as specified.

78,786.—EDWARD L. BROWN, Philadelphia, Pa.—*Process of Combining Wrought and Cast Metal.*—June 9, 1868.

Claim.—1. Preparing wrought metal for combining it with cast metal for castings of all descriptions, where great strength of any kind is required, by first thoroughly coating it, by galvanic action or other process, with nickel, or any other metal or metals, alloys of metals, or metallic or mineral substances, or their alloys, not easily oxidizable and very difficult to fuse, and which only melt, or whose point of fusion is at a higher degree of heat than the molten cast metal to be poured about it, the whole substantially as above described.

2. The production of castings, strengthened by the introduction of wrought metal coated with a metal, alloy of metals, or substance less fusible than the cast metal, substantially as above set forth.

78,787.—WILLISTON CONNER, Rensselaerville, N. Y.—*Hop Pole.*—June 9, 1868.—Small, accessory poles are applied to the main pole by means of iron collars placed one above the other and having rings or sockets to hold the small poles. The teeth of the collars prevent them from turning on the pole.

Claim.—The combination of the large and small rings B B', constructed as described; that is to say, each having three openings *a* on the outer parts, and one central opening with teeth, and used with the poles A and C C C, as and for the purposes specified.

78,788.—Alphonso W. Cook and Robert Dempster, Buffalo, N. Y., assignors to themselves and J. S. Semon, same place.—*Hydrocarbon Burner.*—June 9, 1868.—In using the lighter products of petroleum, the coil serves to convert the fluid into vapor before it issues into the retort. When a heavier quality of petroleum is used, the coil is detached from the feed pipe, and a dripping pan applied in the place thereof, the fluid being caught in said pan, and the sediment discharged through the pipe thereof.

Claim.—1. The coil of pipe G, in combination with the feed pipe F and retort A, arranged and operating substantially as and for the purpose described.

2. The dripping pan H and discharge pipe h^1, in combination with the feed pipe F and retort A, for the purpose and substantially as described.

3. The plate C, having openings C^1 and C^2, in combination with the furnace B, draught flue E, and retort A, constructed and arranged substantially as herein set forth.

4. The removable bottom plate M, in combination with the retort A, for the purpose and substantially as herein described.

5. The annular air chamber n and outlet n^1, in combination with the retort A, for the purpose and substantially as herein described.

6. The chamber I, plugs or bushings i^1, and strainer J, in combination with the feed pipe F, for the purpose and substantially as herein described.

7. The combination of the force pump P, feed pipe F, and blow-off pipe L, for the purpose of cleaning the inside of the retort A, substantially as described.

8. The application and use of the apparatus herein described, for generating steam, in the manner and for the purposes substantially as herein set forth.

78,789.—William Corson, Camden, Ohio.—*Portable Fence.*—June 9, 1868.—The "flexible bar" is depressed, and the matched ends of the rails fitted together to unite the panels.

Claim.—The flexible bar D, in combination with bar C and notch c, substantially as described.

78,790.—Japheth Cross, Adrian, Mich.—*Weather Strip.*—June 9, 1868.—By the closing of the door the strips are made to protrude from the grooves in the edges of the door, wherein they are imbedded, against the jambs and sills of the door frame, the strips being drawn back again into the grooves upon the opening of the door.

Claim.—1. The combination of the strips a, b, c, and d, with the bed pieces f and h, to be used in doors and windows, all constructed in the manner and for the purposes substantially as set forth.

2. The combination of the spring catch k with the levers l and strip b', constructed and operating in the manner set forth.

78,791.—Samuel T. Curtiss, El Paso, Ill., assignor to himself and Lyman P. Thompkins, same place.—*Churn.*—June 9, 1868.—The dasher has vertical, angular projections, with intervening spaces presenting wide mouths for the entrance of the cream, but having small terminal throats through which the cream must pass, with great friction, as the dasher revolves.

Claim.—The dasher F, constructed and arranged to operate substantially as and for the purpose herein set forth.

78,792.—Daniel L. Dickson, Durham, Ill.—*Grain Drill.*—June 9, 1868.—The grooved wheels deliver the seed from the hopper to the discharge spouts. The flanges of the ground roller run in the seed furrows to pack the earth over the seed at the bottom of the furrows.

Claim.—The arrangement of the shaft F in the box J, and provided with a series of wheels with circumferential grooves, in combination with the hinged fluke-bars O O, that extend under the hopper to the flanged roller C, the various parts being constructed and operating substantially as specified.

78,793.—James B. Eads, St. Louis, Mo.—*Subaqueous Foundation.*—June 9, 1868.—A caisson, open at both ends, is first sunk, from which the sand and light subsoil is removed. A platform to sustain the masonry is guided by upright posts, and around the platform is arranged an interior caisson for excluding the water.

Claim.—The combination and arrangement of the outer caisson, its ribs or posts B B', with the internal caisson C, in the manner and for the purpose substantially as herein set forth.

78,794.—Henry A. Ellis and C. Frederick Gladdino, Norwich, Conn.—*Hawser Clamp.*—June 9, 1868.—The lever is recessed so as to form a flange which acts as a cam upon a pin for the purpose of raising the guide with the movable jaw. The guide has a rib running in a slot in the upright bracket to which it is bolted.

Claim.—The double cam-shaped lever I, in combination with the moving jaw C, when operating through the guide G and pin p, substantially as described, and for the purpose set forth.

78,795.—Henry Flad, St. Louis, Mo.—*Water Meter.*—June 9, 1868.—The revolutions are counted by a magnetic needle, placed outside of the apparatus, and actuated by a soft iron bar attached to the piston rod and inclosed within the piston chamber. The upper part of the piston chamber is filled with compressed air, while the liquid flows through the bottom portion.

Claim.—1. The air check in the chambers A, C, and D, to prevent the flow of liquid in any direction but that of the line of traverse of the piston, substantially as set forth.

2. The combination of the magnet E, the soft bar e, and the revolving piston B', when acting substantially as set forth.

78,796.—James Flood, New Haven, Conn., assignor to William Sanderson, New York City.—*Attaching Handles to Cutlery.*—June 9, 1868.—The tang is round or cylindrical near the bolster, and twisted at the end, while the intermediate portion is flat.

Claim.—The employment of the twisted tang, in combination with the composition handle molded around, all substantially as described for the purpose set forth.

78,797.—John Foreman, Pottstown, Pa.—*Truss Framed Bridge.*—June 9, 1868.—The posts of the respective halves of the bridge are inclined in opposite directions. The arrangement of the posts, braces, and suspending bolts, obviates the employment of the usual heavy vertical posts and counter braces.

Claim.—The arrangement, substantially as described, of the inclined posts, suspension rods, and diagonals, for the purpose specified.

78,798.—Elliott E. Furney, Chicopee, Mass.—*Caster for Furniture.*—June 9, 1868.—A circular lever on being turned inward upon its pivot acts as a break upon the roller, and locks together the two plates of the caster in order to render the latter inoperative.

Claim.—1. The lower plate g of a caster, when constructed with the elongated curved projection g' thereon, and having the projection or bearing m, said plate g being used in connection with the spindle B and roller D, when constructed and operating substantially as described, and for the purposes herein specified.

2. The combination of the plate g, having a spindle B, with the circular lever d, said lever d operating in conjunction either with the plate b or with the furniture to which the caster may be attached, all constructed and operating substantially as herein described and for the purposes specified.

78,799.—George Garrett, Elkhart City, Ill.—*Cultivator.*—June 9, 1868.—The fender shields the young plants from the clods thrown toward them by the shovels. The brace beams allow the shovels to pass obstructions without injury.

Claim.—Providing a double cultivator with a fender, F, having bearing chains, *f f*, when the same are united and combined with the beams B and C C, and the whole is so constructed and arranged as to operate substantially as described and for the purpose specified.

78,800.—WILLIAM F. GOODWIN, East New York, N. Y., assignor to himself and CHARLES R. SQUIRE, New York, N. Y.—*Harvester.*—June 9, 1868.—The pinion to which the cam is attached terminates a system of speed-multiplying gear mounted upon the main axle, and from which motion is communicated to the cutter through the medium of a yoke surrounding the cam, a pitman rod, crank lever, &c. The cutter bar may be turned up vertically or over the tongue in passing obstructions, without suspending the motion of the knife.

Claim.—1. The employment of a cam or eccentric, in combination with the multiplying gear, shown and described, for the purpose set forth.

2. The cam A attached to the pinion A^2, or a sleeve projecting from the latter, and working on and rotating round the shaft H of a harvester, in the manner and for the purpose substantially as described.

3. The arrangement of the hoisting apparatus of a harvester, whereby the cutter bar may be drawn up and turned over on the tongue, in combination with the retracting spring E, arranged and operated in the manner and for the purpose substantially as described.

78,801.—C. N. GOSS, Claremont, N. H.—*Horse Rake.*—June 9, 1868.—The yielding stock or pressure bar resists the independent movement of the tooth bars without interfering with their vibration upon a common center for discharging the load or passing an obstruction. The levers enable the bars and teeth to be raised or held down to their work by the driver. Safety springs are applied to the teeth individually.

Claim.—1. The arrangement of the two pivots or centers D *d*, upon which the tooth bars turn in the described relation to each other and to the shafts or thills, for the purpose set forth.

2. The arrangement of the stop bar I relative to the tooth bar pivots D *d*, substantially as and for the purpose set forth.

3. The arrangement of the rock shaft D, substantially as described, whereby it is made to constitute the rest or support of the independently pivoted tooth bars, as well as the common center upon which said tooth bars are vibrated to discharge the gathered load.

4. The levers H and L, in combination with the pivoted tooth bars and stop bar I, substantially as described, whereby the driver is enabled to hold the teeth down to their work, and to raise the same for discharging the load, or for passing an obstruction, as set forth.

5. The coil spring G, applied to and operating in combination with the rake bars and pivoted rake teeth, substantially as and for the purpose set forth.

78,802.—ISAAC C. HATCH, Camden, N. J.—*Brick Drying Apparatus.*—June 9, 1868.—The fan blast is heated by contact with the pipes, pervades the masses of wet bricks on the cars, and carries off through perforations in the roof and sides of the kiln the moisture emanating therefrom.

Claim.—One or more kilns, built as herein described, and provided with hot air or steam pipes P P', in combination with fans F within the rear end of each kiln, all constructed, arranged, and operating as and for the purpose herein set forth.

78,803.—C. HOPKINS, Philadelphia, Pa.—*Tool for Rejeweling Watches.*—June 9, 1868.—The part to be jeweled is clamped to a bed having an opening in which rests a centering screw with a depression in its point to receive the centering needle of the reaming tool. The ends of the reamer being introduced into the jewel hole, the instrument is rotated on the centering needle, and the upper flange of the socket bent up so as to admit the jewel.

Claim.—1. The bed A, having the clamp *a* and the centering screw J, substantially as and for the purpose above described.

2. Forming the ends of the reaming instrument, as shown at m m^1 m, substantially as and for the purpose set forth.

3. The reaming tool above described, composed essentially of the bent spring arms G G, having the cutting edges m m^1 m^2, and the exterior screw threads, with the adjusting centering needle I, and the screw nut F, working up and down upon the arms G G, in the manner described, all said parts being constructed and arranged to operate together substantially as specified.

78,804.—CORNELIUS A. HOWARD, New Haven, Conn., assignor to himself and RICHARD McCLOY, same place.—*Compression Cock.*—June 9, 1868.—The valve is operated by a screw upon the plug so as to close the valve down upon the inlet when turned in one direction, and close the end of the plug when turned in the opposite direction, and so as to open from the inlet to the plug when in an intermediate position.

Claim.—The valve C, constructed with the passage *a*, and arranged within the chamber B, and combined with the plug D, when the said plug D is arranged so as to operate the said valve to close the inlet at one extreme and the plug at the other, and open at intermediate positions, substantially in the manner herein set forth.

78,805.—GEORGE JONES, New Haven, Conn.—*Sprinkler and Dredge.*—June 9, 1868.—Designed as an improvement on the patent of Keep & Dummer, granted July 3, 1866. A ball joint is formed on the spindle within the cup, so as to allow the cover to be more fully opened.

Claim.—The arrangement of the ball joint between the spindle D and plunger C, and combined with the cover B and cup A, so that the cover may be turned from the cup, substantially as herein set forth.

78,806.—JOHN ALLCOCK JONES, Middlesborough, England.—*Manufacture of Iron and Steel.*—June 9, 1868.

Claim.—The preparation of iron and the production of cast steel, by firstly submitting cast or pig iron to the process of puddling, boiling, and balling, and then subjecting the balls so obtained, either whole or in fragments, to fusion in separate crucibles or receptacles.

78,807.—JOHN KERR and DAYTON C. KERR, Ames, Iowa, assignors to themselves and S. H. MILLER, same place.—*Slide Snap for Harness.*—June 9, 1868.—To adapt the harness for horses of different sizes, an adjustable slide snap hook is applied to the saddle pad, to regulate the distance between the saddle and thills.

Claim.—The adjustable snap hook D, in combination with the metal plate A and socket B, all constructed and arranged substantially as herein described for being attached to the pad of the saddle of a harness, as set forth.

78,808.—WALTER KING, Richmond, Mo.—*Horse-Power.*—June 9, 1868; antedated May 27, 1868.—When the machine is to be used as a locomotive horse-power, the housing and its attachments only are brought into requisition; the peripheries of the driving wheels are drawn over the ground and their effective rotation is insured by the projections on their peripheries. This locomotive horse-power may be readily adapted for use in connection with stationary machinery.

Claim.—1. A locomotive horse-power A C D, in combination with a stationary machine B B^1 B^2, substantially in the manner shown and described.

2. The housing A, when combined with the driving shafts C D^1 and the wheels C^1 C^2, substantially as shown and described.

3. The wheels C^1 C^2, the bosses c^1, and spring clutches c^2, when constructed and arranged as described and set forth.

4. The pole E, when formed of two pieces e e^1, and applied to the housing A, so as to form a one-horse or a two-horse machine, as described and shown.

78,809.—J. J. MCLANE, Sagetown, Ill.—*Churn.*—June 9, 1868.—The temperature of the cream may be regulated by water in the chambered bottom of the churn. The agitating arms may be set at any desired angles with each other, and so held by clamping their thimbles or collars tightly together upon the common axis.

Claim.—The arrangement of the box A, with the metal bottom B C, two cross-shafts D D, having movable arms H H, and adjustable by the journals *j* and bearings *h*, the several parts being constructed and operating substantially as specified.

78,810.—ABRAHAM S. MILLER, Bluffton, Ind.—*Machine for Scutching Flax.*—June 9, 1868; antedated June 5, 1868.—Four obtuse-angled knives are attached to revolving arms on a shaft driven by belt and pulley. The broken flax is fed upon a knife secured to an upright which vibrates at its base upon journals to accommodate itself to large or small quantities, the upright being governed and held in place by a bow spring.

Claim.—The knives O, upright C E, base D, and spring bar F, all combined, constructed, and arranged as and for the purpose herein set forth.

78,811.—ABRAHAM S. MILLER, Bluffton, Ind.—*Machine for Breaking Flax.*—June 9, 1868; antedated June 5, 1868.—A pitman and accessory devices are attached to an ordinary hand break, so that the latter may be driven by horse or steam power.

Claim.—The guide H, in combination with the break I, constructed and arranged as and for the purpose set forth.

78,812.—SAMUEL MILLS, Clinton, Ill.—*Churn.*—June 9, 1868.—The box is set in a pail or vessel containing the cream, and a reciprocating motion given to the dasher, by the action of which the cream is drawn in, forced through the perforations in the dasher and side of the box, and thus converted into butter.

Claim.—1. The box A B, constructed as described, and used while partially submerged in the cream, in combination with the wire gauze or perforated plate C.

2. The dasher *b c*, provided with flaps *e e*, in combination with the box A B, substantially as and for the purpose set forth.

78,813.—FREEMAN MOORE, Carrollton, assignor to himself and J. H. TRESSEL, Carroll County, Ohio.—*Bee Hive.*—June 9, 1868.

Claim.—1. The movable bottom board D, provided with a slide *r*, in combination with the wedges *t*, or their equivalent, when constructed and arranged substantially as and for the purpose specified.

2. The slotted honey board I, in combination with perforated pasteboard and fancy honey receptacles K, when constructed and used substantially as and for the purpose herein set forth.

3. The cover R, when provided with a queen cage *i* S, and slide *p*, substantially as and for the purpose specified.

4. Suspending the movable frames *f* and the dividers *&* by means of metallic hooks thereon, and the horizontal wire rods and braces *g*, as and for the purpose herein set forth.

5. The air chambers *m*, and the double ventilators *o* and *n*, in combination with the slides *u*, when arranged and used as and for the purpose herein set forth.

6. The comb guides H, when constructed and used in the manner and for the purpose set forth.

7. The dividers &, when constructed and used in manner and for the purpose set forth.

8. The combination of the honey box N, as constructed, with the pasteboard separator, and arranged in the hive, as and for the purposes set forth.

78,814.—JOHN P. MOORE, Morning View, Ky.—*Grinding Mill.*—June 9, 1868.—The bed stone yields to any hard substance that may enter with the grain, and the parts are thus preserved from injury.

Claim.—Supporting the lower edge of the bed stone F by means of the screw rod H, nut H², and spring I, arranged as herein described, for the purpose of giving elasticity to the bed stone in its relation to the runner.

78,815.—HENRY MULLER, North Cambridge, Mass.—*Machine for Stuffing Leather.*—June 9, 1868.—The wheel is formed with a close circumference, a close skirting adjoining the circumference to prevent the escape of oil, and the sides of the wheel are formed with arms or spokes, so as to admit of the free circulation of air through the wheel.

Claim.—1. In the process of stuffing leather, the employment, subsequent to treating the leather with oil in a warm close drum or wheel, of a wheel or drum, so constructed so as to admit free acess of the air to the leather, substantially as and for the purpose described.

2. The wheel with the close circumference *a*, and skirting *b*, the door *c*, and cross-bars *d*, when made open at the heads or sides of the wheel or drum, as and for the purpose described.

78,816.—HARVEY D. PALMER, Leonidas, Mich., assignor to S. O. KAEMPFER, DAVID G. WILLIAMS, and WILLIAM C. WILSON, Elkhart, Ind.—*Horse Hay Fork.*—June 9, 1868; antedated June 4, 1868.—The prongs assume a vertical position by their own gravity, and in so doing close together and grasp the hay. The prongs are expanded by means of a rope connected thereto through the medium of links and rods.

Claim.—The movable head-piece F, to which the prongs D are pivoted, in combination with the standard A, link *c'*, and rods *d'*, and E, substantially as and for the purpose set forth.

78,817.—CHARLES PARHAM, Philadelphia, Pa.—*Sewing Machine.*—June 9, 1868.—The object is to apply to machines constructed upon the Howe principle the devices for carrying and guiding the shuttle patented by same party November 21, 1854.

Claim.—The combination with the bracket, of the carrier, driver bar, groove, and feed wheel, as described, for the purposes set forth.

78,818.—CHARLES PARHAM, Philadelphia, Pa.—*Sewing Machine.*—June 9, 1868.—The shuttle face plate or guide is so constructed that while it serves as a guide for the shuttle upon the open or face side, there may be imparted to it a reciprocating and intermittent motion parallel to the shuttle time of motion, the shuttle face plate not being permanently fixed to any part of the machine, but loosely fitted in the proper position for the effectual performance of its double duties.

Claim.—1. The combination of the shuttle carrier T, the guide V, the cam slotted down, hanging arm S', directly attached to the carrier and the crank M, the whole constructed and arranged substantially as described.

2. A shuttle driver or carrier S having a downwardly hanging arm S', in combination with a guide V and groove W, constructed and arranged substantially as described.

3. A reciprocating shuttle face plate having feed teeth on its upper edge, substantially as described.

4. A reciprocating shuttle face plate, having feed teeth on its upper edge, in combination with movable stripper plate O, substantially as described.

5. A reciprocating shuttle face plate having feed teeth on its upper edge, in combination with a movable stripper plate O, and needle shield E, substantially as described.

6. The combination of a reciprocating shuttle face plate, having feed teeth on its upper edge, a movable stripper O, and a reciprocating cam or wedge on the upper surface of the shuttle carrier or driver, for the purpose of operating the feed stripper, substantially as described.

78,819.—DANIEL E. PARIS, Troy, N. Y., assignor to BURDETT, PARIS & CO., same place.—*Hot Water Tank on Cooking Stove.*—June 9, 1868.—The several features of this invention may be understood if considered in connection with patents heretofore granted same party, said patents covering the inventions which the present improvements are intended to simplify.

Claim.—1. For the purpose of heating the reservoir only, a double flue between the oven and the reservoir, so arranged as to conduct the products of combustion downward in front of the back plate of a cooking stove, and upward in the rear of it, substantially as here shown and described.

2. A double-acting damper, situated below or underneath the pipe collar of a cooking stove, having its base at or near the back plate of the stove, while its top part shall move from side to side of said pipe collar, in combination with the reservoir in rear of, and the double flue below, said damper, substantially as herein shown and described.

3. The back of a cooking stove as a division plate for an upward and downward flue, or a double flue at the rear end of the same, in combination with a water reservoir, when situated substantially as herein shown and described.

4. A pipe collar to a cooking stove, situated at one side or end of the stove, and over or nearly over a double smoke flue, and so placed that it shall receive the currents from either flue, as the damper below is shifted from side to side of said pipe collar, substantially as herein shown and described.

5. In combination with a water reservoir, two flue dampers, both situated at one side or end of a cooking stove or range, and arranged or capable of producing the results substantially as herein shown and specified.

6. The upright flue R, situated in rear of the back plate of a cooking stove, connected and in combination with the flue chamber K and the pipe collar G, three sides of which flue are formed by the concave shape of the reservoir, substantially as here shown and described.

7. The rearwardly and upwardly projecting flue seat K, or its equivalent, when used to conduct the smoke or products of combustion from the rear flue or flues of the stove into the flue R, or into a similar flue formed in or near the center of the reservoir, substantially as herein shown and described.

78,820.—Edward M. Parker, Zion, Md.—*Horse Hay Fork.*—June 9, 1868.—The fork being thrust into the hay the curved tine is revolved by the crank arm, to gather and compress the hay within the fork, which is thus made to take up a large quantity at each operation.

Claim.—A hay fork or elevator, when the same is provided with two straight tines, in combination with a center tine, of curved formation, the latter being controlled by a crank lever with a suitable bearing pin.

78,821.—Rufus H. Peabody, Chelsea, Mass.—*Button-Hole Stitching Machine.*—June 9, 1868.—Designed as an improvement upon the clamp used for holding, spreading, moving, and guiding the button hole under the needle in the process of stitching, and consists in a new mode of spreading the jaws of said clamp.

Claim.—1. The combination, with a clamp substantially as described, of a spreader lever projecting backward from the hub *d*, and constructed and operating as and for the purposes described.

2. In combination with clamp and lever *g*, the device for securing said lever in any desired position within the range of its movement, for the purposes described, consisting of the teeth *n* and stationary pawl *m*, or their equivalent.

78,822.—Henry Pease, Brockport, N. Y.—*Coal Cook Stove.*—June 9, 1868.—The object is to economize and preserve uniformity of heat.

Claim.—The combination and arrangement, with the oven B and central fire pot E, of the hot-air flue *e*, surrounding the oven, and the cold-air flue *i*, surrounding the fire pot, the effect being to equalize the temperature of the oven by shielding from over heat and cold, as herein set forth.

78,823.—H. H. Pember, New York, N. Y.—*Boiling Kettle.*—June 9, 1868.—This device prevents the water which boils over from falling on the stove.

Claim.—A vessel, provided with a channel, B, around its upper edge, which communicates with the interior of the vessel by means of apertures E, as described, and for the purpose specified.

78,824.—Lorenzo D. Pennington and John G. Woodfill, Vernon, Ind.—*Horse Rake.*—June 9, 1868.—The depression of the right handle of the rake allows the rake head to revolve, while the reverse operation stops it at the desired moment.

Claim.—1. The bail C, rod *g*, and bolts K and *m*, with the slot *c*, in the continuation of the band *n*, or their equivalents, when arranged to operate substantially as and for the purposes specified.

2. In combination with the bail C, rod *g*, bolts K and *m*, and slot *c*, the spring D and studs *a a*, all arranged to operate in the manner and for the purposes as set forth.

78,825.—Nelson Peterson and George W. Jones, Antioch, Cal.—*Forging Apparatus.*—June 9, 1868.—Devices are provided for increasing or diminishing the tension of the spring by which the hammer is raised, the hammer being depressed with the requisite force by means of a treadle.

Claim.—1. The bar H, with its slotted lever N, screw P, and spring I, in combination with the link J and handle B, substantially as described.

2. The bearings E, having the recesses *a a a* for supporting the axle D, so as to allow the hammer to be used on any part of the anvil, substantially as described.

78,826.—George T. Pillings, Leicester, England, assignor to himself and John W. Massey.—*Shade Fixture.*—June 9, 1868.—A circular rack, pivoted to the frame, has attached to its arm a pin on which a loose pulley for the curtain cord works. By turning the worm the arm is thrown around until the proper tension of the cord is attained.

Claim—The combination and arrangement of the frame B, provided with eyes *e* and *e′*, worm W, circular rack R, and pulley L, so as to operate substantially in the manner and for the purpose specified.

78,827.—T. W. Porter, Boston, Mass.—*Shaft Coupling.*—June 9, 1868.—The torsion and end thrust are received by the key and knobs, while the bolts and plane bearings are especially concerned in keeping the shaft in line.

Claim.—1. A shafting coupling, divided longitudinally in halves, as shown at A and A, and secured together by bolts passing outside the shaft, as shown at *i i′*, and with the spline or key *a*, or its equivalent, formed upon or inserted in the coupling, substantially as described and shown.

2. The plane bearings *h*, formed in a longitudinally-divided coupling, substantially as and for the purposes specified.

78,828.—D. Webster Ranke, Limestoneville, Pa.—*Gas Generator.*—June 9, 1868; antedated June 4, 1868.—The gas tube is protected from the heat of the flames. The retort has heat radiated upon it from a covering plate or "deflector." The apparatus is for generating gas from spirits or hydrocarbon oils.

Claim.—The gas generator, constructed as described, consisting of the annular reservoir A, in the inner side of which the curved pipe *c* is secured, its base extending within the reservoir, above the level of the oil, and the burner upon its end extending to the central opening in the reservoir A, and provided with the protector E, the perforated deflector B, above the reservoir, and the supply pipe D, all arranged as described for the purpose specified.

78,829.—Henry J. Reedy, Cincinnati, Ohio.—*Hoisting Machine.*—June 9, 1868.—The platform is supported on the mid-length of a single rope, whose ends, after passing upward and over two sheaves, are attached to weights, which not only counterbalance the platform but cause the rope to hug the sheaves.

Claim.—1. The combination, substantially as described, with a hoisting platform, of the suspending rope E, weights H H′, rollers *d*, sheaves F F′, and shaft G, or their mechanical equivalents, by which the platform is both balanced and enabled to be elevated and depressed in the manner explained.

2. The arrangement, substantially as described, of the shaft P, ratchet wheel R, rubber S, lever T, and pawl U V, or their mechanical equivalents, for the purpose set forth.

78,830. — Nathan Richardson, Gloucester, Mass., assignor to "The Richardson Mill Com-

PANY," same place.—*Ice Crusher.*—June 9, 1868.—The spikes split the larger pieces of ice, so that the teeth of the crusher may grapple them, said crusher being of the kind described in Patent No. 35,472, granted to same party, June 3, 1862.

Claim.—In an ice-crushing mill, the vibrating teeth or spikes M M M, &c., operated by the cams D D', or their mechanical equivalents, in combination with the toothed crushing wheels, substantially as described and for the purpose set forth.

78,831.—Louis Edward Rivot, Paris, France, assignor to Jacques Gaillardson, San Francisco, Cal.—*Process of Treating Gold and Silver Ores.*—June 9, 1868.—This invention relates to the process of treating ores for which a patent was granted to same party May 31, 1864, and January 28, 1868, and consists in mixing gold and silver ores, before being submitted to the action of superheated steam, with oxide of iron, in lieu of pyrites.

Claim.—1. The roasting, by means of superheated steam, of auriferous and argentiferous ores, when previously combined or mixed with oxide of iron, substantially as set forth.

2. The roasting of auriferous and argentiferous ores by mixing therewith oxide of iron, combined with iron or roasted pyrites, and then submitting the whole to the action of superheated steam, substantially as set forth.

78,832.—James T. Robinett, Petersburg, Va., assignor to himself and G. W. Goodwyn, same place.—*Journal Box.*—June 9, 1868.—The tubes lead from the lubricant reservoir to the face of the journal. When the parts are put together the tubes are cylindric, but their outer ends are afterward upset or turned outward against the walls of the expanded outer ends of the socket, thereby firmly securing the two plates together.

Claim.—The method of attaching the brass plate C to the iron piece A, as herein set forth.

78,833.—J. S. Rowell and Ira Rowell, Beaver Dam, Wis.—*Seeder and Cultivator.*—June 9, 1868.—The hollow axle of each ground wheel is combined with the casting which unites the ends of the frame pieces, so as to finish off the end of the frame, and afford a bearing for the ground wheel, as well as for the spindle of the gear, which drives the seeding wheels, and receives the linchpin.

Claim.—1. The combination of the hollow axle and end-piece of frame, arranged as set forth, to form a bearing and end-piece.

2. The spindle D, secured firmly in the hub of the driving wheel, to form a double bearing for same.

78,834.—William Sanderson, New York, N. Y.—*Construction of Handles of Table Cutlery.*—June 9, 1868.—It is proposed to employ any composition that may be compressed while in a soft state, and which will securely embrace the metallic tang, and afterward become hard and inflexible.

Claim.—Forming the handles by molding a suitable composition, under pressure, around the tang or metallic portion of the instrument, substantially as hereinbefore set forth.

78,835.—Joseph W. Schayer, Boston, Mass.—*Machine for Stuffing Leather.*—June 9, 1868.—An auxiliary chamber outside the stuffing wheel supplies heated air to the stuffing chamber, so as to prevent the contact of the leather with heated surfaces.

Claim.—1. In combination with a stuffing wheel, a heating apparatus placed in a chamber, *h*, auxiliary to and opening into the stuffing wheel, but separated therefrom by an open work or perforated partition, *m*, substantially as described.

2. Combining with a rotary stuffing wheel an axial pipe, through which oil may be thrown into the stuffing chamber while the wheel is in rotation, substantially as described.

78,836.—Eliphalet S. Scripture, Brooklyn, N. Y.—*Carriage Top.*—June 9, 1868.—The joints of the bow braces, as well as those which join the main bow to the seat, comprise opposing counterpart surfaces, which being held together with great force, by means of thumb screws or screw nuts, are made incapable of rotation, and the bows or the whole top are consequently retained in the desired position.

Claim.—What I claim as new, and desire to secure by letters patent, is not the circular corrugated wedge friction surfaces as when made by themselves, as the same has been made by me, and described in my patent, dated January 7, 1868, for compasses, calipers, &c., but I wish to claim their application, as described, when combined with a carriage seat and top, substantially in the manner and for the purposes set forth.

78,837.—Georg Sebold, Durlach, Germany, assignor to John F. Zisemann and Heinorr Raschol, St. Louis, Mo.—*Machine for Placing Friction Matches in Frames for Dipping.*—June 9, 1868.—This machine receives the splints in large quantities, sets them properly in frames, where they are secured for simultaneous dipping.

Claim.—1. The receiving or feed box I, arranged with longitudinal plate ridges i^1, having transverse projecting slats i^2, substantially as set forth.

2. The pressure slide K, actuated by ropes and weights, in combination with the feed box I, substantially as and for the purpose set forth.

3. The guide tube box F, and its tubes f^2, the sieve G, and check sieve H, substantially as and for the purposes set forth.

4. The boxes I and F, in combination with the axle f^1, the shaking lever N, and pivot n^2, substantially as set forth.

5. The guide slat frame E, having longitudinal slats e', in combination with the splint frame D, having transverse slats d^1, and the channel plate B, substantially as and for the purposes set forth.

6. The splint frame D, arranged with slats d^1, chamfered at ends, substantially as set forth.

7. The spaces *c*, in combination with the slats d^1, of the frame D, constructed and operating substantially as set forth.

8. The compresser device Q, acting upon the slats of the frame D, substantially as and for the purpose set forth.

9. The supporting bar L, in combination with the shaking lever M and shaking wheel m^1, acting substantially as set forth.

78,838.—I. Shellabarger, Decatur, Ill.—*Apparatus for Dampening Grain.*—June 9, 1868.—Water is introduced into an inclined grain chute to moisten the grain just as it enters the rotating cylinder.

Claim.—The combination and arrangement of the cylinder A, grain chute B, and water pipe c', when the whole is constructed so as to operate substantially as described.

78,839.—John Anderson Simpson, Liverpool, England.—*Umbrella and Parasol.*—June 9, 1868.

Claim.—As a new article of manufacture, an umbrella, constructed as herein described, the joints or junction of the ribs and stretchers being covered, and protected from injuring the covering by rubber shields, as and for the purposes herein set forth.

78,840.—G. W. Slagle, J. L. Miller, and H. C. Hoy, Washington, D. C.—*Soap.*—June 9, 1868.—Composed of resin soap, alcohol, borax, dissolved in solution of ammonia, aqua-ammonia, beef gall, and pumice stone.

Claim.—The mode of manufacturing soap from the ingredients, and substantially in the manner set forth.

78,841.—James Harvey Smiley, Caroline, N. Y.—*Wagon Brake.*—June 9, 1868.

Claim.—The combination and arrangement, consisting of the slide C, the cord or cords F, levers G and H, and springs P, and pulleys, and rollers, and plates, as described, making a brake sliding out and against the wheels, and retracting out of sight, substantially as set forth.

78,842.—Alfred Starr and William M. Welling, New York, N. Y., assignors to William M. Welling.—*Artificial Ivory.*—June 9, 1868; antedated June 2, 1868.—Composed of shellac, gum copal, gum camphor, and talc.

Claim.—The compound herein specified, prepared as set forth.

78,843.—Lorenzo P. Teed, Lewisburg, Pa.—*Combined Threshing Machine and Grain Separator.*—June 9, 1868.—The threshed material passes between the apron, whose strips prevent the return of loose pieces of straw without interfering with the free passage of the straw rearward, said strips adapting themselves to the quantity of material passing beneath them. The slats of the upper sieve of the shoe may be adjusted so as to vary the width of the spaces between them, in order to suit the size of the grain that is to pass through the same.

Claim.—1. The apron F, consisting of a number of sheet metal strips, suspended above the shaker frame D, substantially in the manner and for the purpose herein set forth.

2. The slats y, having wires y^1 at their edges and adjustable upon a frame, substantially as and for the purpose described.

3. A plate or plates, k^1, so hung, adjacent to an opening in the case of a fan, G', that the passage of air into the said case will cause the plate to be adjusted, substantially as and for the purpose described.

4. The arrangement of the shaker frame D, platforms H and K, bands g and w^1, with their bars or scrapers, and the sieves t t^1, all substantially as and for the purpose specified.

78,844.—Elisha H. Toby, Bridgeport, Conn., assignor to himself and A. R. Hale, same place.—*Device for Raising and Lowering Windows.*—June 9, 1868.—A metal socket, provided with an inwardly projecting flange, is inserted in the upper sash, so that the latter can be lowered and raised by a hooked rod.

Claim.—As an article of manufacture, the socket A, constructed with the internal flanges or rim a, and with or without the flush plate B, and so as to be applied to the sash, substantially as set forth.

78,845.—Cromwell Fleetwood Varley, London, England.—*Electro-Pneumatic Apparatus for Transmitting Dispatches.*—June 9, 1868.—A mechanism is employed for introducing into the message pipe the compressed air, by which the message carriers or pistons are transmitted in one direction; another mechanism for opening communication between the said pipe and the air exhaust, by means of which the carriers are drawn in the opposite direction; and another for cutting off communication at any moment with both the compressed air and the exhaust chambers of the apparatus.

Claim.—1. Operating the pistons and valves of the main compressed air and exhaust pipes o and n, by means of a series of auxiliary valves and pistons, and pipes connecting the exhaust and compressed air chambers with the cylinder, and arranged to be operated by the keys or buttons, substantially in the manner and for the purposes herein set forth.

2. The combination, with the valve rods M and l, and their detents, of the sliding rod 4, arm 3, and piston rod of the cut-off cylinder V, substantially as herein shown and described.

3. The combination, with the cylinder V and its piston, of the cut-off mechanism herein described, arranged in such manner that either the depression of the stop or key a', or the arrival of the carrier at the distant end of the message pipe, shall connect the said cylinder with the exhaust, substantially as and for the purposes herein shown and set forth.

4. The use of the valves x y, arranged in chest N, so as to be operated by the movement of the arm 3, for the purpose of destroying the vacuum in the chest and message tube, as set forth.

5. The combination, with the message tube, and mechanism for connecting the same with the air-compressing apparatus of the cylinder F, and piston and slide valve arranged to cut off communication between the message tube and receiving chamber, substantially as herein shown and set forth.

6. Connecting the slide valve, cylinder F, with both the compressed air and the cut-off mechanism, substantially in the manner and for the purposes specified.

7. The combination, with the message tube, of the herein-described mechanism for connecting the same with either the compressed air or exhaust apparatus, and for cutting off the said connections, under the arrangement described, so that all the operative parts of such mechanisms shall be actuated by means of the button A, a, and a', in the manner and for the purposes set forth.

78,846.—Luther R. Wallace, Adrian, Mich., assignor to himself, Richard B. Robbins, and Nelson B. Fassett, same place.—*Seeder, Drill and Roller.*—June 9, 1868.—As the cylinder revolves the seed is discharged into either the drill tubes or the broadcast sowing tubes by means of a shifting handle.

Claim.—1. The employment of one hopper and one cylinder, or their equivalent, to supply both drill and broadcast sower with the seed to be sown, the whole arranged in front of the rollers B B, substantially as set forth and described.

2. The hollow adjustable seed cylinder E, in combination with the concave W, broadcast tubes L, and drill tubes N, substantially as set forth and described.

78,847.—D. B. Wesson, Springfield, Mass., assignor to Mason Fire Arms Company, same place.—*Breech-loading Fire-arm.*—June 9, 1868.—The devices which lock and unlock the breech are made to resist and prevent any forward movement of the breech, relative to the frame or stock, as well as any upward movement of the same. The tumblers and movable block co-operate to raise the hammers to the half cock at the same time that the end of the barrel is disengaged from the movable block. The usual trigger spring is dispensed with.

Claim.—1. The metallic block b, and the recessed projection E, upon the breech or loading end of the barrel or barrels, when constructed, arranged, and operating substantially as and for the purposes set forth.

2. The described construction and arrangement, in reference to each other, of the block b and tumbler f, whereby the hammers shall be raised to the half cock in the operation of releasing the breech from the frame, substantially as described.

3. The projection i, upon the sear h, in combination with the opening i', in the plate j' of the trigger j, substantially as and for the purpose specified.

78,848.—John Whitlock, Birmingham, Conn.—*Shackle Jack.*—June 9, 1868.—Facilitates the insertion of the bolt which couples the thills and shackles by forcing backward the shackle eye and compressing the rubber packing sufficiently to bring in line the bolt holes of the two parts of the shackle.

Claim.—The combination of the hook frame H H' with the slide F' and the screw G, or their equivalents, for the purposes above described.

78,849.—John Wiard, New Britain, Conn.—*Cattle Tie.*—June 9, 1868.—The tie is placed around the animal's neck or horns, the socket properly adjusted and clamped to the rope, and the hook passed into the hole in the adjacent end of the thumb screw.

Claim.—1. The socket B, combined with the thumb screw C, when the said thumb screw is provided with a head, having a perforation at one or both ends, so far to one side from the center or axis of the screw as that, when the tie is secured, the screw will be prevented from turning, substantially as herein set forth.

2. The hook G, formed upon the base, F, constructed with the lug I and the seat L, and provided with an eye, E, or its equivalent, and combined with the snap P, when the said snap is attached to its seat L, and supported by the lug I, substantially as herein set forth.

78,850.—Lewis Wilkinson, Boston, Mass.—*Ball Caster.*—June 9, 1868.—Extensions retain the ball in the socket so that it cannot drop out by gravity when the caster is raised, while by slight strain or pressure the ball may be readily drawn from or pressed into the socket.

Claim.—1. A furniture caster, having a ball, f, secured in a cup or socket, a, by extensions, g, substantially as shown and described.

2. In combination with socket a and extensions g, the pins or projections e, against which the surface

of the ball bears and rotates, substantially as shown and described.

3. In combination with the ball-containing cup or socket, the flanged plate or disk *c*, and screw spindle *d*, cast integral with the socket piece, substantially as described.

78,851.—Francis H. Williams, Syracuse, N. Y.—*Construction of Safes.*—June 9, 1868.—The door must be moved outward and at right angles to the adjoining wall of the safe before it can be swung open upon its hinges. By withdrawing the hinge pintle, the leaves of the hinge may be made to lie closely against the safe.

Claim.—1. So constructing and hinging the safe door A, and fitting it into the frame D, that this door shall be allowed to move bodily and squarely up to and from its seat without being rotated within the door casing, substantially as described.

2. Fitting the door A to its frame D, by means of acute-angular stepped faces *h h' i i'*, substantially as described.

3. Providing the double-leafed hinges *b b* with a removable pintle, *c*, when such hinges are applied upon the door of a safe or vault, substantially as and for the purposes described.

78,852.—Frederick Wittram, San Francisco, Cal.—*Anchor.*—June 9, 1868.—This construction is designed to insure the catching or imbedding of one or both of the arms or flukes, whatever may be the position of the anchor in falling to the bottom.

Claim.—An anchor, having the shank A, with the opening B and C, and the two arms or flukes D and E, moving freely, through the shank, to either side, the whole constructed and operating substantially as and for the uses and purposes herein specified.

78,853.—Devolson Wood and Stillman W. Robinson, Ann Arbor, Mich.—*Steam-Engine.*—June 9, 1868; antedated March 31, 1868.—A single piece constitutes the piston, piston rod, and tool-holder; a two-part cylindrical annulus is fitted to the cylinder and rod so as to serve as a head. The follower may be in two parts like a coupling nut, and the piston packed in the usual way.

Claim.—The segmental pieces A A, to serve as a cylinder head, substantially as described.

78,854.—William Adair, Liverpool, England.—*Pump.*—June 16, 1868. Patented in England April 5, 1867.—A closed cylinder containing a plunger, together with an open cylinder and a feed pipe inserted at the bottom of the cylinders and carried up either between them or outside, and having communication with the open cylinder at the bottom and with the closed one near its top.

Claim.—The combination of the open and closed cylinders, the later provided with a valve cover and plunger, the two operating by means of valves, and a feed pipe, and a branch thereof, substantially as described.

78,855.—Edward L. Balch, Boston, Mass.—*Music Type.*—June 16, 1868; antedated June 4, 1868.—Relates to printing music charts with ligneous type for use in schools, &c., the object being to provide thick and heavy lines for the musical staff and stems of the notes to enable them to be read at a distance.

Claim.—The wooden type for printing musical charts, provided with right-angular shoulders B, overlapping each other, whereby continuous and unbroken lines for the musical staff and notes are formed, as herein shown and described.

78,856.—Leonard W. Beal, Dixon, Ill., assignor to himself and A. D. Drew, same place.—*Plow.*—June 16, 1868.—The plow is formed of a single plate with rounded points so as to be reversible, and is secured to a standard attached to a frame so as to be adjusted to different heights.

Claim.—1. A plow plate A, constructed substantially as described, so as to dispense with a land-side and separate point, and operating as specified and described.

2. The plow plate A, when constructed in the curved form, symmetrically before and behind its point of attachment to its standard, so as to operate and be reversible, substantially as described and shown.

3. The combination of one or more plows, A, constructed substantially as described, with a frame, C, and wheels W, substantially as set forth.

4. Securing the axle E to the frame C in such a manner as to be adjusted at pleasure, to vary its direction across the frame, substantially as herein set forth and described.

78,857.—Samuel S. Bent, Port Chester, N.Y.—*Hens' Nest.*—June 16, 1868.—A shelf is provided for the hen to light upon, and a rib to serve as a foothold in stepping into the nest. Object of the invention is to avoid vermin, and enable the nest to be inspected and the eggs readily removed.

Claim.—1. A metallic hens' nest, formed with rounded corners, and with the rib *g* at the front end. as and for the purposes specified.

2. The lighting shelf *p*, in combination with the metallic hens' nest, formed as aforesaid.

3. The side partitions *h*, combined with the metallic hens' nest, to separate one nest from another, as and for the purposes set forth.

4. A movable door or window, *k*, in combination with the frame and hens' nest, to give access to the same from outside the coop, substantially as set forth.

78,858.—James Bounds, Bridgeport, Conn.—*Pepper Box Top Fastener.*—June 16, 1868.

Claim.—Forming a single piece of spring wire, U-shape, and securing one end of it to the under side center of a box or bottle top so arranged that said lid will rest upon the top of the bottle, as and for the purpose set forth.

78,859.—Thomas Boyd, Allegheny City, Pa.—*Heating Buildings.*—June 16, 1868.—An ordinary fire chamber and its smoke flue are surrounded with an air chamber which terminates in the fireplace of an upper room, the smoke pipe passing up into and out of the fireplace of said upper chamber into a side flue.

Claim.—The arrangement of the flues 1, 2, 2', and 4, fireplaces *m* and *n*, air chamber 3, and valve *o*. the whole being constructed, arranged, and operating as herein described, and for the purpose set forth.

78,860.—George R. Bramhall, Chicago, Ill.—*Method of Lowering Cylinders.*—June 16, 1868.—For sinking sections of a tube beneath water where said sections are to be secured and bolted together and gradually lowered; when the lowering is completed the inclined ways are separated from the platform, and the cylinder or tube brought to a vertical position.

Claim.—1. The combination and arrangement of the inclined way D, hinged at the bottom, as shown, and the hinged adjustable platform D', with its means of elevation and depression, substantially in the manner and for the purposes specified.

2. In combination with the above, the clamps F *f*, operating in the manner and for the purposes set forth.

3. In combination with the hinged platform D' and ways D, the linked rods *h*, arranged to operate as and for the purposes described.

4. The frame L, with its movable bars M N, in combination with the ways D and frame I, arranged in the manner and for the purposes described.

78,861.—Daniel W. Colburn, Loami, Ill.—*Wrench.*—June 16, 1868.—One jaw is made longer than the other and has a slightly concave surface so as to obviate the necessity of removing the wrench to get a fresh grasp.

Claim.—This improved construction of the jaws A and B, in the manner herein specified, and for the purposes set forth.

78,862.—Josiah Copley, Jr., Allegheny City, Pa.—*Forging Machine.*—June 16, 1868; antedated June 4, 1868.—The forging and welding dies, while in action, may be opened and closed to any desired degree, and their force gradually increased or diminished and adjusted to the work required of them.

Claim.—1. Operating the dies J and K by means of the slotted lever C, arm D, and cam P, constructed and arranged substantially as herein described, and for the purpose set forth.

2. The combination of the treadle *l*, connecting rod *n*, and shifting guides *m*, when used in connection with the cam P, arm D, and lever C, as herein described, and for the purpose set forth.

3. The guides *i*, when used in combination with the dies J and K, as herein described and set forth.

78,863.—M. C. Cronk, Auburn, N. Y., assignor to himself and W. Boynton, same place.—*Machine for Grinding Knives of Mowing Machine.*—June 16, 1868.—A series of devices for holding and adjusting the cutters in proper position in relation to the grindstone.

Claim.—1. The combination of the plates D and E, arranged to operate as and for the purpose specified.

2. Lever G, rod *k*, and spring *l*, all combined and operating substantially in the manner and for the purposes set forth.

3. The combination of lever G, screw *m*, and spring *h*, arranged and operated substantially as and for the purpose specified.

4. The combination of lever G, bolt P, bars L and M, arranged and operating substantially for the purpose set forth.

78,864.—David Cumming, Jr., New York, N. Y.—*Method of Locking Nuts.*—June 16, 1868.—When the nut is screwed up to its place the portion of the soft metal key outside of the nut is to be riveted up against the nut, destroying the thread on that portion, and preventing the nut from coming off.

Claim.—The key, of lead or other similar soft metal, when constructed and applied substantially as herein described and for the purpose set forth.

78,865.—José F. De Navarro, New York, N. Y., assignor to Emery Rotary Machine Company.—*Device for Attaching Pumps to Barrels.*—June 16, 1868.—Designed to obviate the necessity of adjusting a separate clamping screw, the device being made to automatically accommodate itself to different sizes of pipe and diameters of bung hole.

Claim.—The clamping sleeve A, of two or more parts, doweled together, and of conical exterior, with internal griping ribs, or projections, for clamping the suction pipe of the pump, substantially as shown and described, for the purpose set forth.

78,866.—James Dodd, Providence, R. I., assignor to himself and George Brown, same place.—*Composition for Preparing Sizing.*—June 16, 1868.—For six hundred pounds of starch or sizing are used one ounce of carbonate of soda, sixteen ounces of common hard soap, and two ounces of borax.

Claim.—The above-described composition, as well as its combination with starch or sizing, for warps.

78,867.—James Duff, Peoria, Ill.—*Drop Press.*—June 16, 1868.—The drop press is provided with a secondary or following hammer, and a cushion between the two hammers so arranged as to prevent the rebound.

Claim.—The following hammer B, air chamber *b*, air passage and stop cock *d*, and plunger *a*, in combination with the hammer A, when arranged in the manner and operating as and for the purpose herein described.

78,868.—Charles R. Elmer, Bridgeton, N. J.—*Single-Tree Brace.*—June 16, 1868.—The single-tree is hooked to the chain at a point equal in distance from the clevis to the width of the furrow, so as to enable the horse to walk in the furrow instead of on the landside.

Claim.—The combination and arrangement of the chain C and brace E with the beam A and single-tree F, substantially upon the principle above described, and for the purpose set forth.

78,869.—Charles M. French, Rochester, Pa.—*Plow.*—June 16, 1868.

Claim.—So constructing a plow, as that the joint between the share and mold-board shall be about on a line at right angles to the plane of the share bar or landside of the plow, said joint being so arranged, with relation to the share and mold-board, as to give depth and strength to the forward part of the share bar, and also, so that the several parts may be duplicated, the whole being constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

78,870.—George P. Ganster, New York, N. Y.—*Manufacture of Illuminating Gas.*—June 16, 1868.—Air is forced into one end of the outer drum through any suitable porous capillary material saturated with carbon and placed in the space between the drums, and thence through the other end of the inner drum out into the gas holder. The capillary material is kept wet by the revolution of the drums.

Claim.—1. In an apparatus for carburetting air, the arrangement of the inner and outer drums D and F, through which the air passes from the pump A.

2. The combination and arrangement of the carburetting apparatus shown and described, with the air-forcing apparatus in the same case or cylinder, substantially in the manner set forth.

78,871.—Samuel Gardiner, Jr., New York, N. Y.—*Gas Burner.*—June 16, 1868.—A coil of platinum wire is arranged in the upper end of a hood placed over the burner, which retains sufficient heat to reignite the gas after it has been extinguished. A sufficient quantity of gas passes through a very small groove made in the key, when the main supply is shut off, to keep the platinum hot enough to again light the gas.

Claim.—1. The combination of the coil C with a key, D, formed with one or more notches, apertures, or grooves, as at *d*, so as to permit a slight leakage of gas when the main supply is turned off, as shown and described.

2. The combination of the coil *c*, or its equivalent, with the hood or cap B, substantially as and for the purposes specified.

78,872.—Alexander Wimbish Harris, New York, N. Y.—*Suspender.*—June 16, 1868.

Claim.—1. A suspender or brace, substantially such as described, consisting of a single piece of webbing, leather, cloth, or other equivalent material, passed through and sliding freely in two button strap loops, and the two ends connected by a buckle or equivalent means, by which the length can be adjusted at pleasure, as and for the purpose described.

2. As a new article of manufacture, a suspender or brace consisting of a single piece of webbing or other equivalent material, constructed substantially as described, in combination with a slide to secure an adjustable crossing of the webbing or other material, substantially as described.

78,873.—J. H. G. Hawes, Newark, N. J.—*Combined Influx and Vent Valve.*—June 16, 1868.—The valves are separated and so arranged as to prevent collapse in boilers and also siphonic action through the supply pipes.

Claim.—The arrangement with the pipe A D of the two valves C E, separate and independent of each other, adapted to operate substantially as and for the purpose described.

78,874.—Thomas Hawks, Rochester, N. Y.—*Composition for the Manufacture of Beer, Ale, Porter, &c.*—June 16, 1868.—The object of the invention is to reduce by evaporation the infusion of malt and hops, commonly called wort, to a state in which the condensed product is of much less bulk than the original ingredients and is a portable and merchantable commodity.

Claim.—As a new product, the extract of malt and hops, or, as I term it, concentrated wort, prepared in suitable proportions for the manufacture of ale, beer, and other malt liquors or beverages, when condensed to a sirup or substance of thick consistency, substantially as herein described, either with or without the addition of gelatine, or with or without the addition of cane sugar, substantially in the manner and for the purpose herein set forth.

78,875.—Thomas Hawks, Rochester, N. Y.—*Concentrated Malt Extract.*—June 16, 1868.

Claim.—As a new product or composition of matter the extract of malt, or, as I term it, concentrated malt, when condensed to a sirup or substance of thick consistency, substantially as herein described, either with or without the addition of cane sugar, or with or without the addition of gelatine, substantially in the manner and for the purposes herein set forth.

78,876.—WINFORD R. S. HUNTER, Blackberry Station, Ill., assignor to himself and H. T. ROCKWELL.—*Bed Bottom.*—June 16, 1868.

Claim.—The combination of the cross sill A, springs *a a*, slats B, blocks D, slats C with the slots *c*, and elastic strap *b*, all arranged in the manner and for the purposes set forth and shown.

78,877.—F. A. JEWETT, Shrewsbury, Mass.—*Churn.*—June 16, 1868.—Stationary arms or floats are secured to a stationary shaft, and the cylinder rotates around the same, carrying the milk around upon the inner periphery until it comes in contact with the floats. A ventilating hole passes through one end of the stationary shaft and up through one of the stationary arms or floats, which is covered with a cap, to permit ingress and egress of air.

Claim.—1. The combination, with the cylinder I, of the stationary arms or floats N, substantially as and for the purposes set forth.

2. The combination of the stationary arms N with the stationary shaft K, substantially as and for the purposes set forth.

3. The combination, with the cylinder I, of the stationary shaft or spindle K, and stationary arms N, or their equivalents, substantially as and for the purposes set forth.

4. The combination, with the stationary shaft K and one of the arms N, of the air or vent hole *f*, substantially as and for the purposes set forth.

5. The combination of the cap *g* with the vent arm N, substantially as set forth.

6. The combination, with the cylinder I and spindle or shaft K, of the flanged or hub pieces *b c*, substantially as and for the purposes set forth.

7. The combination and arrangement, with the cylinder I, of the arms R R, spring bar P, screws *w w*, and cover O, substantially as and for the purposes set forth.

8. The combination, with the cylinder I, of the holding-screw pad 17, substantially as set forth.

9. The combination, with the front frame pieces A A and brace E, or its equivalent, of the swing table or shelf G, substantially as and for the purposes set forth.

78,878.—ARTHUR KIRK, Alleghany City, Pa.—*Distilling Petroleum.*—June 16, 1868; antedated February 10, 1868.—The different products of distillation are designed to be completely separated according to their gravity. A float attached to an index lever indicates the amount of residual oil remaining in the still during an exhaustive distillation of the oil.

Claim.—1. Effecting a continuous distillation of petroleum, or other distillable substances, by causing it or them to flow through a succession of stills, giving off in each still the more volatile ingredients, the stills being connected by trap pipes *x y z*, &c., so as to prevent the backward flow of the substance to be distilled, substantially as above set forth.

2. A nest or battery of stills, for purposes of distillation, two or more in number, connected together by pipes, each pipe leading from the upper part of one still to the lower part of another still, substantially in the manner and for the purposes above set forth.

3. In connection with a still, for distilling petroleum, and other distillable substances, the use of a float *s*, with suitable index lever *l*, arranged and operated substantially as and for the purposes hereinbefore set forth.

78,879.—THOMAS LEFFEL, Springfield, Ohio, assignor to himself and HENRY C. BARNETT, same place.—*Water Wheel.*—June 16, 1868.—The floats are formed with parabolic curves on their edges. Each has a central longitudinal ridge or fin fitting into a corresponding groove on the periphery of a supporting ring. The water is discharged both above and below the ring into the center of the wheel.

Claim.—1. A wheel, formed of a series of single floats, the faces of which are constructed in the form described, and which are centrally attached to a ring, K″, and arranged to receive and discharge the water, substantially in the manner set forth.

2. The combination of the floats L and ring K″, when respectively constructed and connected, substantially as set forth.

78,880.—JOHN LEMMAN, Cincinnati, Ohio, assignor to J. A. FAY & CO., same place.—*Guide for Band Saws.*—June 16, 1866.—A combination of antifriction rollers and fixed guides; the first to support the back of the saw, and to have a lateral adjustment. The fixed guides serve as a lateral support and are made to accommodate saws of different widths.

Claim.—The combination of the roller *b* with fixed lateral guides *c c c*, one or more, arranged and operating substantially in the manner and for the purposes specified.

78,881.—H. W. LIBBEY, M. D., Cleveland, Ohio.—*Nursing Bottle.*—June 16, 1868.—Two concave disks form a chamber for holding the lacteous fluid. The disks are secured together and provided with an elastic covering and with central and marginal openings to allow access to the chamber. The elastic covering is inflated by means of a tube surrounded by a shell or mouth piece.

Claim.—1. The disk A B, provided with central and marginal openings C D, for the purpose specified.

2. The elastic covering F, in combination with the disks A B, for the purpose set forth.

3. The tube H, shell G, valve *b′*, and elastic tube I, all constructed and arranged to operate in the manner and for the purpose substantially as set forth.

78,882.—HENRY MARTIN, Galveston, Ind.—*Machine for Cutting Staves.*—June 16, 1868.—Two knives or cutters are so arranged as to chamfer the ends of the staves simultaneously with the cutting of them from the block and make them all of equal length.

Claim.—The cutters E E, constructed as described, attached to the fingers C of the stave machine, extending above their upper ends, and having an inclination inward and obliquely over the top edge of the stave, thereby bevelling or chamfering its ends, as herein shown and described.

78,883.—JOHN S. MILLIKAN, Thorntown, Ind.—*Truck for Moving Houses.*—June 16, 1868.—The upper bolster moves on a pivot so as to give the desired change of the object to be hauled to any desired position.

Claim.—A truck for moving buildings, having transverse bars *c c*, bolts, *d d d d*, *f f*, and *g*, and bolsters *e e*, constructed, combined, and arranged substantially as herein specified.

78,884.—MORTIMER BIRDSILL MILLS, De Witt, Iowa.—*Sewing Horse.*—June 16, 1868.—The feeding slide is attached to the inside of the upper end of the stationary jaw, and is operated by a rod attached at its upper end to a crank, the lower end extending through the seat.

Claim.—1. The feeding slide, and the manner in which it is worked.

2. The mode and operation of punching the holes.

78,885.—WILLIAM MOORE, Kokomo, Ind.—*Water Indicator for Steam Generator.*—June 16, 1868.

Claim.—The arrangement of the hollow valve Y, with its side apertures S, the sleeve *o o*, connecting rod R, lever D, and the float and its rod B, all constructed, arranged, and operating substantially in the manner herein specified.

78,886.—DUNCAN MORRISON, Portland, Me.—*Staging.*—June 16, 1868.—An arrangement of devices by which a staging can be elevated and lowered by a person standing on the platform, and held in any desired position.

Claim.—1. The combination, with the center standards of the levers *c* and spring catches *d*, connected with the platform B′, in the manner and for the purpose herein set forth.

2. In combination with platform B′, the crank

o, pulley *p*, cord *v*, shaft *q*, and cords *t u*, as and for the purpose herein set forth.

3. The combination of cranks *k*, cords *k'*, and springs *i*, connected with the cranks *k*, as described, and for the purposes set forth.

4. The combination of the bars *m* with the clamps *n* and springs *h h* on the platform, to release the said springs, as and for the purposes herein set forth.

5. The combination and arrangement of the staging, so that it may be folded, as herein described, in the manner and for the purposes set forth.

78,887.—William A. Morse and John G. Powell, Philadelphia, Pa.—*Eraser.*—June 16, 1868.

Claim.—An eraser blade made from thin sheet metal, when the same is stiffened by corrugations as shown and described, for the purpose set forth.

78,888.—Henry L. C. Müller, Bridgeport, Conn.—*Shoe Lacing Device.*—June 16, 1868; antedated June 2, 1868.—Designed for fastening the upper ends of shoe strings to obviate the necessity of tying the same. The string is laid under and around the hook and clamped between the springs.

Claim.—A string holder, D, for shoe lacings, made and operating substantially as herein shown and described.

78,889.—John T. Norris, Tiffin, Ohio.—*Harvester Cutter.*—June 16, 1868.—The cutters are fastened to the cutter bar by pins passed through the sides of the bar, and slots and lugs on the base of the cutters, so as to enable the cutters to be easily taken out, replaced, and ground. The knives are held closely together by means of a wedge.

Claim.—1. The knife B, provided with slot *b* and lug *d*, substantially as and for the purposes herein set forth.

2. The combination of the knife B, as constructed, with the bar A, provided with pins *a a*, set screws *e* and *f*, and wedge C, or their equivalents, substantially as and for the purposes herein set forth.

78,890.—Daniel E. Paris, Troy, N. Y.—*Warming Closet on Cooking Stove.*—June 16, 1868.

Claim.—1. A warming oven to a cooking stove, situated underneath and supported by the bottom of the same, situated between and in combination with the supporting legs of the stove, when made in framework and constructed substantially as herein shown and described.

2. In combination with the warming rack below, and the reservoir seat above, a hot oven or closet, made in framework, the different parts being put together by means of bolts, locks, or lugs, and without the use of solder or other adhesive material, when constructed substantially in the manner and for the purpose herein shown and described.

3. A warming rack, situated below a warming closet, having its rear side partly or wholly supported by pendent bars, or their equivalent, attached both to the rack and the closet above, for the purpose and substantially in the manner herein shown and described.

4. The slide M, or its equivalent, placed in baking ovens or warming closets, and made to be self-supporting, when drawn out of said oven or closet, for the purpose herein described and set forth.

78,891.—Daniel E. Paris, Troy, N. Y.—*Hearth and Ash Sifter in Cooking Stove.*—June 16, 1868.

Claim.—1. A movable sifting grate or grates, placed permanently within the hearth or ash pit of a stove, and made to vibrate by means of a handle or shaker, operated from the outside of the stove, in combination with the surrounding walls of said hearth, or their equivalent, which act as the sides of a pan, to hold the ashes and coals on said sifting grates as they fall from the fire grate above.

2. A covered sifting chamber, the sides of which are formed by the hearth or ash pit of the stove, and by the slide or conducting plate below the fire grate, the bottom of which is formed by an open or perforated sifting grate or grates, and the top by a movable cover to said hearth, in combination with an ash pan or ash chamber, situated just below said grate or grates.

3. A sifting grate or grates thus situated, constructed to dump or discharge its contents into a chamber or movable pan below, and in combination therewith, substantially as here shown and described.

4. An opening at the lower front of the hearth or ash pit of a stove, of sufficient capacity to remove the ashes or an ash pan from the chamber below the sifting grate or grates, and in combination with said grate or grates, when the latter are constructed substantially as herein shown, or are placed permanently within the hearth or upper part of the ash pit of a stove.

5. The closing of said opening at the lower front of the hearth by a drop door or falling plate, having its lower edge or ends attached to the hearth or ash pit, and so constructed that, when it is let down at or near a level with the bottom of said hearth, it will thus remain, for the purpose of supporting, and in combination with, the ash pan, when the latter is made to be drawn out, in the manner and substantially as herein shown and described.

78,892.—Charles H. Perkins, Providence, R. I.—*Construction of Toe Calks for Horseshoes.*—June 16, 1868.—An improvement on his patent of April 9, 1861. The object is to give additional strength to the welded joint between the calkin and the shoe.

Claim.—A toe calkin for horseshoes, furnished with chisel-edged tenons or spurs *b b*, set opposite to each other, and with their faces parallel with each other and with the longitudinal axis of the calkin, substantially as described, for the purposes specified.

78,893.—George Willis Pierce, Boston, Mass.—*Umbrella.*—June 16, 1868.—Clamps provided with prongs are employed to secure the coverings of umbrellas to their frames, instead of thread.

Claim.—1. The clamp 1, (represented by Figs. 2 and 3,) provided with one or more prongs *a a*, for the purpose specified, the whole made and operating substantially as described, and for the purpose specified.

2. The clamp 5, in combination with the ring 4, (represented by Fig. 4,) when made, combined, and operating substantially as described and for the purpose specified.

78,894.—William Potts, Handsworth, England.—*Ventilating Apparatus.*—June 16, 1868.—A sufficient draught is established in the vertical tubes by means of gas flames at or near the lower ends of the said tubes.

Claim.—1. The improved method, herein described, of ventilating rooms and buildings, by constructing and arranging, at the highest convenient part of the room or building, two independent or separate channels, extending at different levels along one or more sides of the room or buildings, and provided throughout their length with ornamental or other perforations, or wire gauze, through which the vitiated air is drawn into the upper channel, and the fresh air passes from the lower channel in the manner specified, whereby the room may be ventilated without creating a perceptible or injurious draught.

2. The arrangement, in the cornices of rooms or buildings, of two independent and separate ventilating channels, and the ornamental or other perforations or wire gauze with which the same are provided, for dividing and distributing the air drawn from and discharged into the place to be ventilated, in the manner and for the purposes shown and set forth.

78,895.—Benjamin H. Reynolds, Canterbury, and John Bachelder, Norwich, Conn.—*Lubricating Device.*—June 16, 1868.—Wipers made of flexible cords, or equivalents, are drawn diagonally across the shaft, with an inclination toward the lubricating wheel in the direction it is running. The lubricating wheel is made to revolve by means of a pin set in the shaft.

Claim.—1. The wipers *j j*.

2. The arrangement of the pin *e* and groove in the hub of the lubricating wheel *d*, to provide for expansion and contraction.

78,896.—Edward Roberts, Philadelphia, Pa.—*Apparatus for Cutting the Teeth of Wheels.*—June 16, 1868.—Two cutting disks are arranged parallel with each other on the same rotary shaft, and equidistant from an imaginary straight line passing through the center of the wheel which is to be cut.

Claim.—The combination of the spindle, collar, and clamping nut, for supporting and clamping the wheel, with the device, consisting of the two cutter disks, stretcher, tightening nut, and adjustable shaft or arbor, all arranged substantially as described.

78,897.—**Alfred Rooker**, London, England.—*Faucet.*—June 16, 1868; patented in England, September 25, 1867.—The inner edge of the stem of the tap is made hollow to receive the cylinder of cork, and with an annular cutting edge. A stop is placed in the stem to prevent the cork cylinder from reaching and closing the holes in the stem.

Claim.—1. The annular cutting edge *b* and the hollow part B, applied to a tap having perforations therein, and acting substantially as herein described.

2. The cutting edge *b* of the hollow part B of the stem, which receives the excised plug, in combination with the stop C, all substantially as and for the purpose herein set forth.

78,898.—**S. P. Shipley**, Olena, Ohio.—*Bee Hive.*—June 16, 1868.—The hive is provided with transverse bars, and made in two parts, so that when full one part can be readily removed and an empty section substituted.

Claim.—The parts A and B, constructed with slotted top, combined with each other and with the cap D, as and for the purpose substantially as set forth.

78,899.—**A. D. Smith**, Grafton, Ohio.—*Lock Nut.*—June 16, 1868.—A small part of the inner diameter of the nut is set into the concave or flat sides of the screw provided for the purpose, so that the nut may be secured at any point.

Claim.—The mode herein shown and described of securing nuts from turning, substantially as and for the purpose set forth.

78,900.—**Justin E. Smith** and **Mark H. Dasenbrook**, Warrenville, Ill.—*Weather Strip.*—June 16, 1868.—The lower edge of the strip passes beneath a roller and is gradually forced down as the door continues to close, so as to effectually close the space beneath the door.

Claim.—The combination of the strips D B, spring S, arranged in a recess, as shown, when said spring is operated by the rod *s* and arm *b*, in the manner and for the purposes specified.

78,901.—**W. W. Stevens**, Portland, Me.—*Tea Pot.*—June 16, 1868.—The bottom plate of the tea pot has a downwardly projecting edge which rests on the stove or other heating apparatus so as to prevent contact with the entire bottom of the tea pot.

Claim.—The improvement in the construction of pots liable to melt from the influence of heat, consisting of the bottom as herein shown, and applied as illustrated, for the purposes set forth.

78,902.—**Richard B. Stillman**, Almond, N. Y.—*Clothes Drier.*—June 16, 1868.—A series of bars are hinged to movable hubs so as to admit of their being turned or swiveled round to radiate from the frame, to widen the space at the ends, when let down, and supported in a horizontal position for hanging clothes.

Claim.—The series of swivel hubs or studs, *d d d d*, hinged slats or bars *b b b b*, as constructed and arranged, in combination with the frame for holding and folding up the bars, substantially as and for the purposes herein set forth.

78,903.—**Rebecca Weaver**, Washington City, D.C.—*Fastening for Buttons.*—June 16, 1868.—Studs provided with eyes through which is passed a chain having a bodkin at one end, for attaching and securing the same to wearing apparel.

Claim.—1. The button or stud constructed with heads *e* and *f*, connected together by posts *i i*, between which are one or more eyes, substantially as and for the purposes specified.

2. The chain *c c*, fastening slide or slides *j j*, and bodkin *h*, arranged and applied for fastening buttons, substantially as and for the purposes herein set forth.

78,904.—**Thomas Welch**, Churchville, N. Y.—*Harvester.*—June 16, 1868.—Two gear wheels and a pinion surround the main axle, one of the wheels being permanently fixed to the axles. A flexible counter-shaft is supported in two bearings in the frame and is provided with two pinions and a gear wheel, one of the pinions being fixed to the said shaft, all so arranged that fast or slow motion may be transmitted to the knife, and the motion and register of the latter will always remain the same, regardless of the change of position of the finger bar or vibrating frame.

Claim.—1. A vibrating gear and finger-bar frame in harvesters, in combination with a jointed counter-shaft, B′, for the purpose set forth.

2. With a two-wheeled jointed-bar harvesting machine, counter-shaft B′, in combination with two frames, one being rigid and the other vibrating, said shaft running across, and having journals in each frame, in which it works freely in all variations of either frame, as set forth.

3. In a two-wheeled jointed-bar harvesting machine, a triple gear, mounted upon two shafts, and meshing together, the wheels H, J, and N, with their pinions M, I, and L, representing said gear, the whole operating in the manner and for the purpose set forth.

78,905.—**William P. Welch**, Boston, Mass.—*Guide for Band Saw.*—June 16, 1868.—Elastic frictional rollers direct the band saw to the rigid guideway in which the saw is guided to the wood to be sawed.

Claim.—The adjustable guide block C D, having the elastic guide rollers, L, L′, and L″, arranged in relation to each other and cheeks A B, all constructed and operating in the manner and for the purpose substantially as described.

78,906.—**Hiram B. Wellman**, Indianapolis, Ind.—*Construction of Oil Cans.*—June 16, 1868.—The water in the outer chambers acts as a cut-off between the oil in the can and that in the spout, to protect the same against explosion.

Claim.—The use of water-chambers, so combined with an oil can that the oil from said can must pass through the water in its passage to the spout, as and for the purpose set forth.

78,907.—**George Wilcox**, Neenah, Wis.—*Grain Chaffing Mill.*—June 16, 1868.—The shoe is of concave form, and is made narrow at the rear end. Guides on the rim of the sieve keep it balanced directly over the rollers. The propelling shaft is provided with friction rollers, and is supported in a forked brace attached at each end to the shoe.

Claim.—1. The shoe *a*, which encases the sieve, and compresses the blast upon the rear part of sieve.

2. The attaching of the shoe *a* to levers *c c*, and holes *f* and *y*, whereby the whole may be raised or lowered at will when attached to the threshing machine.

3. The guides to front and rear end of sieve.

4. The arranging of the conical sieve within the shoe *a*, as set forth.

5. The brace R, as attached to shoe *a*.

6. The arranging of shaft 8 with rollers 2 and 3, and pulley 1, for propeling the sieve.

7. The machine herein described, when its several parts are arranged and combined, as set forth.

78,908.—**Charles O. Yale**, Rome, N. Y., assignor to himself and **Theodore W. Mahler**, same place.—*Corn Husker.*—June 16, 1868.—Two rollers of the same or different diameters are arranged over a reel, and operated by endless cords arranged over pulleys. A conveyor, having intermittent motion, carries up the ears singly from the hopper to the husking rolls. Over the husking rolls is a series of rings toothed on the inside and outside. Between the conveyor and husking rolls is a plate over which is an arm which pushes the ear toward the rolls.

Claim.—1. The rolls C and D, in either form as described, in combination with the reel F, or its equivalent, for the purposes mentioned.

2. The pulleys C^1, D^3, D^4, and D^5, endless cord D^2, and spring D^6, constructed and arranged sub-

stantially as described, and for the purposes mentioned.

3. The conveyer H and arms H^1 and H^2, constructed and arranged substantially as described. and for the uses and purposes mentioned.

4. The conveyer H and husking rolls L and L^1, constructed and arranged substantially as described, and for the uses and purposes mentioned.

5. The rings M M, constructed and arranged substantially as described, and for the uses and purposes mentioned.

6. The plate K and the arm I^3, constructed and arranged substantially as described, and for the uses and purposes mentioned.

7. The table B and reel F, constructed and arranged substantially as described, in combination, for the uses and purposes mentioned.

78,909.—George P. York and William H. Wilson, Westfield, N. Y.—*Machine for Grinding the Cutters of Mowing Machines.*—June 16, 1868.—The grindstone is provided with mechanism for communicating a lateral motion of the same to and from the cutter bar, in connection with a table also provided with means for moving to or from the stone. Posts are secured to the table in a manner to be adjusted to or from the side of the stone, the upper extension of the said posts being suitably inclined toward the face of the stone, and provided with wood or soft metal facings, to prevent injury to the edges of the cutters.

Claim.—1, The combination, with a table provided with means for holding a cutter bar, as described, of a grinding wheel, arranged to slide laterally, substantially as and for the purposes described.

2. The combination, with the posts L and L^1, of the gauges M^1, substantially as and for the purpose described.

3. The combination, with cutter-grinding apparatus, of the posts and gauges, provided with the facings of wood or other soft material, substantially as for the purpose described.

4. The combination, with a grinding stone provided with means for effecting a lateral movement thereof, of the guides and posts, substantially as and for the purpose described.

78,910.—Canceled.

78,911.—James U. Adams, Richfield, Mich.—*Packing for Piston Head.*—June 16, 1868.—Composed of a series of rings, surmounted by springs, and sawed vertically to the center from opposite directions, allowing a space between, in which is inserted a plate of copper.

Claim.—1. The springs E and rings D in combination with the piston head B, substantially as described.

2. The copper, H, or other metal, inserted in the manner described, and for the purposes specified.

78,912.—John Adams, Transfer, Pa.—*Hay Raker and Loader.*—June 16, 1868.—The teeth are attached to a cross-bar, which is connected to the machine by means of arms, one end of which is secured to the cross-bar, and the other ends hook and ride upon the journals of the lower roller. The lower end of the rails of the frame rides upon the journals of the lower roller, and the upper end is adjustably supported by hooked arms.

Claim.—1. The rake, constructed as described, of the curved teeth I, attached at their upper ends to the head H, and the curved bars J attached at their outer ends to said head, and adapted to turn freely upon the axle of the roller B, by being hooked over the same, as herein shown and described.

2. The adjustable frame D, carrying the rollers and endless belt of hooks, when recessed at its lower end, to rest upon the axle of the roller B, to which it is held by the tension of the endless belt G, as herein shown and described.

78,913.—Joseph F. Applegate, New Albany, Ind.—*Wagon.*—June 16, 1868.—The rear end of the perch pole is received in a metallic case or sheath beneath the rear hounds. Stops projecting downward from the under side of the body prevent the rear axle from moving either forward or back beyond them. The king bolt is extended from the bolster to a point above the top of the body.

Claim.—1. The perch pole C, used in combination with the case or sheath of the rear hounds, substantially as and for the purpose set forth.

2. The body G, provided with the stops I and J, and used in combination with the rollers *a a*, and the extension perch pole C, as and for the purpose set forth.

3. The extended king bolt H, in combination with the body G and the perch pole C, as and for the purpose set forth.

78,914.—James C. Arms, Northampton, Mass.—*Fastening for Pocket Books, &c.*—June 16, 1868.—A raised surface is formed near each end of a rectangular plate, upon which a strap is to be clasped and held by a slide.

Claim.—The clasp, consisting of the stationary piece B, and the slide *c*, when said parts are constructed and united, substantially as shown and described.

78,915.—Elias C. Atkins, Indianapolis, Ind.—*Machine for Polishing Metal Plates.*—June 16, 1868.—Designed as an improvement on Reuben Cave's patent of February 1, 1859. The object is to provide a means for regulating or controlling the movement of the metal plate during the process of grinding and polishing, by elevating and depressing the rollers in the same ratio as the upper grinder.

Claim.—The combination of the stone, Q, running adjustably upon the yoke R, adjustable plates S, attached to the latter, and the rollers M and N, and spring bearings therefor, attached to the plates S, said parts being arranged in relation to each other, substantially as and for the purpose set forth.

78,916.—Eli H. Babcock, Canandaigua, N. Y.—*Drill Chuck.*—June 16, 1868.—The drill is secured in an elastic conical jaw, with a screw thread thereon, and a conical nut which engages therewith, and also an elastic reducer, so as to hold drills of different sizes.

Claim.—In combination with the chuck A, the nut B, and the reducer C, substantially as and for the purpose described.

78,917.—H. J. Bailey, Pittsburg, Pa.—*Hydrant.*—June 16, 1868.—The operating parts are so arranged as to be readily removed from the casing when desirable, without the necessity of digging up the hydrant or disturbing its connection with the supply pipe.

Claim.—1. The construction of the tube E, valve *h*, removable seat F, and plate I, arranged to operate in connection with the valve *u*, substantially as shown and described.

2. The hollow valve tube E, the nut *m*, the plate I, and the valve seat F, constructed, arranged, and operating substantially as and for the purposes described.

78,918.—Thomas S. Bell, Wapello, Iowa, assignor to himself, G. R. Reed, and J. S. Andrews, Louisa County, Iowa.—*Pruning Shears.*—June 16, 1868.—The beveled sides of the blades are serrated near their cutting edges, to keep them from slipping on the wood while cutting. The outer end of one of the blades is connected by a bar to one of the handles, so as to act as a compound lever.

Claim.—The blades A and B, serrated on their beveled sides, and connected at their rear ends, and operated by means of the handles C and D and bar E, substantially as and for the purpose set forth.

78,919.—Albert P. C. Bonte, Cincinnati, Ohio.—*Wood Turning Lathe.*—June 16, 1868.—Invention relates to that class of lathes employed in turning elliptical forms, and consists in the provision of a counterpoise to prevent the sway or lurching motion to which such lathes are subject.

Claim.—The adjustable counterpoise H I, constructed substantially as described, and arranged relatively to the chuck E F of an eccentric or elliptical turning lathe, to operate in the manner and for the purpose specified.

78,920.—John G. Boyer, Springfield, assignor to Moses Wiant and George Gorr, Lehigh County, Pa.—*Stump Extractor.*—June 16, 1868; antedated March 27, 1868.—The chain is provided with movable hooks, to enable it to be conveniently hitched to the object to be moved.

Claim.—The portable power, consisting of the mechanism arranged substantially as described, and provided with the chain *j*, having movable hooks *l* and the stationary hook *m*, all mounted on the frame A, constructed as set forth.

78,921.—J. Tobias Braun, Randolph Centre, Wis.—*Wind Wheel.*—June 16, 1868.—This invention consists chiefly in a device for transferring motion from the horizontal wing-shaft to the horizontal driving-shaft, by which the machine to be operated is set in motion. The said device is so arranged that the horizontal wing axle can turn freely around its own axis when revolved by the wind, and also around an imaginary vertical axis when set by the wind.

Claim.—1. The device for connecting the crank *b* of the axle B with the cranks *h h* on the spindle of a windmill, said device consisting of the jointed bifurcated rod J and annular plate *m*, in combination with the jointed rods J′, *n*, and plate *o*, all made and operating substantially as described.

2. The jointed swivel rod I, connecting the axle B with the spindle of a windmill, in combination with the jointed rod J, J, annular plate *m*, plate *o*, and jointed rods J′ *n*, all made and operating substantially as herein shown and described.

78,922.—Gustavus V. Brecht, St. Louis, Mo.—*Clamp of Hub-Boring Machine.*—June 16, 1868.—The clamps are provided with slots or mortises through them for the reception of wrought iron or steel nuts for the screws to work in, so that the threads may be renewed when necessary without requiring entirely new clamps.

Claim.—As a new article of manufacture, a clamp A, for a hub-boring machine, cast or formed with slots, for the reception of nuts, and provided with projections *a*, and serrated edges, as and for the purpose set forth.

78,923.—Henry H. Browne, Mount Vernon, N. Y.—*Advertising Device.*—June 16, 1868.

Claim.—As a new article of manufacture the device herein described, the same consisting of the business card *b*, and the mirror *a*, which are retained together by the rim *c*, whose periphery is perforated, and the parts thereby form a combined business card, mirror, and pin cushion, substantially as specified.

78,924.—Norman Burdick, Albany, N. Y., assignor to himself, Jacob H. Shear, and Joseph Packard, same place.—*Cupola Furnace.*—June 16, 1868.—Invention relates to the discharging and confining the products or refuse coal, cinders, &c., left in the bottom of the cupola after the melted iron has been drawn therefrom, so as to compel the smoke, heated air, and noxious gases to escape through the cupola into the outer air, instead of into the building.

Claim.—1. The use of a sliding bottom to a cupola furnace, constructed substantially in the manner and for the purpose above described.

2. The in-laying of such bottom with some non-fusible substance, substantially in the manner and for the purpose above described, in combination with the chamber of a cupola furnace.

3. The cam levers *b b*, in combination with the bottom B B, substantially in the manner and for the purpose above described.

4. The form of the pit, in combination with the cupola furnace, constructed substantially in the manner and for the purpose above described.

5. The bottom B B, the wheel and axle D and E, the chain *y y*, the truck wheels *a a a a*, the cam lever *b b*, the guides R R, in combination with the cupola of a melting furnace, substantially in the manner and for the purpose above described.

78,925.—George Carlton Cassard, Baltimore, Md., assignor to himself and L. & J. L. Cassard, same place.—*Lard Cooler.*—June 16, 1868.—The inner vessel containing the lard is surrounded by a space, to be filled with cold water passed in and out through proper pipes. Air is forced through a tubular shaft into the inner vessel. Wooden scrapers prevent the cooled lard from accumulating on the sides of the vessel. Movable wooden slats pass between fixed ones to agitate the liquid contents of the inner vessel.

Claim.—1. The combination and arrangement of the wooden tank B, having the inclined walls, with the metallic vessel C, having the upright walls and funnel-shaped bottom, the central discharge pipe D, and the filling and regulating pipes G H, when said parts are constructed and arranged in the manner and for the purpose set forth.

2. The combination of the vessel C with the vertical tubular shaft I and the hollow arms I′ I′, having the outlet holes *a a a*, substantially as described.

3. The combination of the scrapers *r r*, springs *s s*, and the shaft I, having arms P P to support the scrapers and springs, substantially as described.

4. The combination of the shaft I, the fixed slats *n n*, and the movable slats *m m*, supported by and rotated with the shaft and its arms, and meshing between the fixed slats, when said parts are employed in connection with the vessel C and tank D, having the space F between them, as described.

78,926.—Robert Cawthorne, Lyons, Iowa.—*Tire Setter.*—June 16, 1868.—Upon a tub of water is arranged an adjustable circular platform, supported upon rests fitted so as to turn easily on bolts. An adjustable nut on the screw standard and platform serves to regulate the dish of the wheel.

Claim.—1. The rests *c c c c*, for the purpose specified.

2. The arrangement and combination of the rests *c c c c* with the tub A, step H, standard E, platform J, nuts D and O, when operating substantially as and for the purposes herein set forth and specified.

78,927.—John Christiansen, New York, N.Y. assignor to himself and B. Kreischer, same place. *Hoisting Apparatus.*—June 16, 1868.—A double-armed lever is placed loosely on the driving shaft, and carries two pinions which mesh into gears mounted on said driving shaft, and one of which also meshes into a stationary internal gear, while the other meshes into cogs on the inner surface of the drum, to which the hoisting rope is attached.

Claim.—1. The combination of the lever D, carrying the pinions *b b′*, with the shaft A, gears *a a′*, internal gears *d d′*, stationary rim *f*, and drum E′, substantially as and for the purpose described.

2. The combination of the stationary rim *f* supporting the friction rollers *e*, with the hoisting drum E, substantially as and for the purpose set forth.

78,928.—David C. Collier, Samuel Cushman, and Newell E. Farrell, Central City, Colorado Territory.—*Ore Roasting Furnace.*—June 16, 1868.—The cylinder being made to rotate slowly, the alternate elevation and depression of each end of the same causes the ore to be carried from end to end, and falling upon and being retained a short time at each semi-rotation of the cylinder, passes entirely around the partition in the same, thus subjecting every particle of the ore to the great heat from the fire box.

Claim.—1. An apparatus for roasting and chloridizing ores, composed of a cylinder, A, rotating on an axis inclined to the true axis of the cylinder, within which, in the line of the rotating axis, is a partial partition for receiving and retaining the ore for a short time at each semi-rotation of the said cylinder A, in combination with a fire box, J, and flue K, substantially as shown and described, and for the purposes set forth.

2. The wheels B, in combination with a rotating cylinder, A, substantially as shown and described, and for the purposes set forth.

3. The partial partition in a plane in the center of the rotation of the cylinder A, and placed at right angles to a line drawn from the man-hole H or I to said partition, or its equivalent, and in combination therewith, and with any fire box, J, substantially as shown and described, and for the purposes set forth.

78,929.—James S. Conlin, New York, N. Y.—*Shooting Gallery.*—June 16, 1868.—The object of this invention is to construct shooting galleries so as to make them convenient for use, easily operated, and entirely safe.

Claim.—1. The weighted ball-proof door M, so arranged between the tunnel G and pistol target J that when the door is unfastened it will swing open to protect the attendant at the target from balls inadvertently discharged, substantially as set forth.

2. Forming the targets J and A′ with holes through their centers for the bull's eye, and with drop plates or blocks K and B′, which are connected with the front of the gallery by means of cords and bells, substantially as and for the purposes herein shown and described.

3. Pivoting or hinging the pistol target J to the partition I, so that it may be swung back out of the way, substantially as herein shown and described, and for the purpose set forth.

4. The pistol target J, when connected to the front of the gallery by means of a cord, 7, so that it may be swung to its place from the said front of the gallery, substantially as set forth.

5. The arrangement in front of the rifle target A′ of the partition R, formed with an opening, S, and provided with a sliding ball-proof plate, T, which latter is so connected, by means of a cord, V, to the door U, that when said door is opened the opening S is covered by the plate T, to protect the attendant, substantially as described.

6. The combination of the weighted door U and sliding ball-proof plate T with each other and with the partition R and rifle target A′, substantially as herein shown and described, and for the purpose set forth.

7. The combination of the plate or block E′, having three or more arms projecting from it, shaft D′, ratchet wheel F′, weight I′, and stop arm K′, with each other, with the drop plate or block B′ and target A′, substantially as herein shown and described, and for the purpose set forth.

8. The combination of the adjustable rest Q′, shaft T′, ratchet wheel W′, pawl V′, and rod X′, with each other, and with the forward part of the gallery, substantially as herein shown and described, and for the purpose set forth.

9. An improved shooting gallery, constructed and arranged substantially as herein shown and described, and for the purpose set forth.

78,930.—George Cooper, New York, N. Y., assignor to Victor E. Mauger, same place.—*Lithographic Press.*—June 16, 1868.—A water reservoir is provided with a slotted bottom, in which felt, blanket, or other porous fabric is clamped, so as to conduct the water below the reservoir with the requisite slowness. The lithographic stone is secured upon a movable carriage, upon which is fixed another stone or slab to transfer the moisture to the printing stone. A series of revolving porous wipers or rollers transfer the moisture from the surface and edges of the slab to those of the printing stone.

Claim.—1. Wetting a lithographic stone by moistening the surface of another stone, and transferring the moisture from the same to the printing stone, as described.

2. Wetting a lithographic stone by means of a moist roller or rollers, F, and wipers H H G, under and between which the stone passes, substantially as described.

3. The water-containing vessel A, when provided with an adjustable slot that is filled with absorbing material or fabric, B, substantially as herein shown and described.

4. The up-and-down, adjustable elastic plate I, when arranged as set forth, for the purpose of equally distributing the moisture over the slab E, in the manner specified.

5. Securing the wipers H H to adjustable bars or springs *d d*, for the purpose of adapting the machine to stones of greater or less width and thickness, as specified.

6. The combination of the slotted vessel A, cloth B, screws, or their equivalents, *a*, carriage C, stones E, wipers F, G, and H, and distributer I, with each other and with the stone D, all made and operating substantially as and for the purpose herein shown and described.

78,931.—John Danner, Canton, Ohio.—*Pencil Sheath.*—June 16, 1868.

Claim.—A pencil case or socket, with a rubber or other flexible or elastic lining, *c*, contained in an enlarged chamber, *b*, in the inside thereof, which rubber will, by its friction, hold a pencil inserted therein and protect its point, and be itself held in the chamber by the recessed shoulders thereof, substantially as described.

78,932.—William Davis, Detroit, Mich.—*Preserving Meat, &c.*—June 16, 1868.—The spaces between the compartments are designed to be filled with four conductors of heat. A goose-neck trap below lets the water escape without admitting the air.

Claim.—1. The construction of a car body, room, box, or chest, provided with compartments A B C, ice receptacle D, chimneys or funnels E, and hatches G, when arranged and operating substantially as described, and for the purposes set forth.

2. The goose-neck trap F, or equivalent, in combination with the receptacle D and compartments A B C, when arranged substantially as and for the purposes set forth.

78,933.—David Davy, Sheffield, England.—*Piston Valve for Steam Hammers.*—June 16, 1868.—The steam or other fluid is admitted into the valve chest between the two pistons, and the exhaust steam passes into the valve chest from the cylinder at each end of the valve chest, and from thence into the exhaust pipe. The pistons or valves are hollow, and around their circumference are posts corresponding with and opposite, or nearly so, to other posts in the valve casing, so that communication is established between the top and bottom of the cylinder.

Claim.—The hollow piston valve, provided at the top and bottom with the valves *c c*, between which the annular space *b* is formed, arranged to operate in relation with the ports *d g* in the cylinder, the induction port *a*, and exhaust H, as herein described, for the purpose specified.

78,934.—Gaius S. Deane, Grand Rapids, Mich.—*Gauge Wheel for Plow.*—June 16, 1868.—When the hollow axle becomes worn the bolt which secures it to the standard may be loosened and the axle turned half around, so that the wear will come on the other side. The false hub, when it becomes too loose, may be easily removed, and replaced by a new one.

Claim.—1. The combination of a false hub, E, with the hub of a cast-iron plow wheel, substantially as herein shown and described, and for the purpose set forth.

2. The hollow axle C, secured to the standard A by a bolt, D, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the recessed standard A, bolt D, hollow axle C, cap F, removable false hub E, and cast-iron wheel B, with each other, said parts being constructed and arranged substantially as herein shown and described, and for the purposes set forth.

78,935.—D. A. Dickinson, Baltimore, Md.—*Ventilating and Drying Corn and Grain.*—June 16, 1868.—Between the sides or ends of the crib or bin, in which are bored holes, and to the inner surface of each side or end, are secured inverted V-shaped covers, to provide for the needed circulation of air, and also for distributing the corn or grain in bulk.

Claim.—Ventilating and drying corn and grain by means of the inverted V-shaped covers and holes in the siding or walls, as herein recited.

78,936.—Henry H. Dickinson, West Northfield, Mass.—*Tail Clasp for Milkers.*—June 16, 1868.—A clasp or spring is attached to the leg of a cow while being milked, and is so constructed that the tail of the cow may be firmly grasped and held during the operation of milking to prevent the tail being whisked in the face of the operator.

Claim.—A tail clasp, for milkers' use, when constructed and operating substantially as herein described and for the purposes specified.

78,937.—Franz Diebold, Boston, Mass.—*Wash Bench.*—June 16, 1868.—Three bars of wood are so constructed that when united they will form convenient supports for two wash tubs, or two of them may be united to form a support for one wash tub.

Claim.—The combination and arrangement of the bars A, B, and C, with the pins D, and the necessary legs, for the purposes specified.

78,938.—William Donaldson, Cincinnati, Ohio.—*Machine for Making Bungs for Casks.*—June 16, 1868; antedated January 3, 1868.—This invention relates to a combination of parts by which the circular and lateral feed is effected, and also by which the timber is held steady while being operated upon by the knives, and released while being cut off by the saw.

Claim.—1. The combination of the cam R′, pivoted guide plate S′, pin *f*′, block F′, claws G′, spring H′, pawls or claws I′, spring J′, and cylindrical clutch C′ with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the center M′ and adjustable slotted plate N′ with each other and with the cylindrical clutch C′, as herein shown and described, for the purpose specified.

78,939.—John P. Dorman, Galesburg, Ill.—*Sleigh.*—June 16, 1868.—The sleigh or sled is constructed of malleable iron and zinc in such a manner that it may be readily taken apart and stowed away when the season of its use is over.

Claim.—The construction and arrangement of a sleigh or sled of malleable iron and zinc, substantially in the manner and for the purpose as herein set forth.

78,940.—William M. Doty, New York, N. Y., assignor to himself, Ezra P. Doty, and Ellis Doty, Janesville, Wis.—*Washing Machine.*—June 16, 1868. This machine is designed for beating, squeezing, rubbing, soaping, and washing garments, &c., and can be adapted to either process separately.

Claim.—1. The mode of connecting the legs with the suds box by fitting the upper L-shaped parts of the legs around flanges projecting from the box, and by connecting and holding together the same by means of ties or rods, substantially as herein shown and described.

2. The combination, with a suitable concave or rubbing board of a swinging or oscillating wash board, formed in two parts, hung independently of each other upon the same axis, the one being rigidly connected to the said axis or shaft, and the other loosely mounted thereon, substantially in the manner and for the purposes set forth.

3. The oscillating and divided wash board, composed of two parts or jaws, as herein described, in combination with a device for clamping and holding together said parts, substantially as and for the purposes herein shown and specified.

4. The combination, with the jaws of the divided wash board, of the eccentric clamping roll D, and the arms or links by which the same is held to the wash board, substantially as herein shown and set forth.

5. The combination, with the divided wash board and its clamping device, of the shaft C and pendent arms, by which the said board is connected with the shaft, substantially as herein shown and set forth.

6. The oscillating and divided wash board, and its clamping device, in combination with the movable stop *m*, arranged and operating as herein shown and set forth.

7. The plates *h* and *i*, in combination with the slotted end board *b* of the suds box, all made and operating substantially as described, so as to form a closed up-and-down movable bearing for the shaft C.

8. The combination, with the jaws of the divided wash board, of a beating frame, G, all arranged in one swinging frame, as described.

9. The beater frame, when hinged or made movable within the swinging frame, substantially as and for the purpose herein shown and described.

10. The manner of arranging the slats in the beater or presser frame so that the turning of garments is promoted, as set forth.

11. The beater frame, when arranged as described, in combination with the boards *g* and *n*, and slat frame I, under the arrangement and for operation substantially as herein shown and described.

12. The combination, with the shaft, for operating the wash board, of a handle or lever mounted upon said shaft, substantially in the manner described, so that it may be set or adjusted to various heights.

13. The toothed disk J, in combination with the lever F and shaft C, the whole being arranged for operation substantially as herein shown and described, and for the purpose specified.

14. The valve M, when arranged as described, and when provided with a stop, *p*, working on an inclined plane, in combination with a suds box, substantially as and for the purposes herein shown and described.

15. In a washing machine in which the suds box is divided into two compartments, as described, the combination, with the larger compartment, containing the clothes-washing apparatus, of the smaller compartment and the tube or conduit therein for admitting water from the exterior into the said box, substantially in the manner and for the purposes herein shown and specified.

16. The combination, with the divided suds box and the tube or conduit *o*, of the trough H, under the arrangement and for operation as herein shown and set forth.

78,941.—William F. Draper, Hopedale, Mass.—*Loom.*—June 16, 1868.—The object of this invention is to prevent the formation in the cloth of thick and thin places occasioned by the continued operation of either the take-up or let-off mechanisms after the breaking or running out of a filling and the shifting of the driving belt.

Claim.—1. The arrangement and combination of the arm J, and its shoulder, *i*, or the equivalent of the latter, with the arm H and its actuating mechanism, the slide rod *d*, and its actuating mechanism, (inclusive of the vibratory whip roller, or any equivalent therefor, placed over the yarn beam,) and the lever *h* and other mechanism for setting back the impelling pawl, *n*, of the ratchet *o*, the whole being substantially as explained.

2. The combination of the spring catch *f*′, or its equivalent, with the stop motion and the mechanism for actuating the retaining pawl of the cloth beam ratchet.

3. The combination of the slider N, or its equivalent, with the stop motion and the spring catch *f*′, applied to the slider T thereof, as and for the purpose specified.

78,942.—Jean Marie Drouyer, Carondelet, Mo.—*Meat Mincer.*—June 16, 1868.—Three cylinders are arranged one over the other, the two upper ones being provided with cutters fixed in shafts. The cutters on the two shafts rotate in opposite directions. The meat is conveyed from the first to the second cylinder by drivers and dropped into the lowest cylinder, whence it is ejected by a piston.

Claim.—1. The combination of the cutters *m*, drivers *r*, shafts *i i*′, cylinders *b b*′ *b*″, all constructed and arranged substantially in the manner and for the purpose set forth.

2. The piston T, spring T″, and cam V, constructed, arranged, and operating together, substantially as specified.

3. The combination of the different parts herein specified, arranged substantially as described and for the purpose set forth.

78,943.—Jonathan G. Dyer, Chicago, Ill.—*Coffee Pot.*—June 16, 1868.—An imperforate plate is arranged near the bottom of the coffee pot and is provided with a hinged valve below the spout. In the imperforate plate is a central opening which receives a strainer containing the coffee.

Claim.—1. In a coffee or tea pot, the combination of the imperforate division plate *b*, the vessel or receptacle B, with the handle *c*, and the supporting and guiding wires, all constructed and arranged substantially as shown and described.

2. The valve *d*, in combination with the division plate *b*, as and for the purpose set forth.

78,944.—Nelson B. Eveland, Hartford, Conn.—*Shuttle for Sewing Machine.*—June 16, 1868.—The spring, or other device usually added to the shuttle for giving the requisite degree of tension, is dispensed with, and a simple slot, curved at the end nearest the heel is used instead.

Claim.—The slot in the shuttle, formed as described, with a long portion, *e*, and an abruptly curved end, *d*, and for the purpose set forth.

78,945.—MATTHEW FALOON, M. D., Bloomington, Ill.—*Truss.*—June 16, 1868.—A divided pad is provided with a wheel fastened to a movable head which is pivoted on a large spring so that the parts of a rupture can be drawn together, and the head be easily moved to either side.

Claim.—1. The divided pad A, working by means of one or more spiral or elliptic springs, substantially as and for the purposes herein set forth.

2. The combination of movable adjusting bar D, with wheel *d*, and spring *f*, arranged and operating substantially as and for the purposes herein set forth.

3. The movable head *e*, arranged and operating substantially as and for the purposes herein set forth.

78,946.—MATTHEW FALOON, M. D., Bloomington, Ill.—*Abdominal Supporter.*—June 16, 1868.—The pads are provided each with a spring set against a cogged wheel by means of which they can be set to suit any form of the abdomen either in a pregnant or unpregnant state.

Claim.—1. The arrangements of two pads, B, made of any suitable material, and arranged in front on a supporter, substantially as and for the purposes herein set forth.

2. The springs *a* and wheel *b*, forming the adjusting attachment C, arranged and operating substantially as and for the purposes herein set forth.

78,947.—LUTHER H. FARNSWORTH, Hudson, Mass.—*Awl Haft.*—June 16, 1868.—The shanks of the jaws are connected together by a pin near their lower ends; upon a screw extending from the socket are placed disks of leather cemented or glued together to form the handle.

Claim.—1. The jaws A A, as made with the conical and screwed shanks, and the socket head B, as made with a conical mouth and a screw arranged therein to receive the screwed shanks of the jaws, the whole being substantially as and to operate as specified.

2. The combination of the screw C with the head B, and the series of disks D D′, of leather or other proper material, screwed on such screw, as described.

3. The arrangement of the connection rivet or pin *b*, viz, within the conical shanks, and transversely through their screw, and with respect to the jaws A A as represented.

78,948.—ANDREW C. FLINT, Boston, Mass.—*Mosquito Bar for Window.*—June 16, 1868.—The parts are so constructed and arranged as to adapt the device to openings of different widths, and to fit closely against the parts of a window sash.

Claim.—1. A mosquito bar, made with rigid clamping uprights and elastic bands, and with netting clamped by the uprights and stitched to the bands, substantially as and for the purpose described.

2. The combination of the two elastic bands *b* and *m* with the uprights, when the bands are arranged in planes at angles to each other, substantially as and for the purpose specified.

3. The projecting arrangement of the lower band *c*, with reference to the lower ends of the uprights, for the purpose specified.

4. The wires *i*, in combination with the elastic bands and sockets in the uprights, substantially as and for the purpose specified.

78,949.—CHARLES FOLSOM, New York, N. Y.—*Ash Sifter.*—June 16, 1868.—In operation, the ashes, &c., are placed in the lower box and the whole apparatus is turned upside down, when the ashes will pass through the sieve into the pail or vessel below, assisted by the partitions or flanges.

Claim.—1. The sifting box B, having a wire gauze bottom, F, semi-circular flanges E, and flanged opening C, over which the pail *d* is fitted, said box B being adapted to fit over the box A, as herein shown and described.

2. The combination and arrangement of the sifting box B, having open bottom F, flanges E, and flanged opening C, the pail *d*, provided with a rounded bottom, and the pan A, all constructed to operate in the manner and forthe purpose herein shown and described.

78,950.—HENRY D. FORBES, Cambridge, Mass.—*Mosquito Killer.*—June 16, 1868.—The head-piece is made of thin board covered with cloth of a loose nap, and connected to a handle by a piece of flexible rubber.

Claim.—A mosquito killer, having a head block, F, flexible joint D, and handle C, substantially as described, and for the purpose set forth.

78,951.—OSCAR C. FOX, Georgetown, D. C.—*Gas Heater.*—June 16, 1868.—The generating pipe is made in sections, so that the parts directly acted on by the heat may be removed and new ones substituted. The burner is constructed with a cup to receive all waste oil, which latter is readily burned.

Claim.—1. A petroleum stove, having the detachable pipe L, burner B, cup C, and cylinder E, the upper edges of which are notched, all constructed and arranged substantially as shown and described.

2. A stove, having two or more compartments, provided with independent burners, and having an adjustable slide, for separating said compartments, whereby either may be heated and used independently of the other, when constructed and arranged substantially as herein set forth.

78,952.—WILLIAM H. FURMAN, Maspoth, N. Y.—*Pisciculture.*—June 16, 1868.—An artificially constructed spawning receptacle and receiver are prepared for the young fish, with a proper run of water through the receiver from a head or spring, the water being made to percolate through a properly graveled bottom, provided with a cover made to open and close at pleasure. The receiver is made to admit of the old fish from down the stream up through it to the spawning receptacle.

Claim.—1. The method, substantially as herein described, of breeding fish, by means of a structure composed of a spawning chamber or receptacle and receiver for the young fish, with the water introduced thereto, in an upwardly direction, through the gravelly bed or bottom, to the spawning chamber of the structure, and caused to flow or pass through the receiver, essentially as herein set forth.

2. The brook shanty or structure A, composed of a spawning chamber, C, and receiver, D, with flood gates B E and guard F, or their equivalents, and having the water introduced through the gravelly bed or bottom to the spawning chamber, to establish a stream or current through the structure, substantially as specified.

78,953.—RICHARD J. GATLING, Indianapolis, Ind.—*Priming Metallic Cartridges.*—June 16, 1868.—The priming or fulminate is placed within a small metallic cup, fitting within a recess or depression in the head of a cup, inserted in the shell of the cartridge to prevent the escape of gas through the back of the cartridge.

Claim.—The struck up metallic cup B, fitted within the shell A, without contact with the flanges of the latter, and recessed to form the anvil *a*, and to receive the cup C, fitting in close contact with the sides of said recess, for the purpose of preventing the escape of gas between the shell A and cup B, as herein shown and described.

78,954.—JOHN GIBBONS, West Troy, N. Y.—*Tool for Turning Cylinder Rings for Cotton Gins.*—June 16, 1868.—The object of this invention is to make the opposite edges of the rings of cotton gins perfectly parallel with each other, so that they will fit together and complete the cylinder without secondary adjustment.

Claim.—The chuck A, with its projecting face *a a*, and arbor *k*, and recess for gauge rings, in combination with gauge rings E, and with the cutter head B, its cutter C, ring *e*, its recess, supporting rings *n*, and spiral springs *f f*, and rings *g* and *i*, substantially as described, and for the purposes set forth.

78,955.—D. A. Gilbert, Morristown, Vt.—*Butter Tub.*—June 16, 1868.—The cover is placed on the tub and partially rotated, when the inclined portion of the rim catches under the hooks and secures the cover firmly upon the tub.

Claim.—The hooks C C upon the tub, when used in combination with the cover, provided with slots D D and the inclined surfaces, from *a* to *a*, as and for the purpose set forth.

78,956.—Lewis Granger, Memphis, Mich.—*Spring Bed Bottom.*—June 16, 1868.—By shifting the position of the transverse bars, greater or less elasticity may be imparted to the head, center, or foot portions, as desired.

Claim.—The combination and arrangement of the slats D and E, and blocks F, with the transverse bar C, in connection with any proper bedstead, and operating substantially as described and for the purposes set forth.

78,957.—John A. Green, North Waterford, Me.—*Horse Power.*—June 16, 1868.—Jointed arms are connected to a sliding ring, which moves up and down on the post, to allow the socketed arms to contract or expand for convenience in transporting the machine.

Claim.—1. The removable, portable, and collapsible wheel, composed of the arms *c*, set in sockets *b* on the post B, having ring *e* and arms *d*, all as and for the purpose set forth.

2. The combination of the said wheel, composed of arms *c*, with the shaft *k*, wheel *o*, and saw shaft *p*, by means of cords or bands *f* and *v*, as herein set forth.

3. The adjustable pulleys or friction rolls *j* and *u*, as and for the described purposes.

4. The combination, in the manner herein set forth, of the different parts described, in the manner and for the purpose of constituting a portable horse power sawing machine, capable of being taken apart and put together, as set forth.

78,958.—Edward Guillod, Titusville, Pa., assignor to Bryan, Dillingham & Co., same place.—*Construction of Drilling Jars.*—June 16, 1868.—The head or portion of the link which gives and receives the blow is made of solid steel; all the other parts of the link, which are subjected to a tensile strain, are made of wrought iron.

Claim.—The within-described drilling jars, constructed of wrought iron and steel, combined and applied substantially in the manner and for the purposes set forth.

78,959.—Stinson Hagaman, Weissport, Pa.—*Machine for Rounding Slate Frames.*—June 16, 1868.—A lever and two revolving bolts or centers constitute a press for holding the corner of the slate frame firmly, while it is gently turned from left to right, causing the frame to come in contact with the revolving cutter.

Claim.—The bolts or centers O O and lever F, in combination with the rocking tree H, connecting rod I, and lever J, all operating substantially as described, and for the purpose specified.

78,960.—James E. Hanger, Staunton, assignor to himself and J. E. A. Gibbs, Rockbridge County, Va.—*Cross-Bar Lock for Doors, &c.*—June 16, 1868.—The curved rack is rigidly attached to the cross-bar and meshes with a pinion wheel by which the cross bar is operated. The latter is guided by a pin attached to the same, and moving through a curved slot in the outer plate.

Claim.—1. The combination of the curved rack H, constructed substantially as herein shown and described, with the cross bar E, and pinion wheel I, as and for the purpose set forth.

2. Giving to the cross bar E a longitudinal and swinging movement, by means of the pin M projecting from the cross bar, and working in the curved slot N of the case F, fastened substantially as herein shown and described, and for the purpose set forth.

78,961.—David Harrington, Worcester, Mass., assignor to himself and J. S. Wheeler & Co., same place.—*Friction Clutch Pulley.*—June 16, 1868.—When the shaft is to be driven, one of the hubs is forced toward the driving pulley, thereby turning the screw shafts through the instrumentalities of the hinged connecting arms and crank arms, thus forcing out the friction pads against the inner surface of the rim of the pulley sufficiently to clamp the arms and pulley together.

Claim.—1. The combination, with the rim D of the pulley, hub F, and arms G G, of the screw shafts K K and friction pads J J, substantially as and for the purposes set forth.

2. The combination, with the screw shafts K K and hub M, of the crank arms I I and connections N N, substantially as and for the purposes set forth.

3. The combination, with the hub M, of the projections *g g*, substantially as shown and described.

4. The combination and relative arrangement, with the loose pulley A and shaft E, of the hub F, arms G G, with the projections H H, and steady pins *a a*, and screw shafts K K, substantially as and for the purposes set forth.

78,962.—Richard C. Harrington, Newark, N. J.—*Door Lock.*—June 16, 1868.—The lock is provided with two key holes, and is so constructed that it cannot be unlocked from the side opposite to which it has been locked.

Claim.—The cam G, sliding plate H, and lug *g*, in combination with the bolt D, tumbler E, and the partition *c*, all made and operating substantially as and for the purpose herein shown and described.

78,963.—Aaron B. Harris, Morrisville, Vt., assignor to himself, H. D. Bryant, and H. H. Gates, Lamoille County, Vt.—*Butter Tub.*—June 16, 1868.—The lower edges of the hoops on the cover are bent inward and spring over notched and beveled flanges secured to the tub.

Claim.—The metal spring hooks *a a*, in combination with the flanged ratch-plates *b b*, for the purpose of fastening the cover to the tub, substantially as and for the purposes herein set forth.

78,964.—Joseph T. Haskins, Rockport, Mass., assignor to himself and E. Rowe, same place.—*Warping Chuck.*—June 16, 1868.—Friction rollers prevent wear of the rope caused by the motion of the vessel. The lower journals of the rollers work in sockets formed in a plate fitting in a recess in the bottom of the chuck.

Claim.—The friction rollers A, when inserted in the chuck by being passed through the bottom, and secured in place by the plate C, in combination with the recesses in the jaws of the chuck, and in the plate C, as herein shown and described.

78,965.—Augustus R. Hobbs, Elizabeth, N. J.—*Fanning Attachment for Rocking Chairs.*—June 16, 1868.—The rocking motion of the chair communicates a rotating motion to fans so arranged as to fan the occupant.

Claim.—1. The grooved rod B, in combination with the shaft D and any fans G, substantially as shown and described, and for the purposes set forth.

2. The tube A and grooved rod B, or its equivalent, and spring I, by means of which a reciprocating rectilinear motion of the rod B is changed to a reciprocating rotary motion of the shaft D, and any fans, G, in combination with any rocking chair, M, substantially as shown and described.

3. The device for holding the shaft D in proper position with respect to the rod B, substantially as shown and described.

4. The collar K, in combination with the tube A, made in two parts, for adjusting the position of the fans G, substantially as shown and described.

5. A fanning attachment to rocking chairs, substantially as shown and described.

78,966.—Isaac Hodgson, Indianapolis, Ind.—*Construction of Prisons.*—June 16, 1868.—This invention relates to a mode of securing the cell and other interior doors of prisons by which the jailor is enabled to unfasten one or more doors at pleasure.

Claim.—1. The hollow door post M, furnished with the hooded shutters R, the cord ways L, and vertical tube or U-iron, *a*, substantially as set forth.

2. The hasp N and eye *g*, bolt *o*, and cords *e*, and stops *r* and *i*, constructed and arranged substantially as and for the purpose set forth.

78,967.—Joel S. Hood and John H. Hood, Washington City, D. C.—*Perpetual Register.*—June 16, 1868; antedated June 6, 1868.—This device consists of a changeable register and is designed for showing the number of articles of each kind sent to the wash, the price of each article on a bill of fare, or for other like purposes.

Claim.—1. The slides *m*, constructed with rearwardly projecting spurs *s* at one end, and knobs *n* on the front side of their opposite ends, arranged in combination with the slotted plates or cards A B for operation together, as shown and for the purposes described.

2. The disks D, in combination with the slotted plates A B and slides *m*, all arranged substantially as and for the purpose specified.

78,968.—Ambrose L. Houghtaling, Philmont, N. Y., assignor to George W. Philip, same place.—*Drawing and Twisting Head for Spinning.*—June 16, 1868.—The improvement consists in mechanism connected with a revolving tube or hollow shaft placed in a stationary frame, whereby the operation of drawing the roving is continuous, and independent of spindles, which may be placed also in the same stationary frame to receive the roving, and spin a continuous thread or yarn.

Claim.—1. The combination of the independently adjustable drawing rollers *m m*, having straight parallel sides with the twisting tube *c*, to the axis of which they are always maintained in central relation, as and for the purposes herein described.

2. The combination of the drawing rollers *m m*, having straight parallel sides and adjustable independently on opposite sides of the axial line of the twisting tube *c*, with the positive gears *k k* and the tube, substantially as and for the purpose described.

3. The pair of adjustable sliding bearings *s s*, connected by the springs *t t* respectively, and fitted in the opposite recesses *p p*, in the box *n n*, in combination with the drawing rollers *m m*, having straight parallel sides, all constructed and operating substantially as and for the purposes described.

4. The combination of the adjustable take-up rollers *b* b^1 b^2, or their equivalents, with the adjustable drawing rollers *m m*, and the twisting tube *c*, arranged and operating in connection therewith, substantially as and for the purpose specified.

78,939.—Jonathan Hunsberger, Worcester Township, Pa.—*Horse Rake.*—June 16, 1868.—A foot lever and sliding toothed rack are combined with a cog wheel and spring clutches attached to the ends of the parts of the axle and with the levers by which the sliding rack is connected to the rake head so that the driver by a movement of the foot lever can cause the rake to rise and discharge the hay.

Claim.—1. Operating the rake teeth to discharge the collected hay, by means of a toothed rack and cog wheel connected with the axle of the machine, substantially as herein shown and described.

2. The combination of the foot lever L, toothed rack G, cog wheel D, sliding spring clutches E, and levers H and N, with each other, and with the axle A, frame C, and pivoted bar R, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the arms K and blocks J with flanges *g'*, formed upon the side edges of the toothed rack G, substantially as herein shown and described, and for the purpose set forth.

78,970.—John Morrison Hunter, Morristown, N. J.—*Soles for Boots, &c.*—June 16, 1868.

Claim.—1. The sheet metal outer sole A A*, B, constructed with spurs or lips, *a b*, around its edge, for attachment to the boot or shoe, in the manner substantially as shown and described.

2. The combination of the sheet metal sole A B, constructed as described, the cork tread and heel filling *f* D, and leather strips E C*, with the welt of the boot or shoe, all arranged substantially as shown and specified.

78,971.—Louis Heine, Philadelphia, Pa.—*Steam Bath.*—June 16, 1868; antedated June 13, 1868.—A gauze double bottom bed is combined with a steam-tight frame provided with a perforated cylinder, and an air-tight cover, for steaming invalids with steam from herbs.

Claim.—The frame or bedstead A A, in combination with the gauze bottoms C and D, cylinder B, and cover E, constructed substantially as described, operating as and for the purposes set forth.

78,972.—Charles King, New York, N. Y.—*Time Piece.*—June 16, 1868.—The movement and the hand are made to revolve round a pivot by the action of a balance weight which revolves round the central shaft of the movement, so that by the action of a very small movement a hand of any desirable size can be made to revolve, and a time piece is obtained which shows the time at a considerable distance.

Claim.—The balance weight *c*, attached either to the arbor of the minute hand or to that of the hour hand of a watch movement A, and operating in combination with said movement, and with the index C, substantially in the manner and for the purpose set forth.

78,973.—Leopold Klee, Pittsburg, Pa., assignor to himself and Charles T. Herrosee, same place.—*Mash Tub.*—June 16, 1868.—This apparatus is composed of two vessels one within the other, having a space between the two, and provided with a cover common to both, the latter so arranged as to hermetically seal the interior of the tub and the space between the two parts. Steam or other heating medium is introduced to the interior and to the space between the two parts for heating the mash.

Claim.—1. The combination of the tub A with the tub B, when constructed and arranged, substantially as and for the purpose described.

2. The combination, with the tubs A and B, of a cover, when arranged to hermetically close the openings to both tubs, substantially as and for the purpose described.

3, The combination, with the tubs A and B, of the heating pipe E, when arranged substantially as and for the purpose described.

4. The combination, with a hermetically closed mash tub, substantially such as herein described, of a means for compressing the air therein, as and for the purpose described.

5. The combination, with the mash tubs A and B, of a hinged cover D, when arranged to be hermetically secured to the tubs, substantially as and for the purpose described.

6. The combination, with the mash tubs A and B, of the cover, when arranged to hermetically close the same, as shown in Fig. 3, substantially as and for the purpose described.

7. The combination, with the tubs A and B, of the man-hole appliances F, pipes G and H, when all constructed and arranged substantially as and for the purpose described.

78,974.—C. M. Lane, Cincinnati, Ohio., assignor to himself and Charles Gooch, same place.—*Combination Tool for Measuring and Marking.*—June 16, 1868.—The tool combines a pair of outside and inside calipers, dividers, a square, a centering square, and rule.

Claim.—The combination of the graduated and pointed legs B, having curved arms E, right angular arm F, and graduated arc G, said legs B being pivoted together by a thumb screw, C, substantially as described for the purpose specified.

78,975.—Moses Leavitt and Azariah Foster, Ottawa, Ill.—*Washing and Wringing Machine.*—June 16, 1868.—The smooth roller is used both in the operation of washing and also for wringing the clothes. The hinged slats serve to press the clothes against the roller.

Claim.—1. The smooth roller *f*, in combination with the bucket roller *g*, the arms *d d*, the springs *j j*, and the springs *k k*, substantially as described.

2. The hinged slats *n n n* and the springs *q*, in combination with the elastic board F, substantially as and for the purpose described in the foregoing specification.

78,976.—Leander Lehman, Harrisburg, Pa.—*Bottle Lock.*—June 16, 1868.—A metal top is locked upon the neck of the bottle by a band provided with a screw bolt to be operated by a key.

Claim.—1. A self-locking bottle stopper, when the cover is secured by means of a spring lock and hasp, substantially as described.

2. Securing the same to the bottle by means of the band *a*, the ends of which are fastened together by the protected screw bolt *g*, in the manner described.

78,977.—Franklin Leonard, Cleveland, Ohio.—*Die for Forging Eye Bolts.*—June 16, 1868.—The form of the eye of the bolt ring is sunk one-half the thickness in the face of each die, the two forming a matrix in which the ring is shaped.

Claim.—The dies B C, when constructed and arranged to operate in the manner as and for the purpose specified.

78,978.—Henry M. Wyatt, Somerville, Mass.—*Lamp Burner.*—June 16, 1868.—The upper bend of each supporter constitutes a catch to enter holes in the deflector, and the lower lip serves to hold the chimney in place.

Claim.—The chimney and air-deflector elastic supporters D D, made substantially as described and represented, that is, with the operative bends, the lips and the deflector rests arranged and formed in manner as represented and described.

78,979.—John Leonard, Basil, Ohio.—*Portable Fence.*—June 16, 1868.

Claim.—1. Securing the panels A and B to each other, and in an erect position, by the inclined braces C and G, short-notched posts or stakes E, and wedges F and D, substantially in the manner herein shown and described, and for the purpose set forth.

2. Strengthening the panels A and B in position by the inclined braces H, short-notched post or stakes I, and wedges J, substantially as herein shown and described, and for the purpose set forth.

78,980.—J. E. Lindsley, Goshen, Ind.—*Weather Strip.*—June 16, 1868.—Designed as an improvement on a patent to same inventor, June 19, 1866. The metal strip or cap is set over the sill and is allowed to rise and fall to a certain extent being forced by the lever against the lower edge of the door when the latter is closed.

Claim.—The metal plate E, applied to the outer portion or tread D of the sill, in combination with the metal strip or cap F and lever G, all arranged substantially as and for the purpose set forth.

78,981.—Joseph H. Littlefield, Cambridge, Mass.—*Combined Press and Strainer.*—June 16, 1868.—A strainer rests upon a grating in the bottom of a casing, and articles are pressed by a follower operated by a lever.

Claim.—The metal frame A, with grates *a a* and feet B B, in combination with the strainer O and bottomless case C, with standard D, lever E, bar G, and follower F, the several parts being constructed, arranged, and used substantially in the manner specified.

78,982.—Emile Louiseau and Charles F. Reguin, Nashville, Tenn.—*Artificial Fuel.*—June 16, 1868.—Composed of coal dust, clay, saleratus, shellac, made into a paste, formed in molds, and dried.

Claim.—A composition for fuel, consisting of the ingredients herein shown and described.

78,983.—James G. Lucas, Newark, N. J., assignor to himself and Aretus L. Sawin.—*Machine for Bending Wood.*—June 16, 1868; antedated June 4, 1868.—Designed for shaping the tops of trunks. A longitudinally recessed former is so combined with a presser die that the central parts of a trunk top may be pressed to the required shape. Side-presser stays are employed to bring the lateral portions of the tops upon the surface of the former.

Claim.—1. The longitudinally-recessed former, in combination with the presser die, constructed to operate substantially as and for the purpose specified.

2. The side-presser stays, in combination with the former, constructed to operate substantially as and for the purpose specified.

78,984.—W. S. Mackintosh, Pittsburg, Pa.—*Axle Roller.*—June 16, 1868.—A pair of rollers, having grooves cut in their faces, of such form as to impart the proper shape to the heated iron when passed between the rollers.

Claim.—The rollers D, having grooves thereon, constructed and arranged substantially as shown and described, and for the purposes set forth.

78,985.—Joseph Marengo and Alexander Marengo, Burlington, Vt.—*Machine for Making Cigars and Cigarettes.*—June 16, 1868.—The wrapper containing the filling is placed in a depression in an endless band surrounding roughened rollers. The endless bands are tightened by depressing the sliding frame. The motion of the rollers serves to shape the cigarette.

Claim.—A machine for manufacturing cigars and cigarettes, constructed and operating substantially as shown and described; that is to say, with the roughened rollers *f f*, the stands D D, and the arms E E, the sliding frame H, with the roller K, with their belts and connections, when arranged substantially as and for the purposes set forth.

78,986.—John Young, Jr., Sunapee, N. H., administrator of the estate of Dellavan D. Marsh, deceased.—*Invalid Bedstead.*—June 16, 1868.—This invention consists in mechanism attached to the floor or a platform on which the bedstead may be firmly secured, and against which the mechanism rests, by which an invalid may be raised either at the head or feet, or on either side, to any desired position, or removed from one bed to another.

Claim.—1. The combination of the resting bars *g g′ g″* and sockets *d d′*, &c., the supporting lever D, the supporting arms E E′ E″, the pulleys F F^1, the pulley frame I, and pulleys G G′ G″, and circular revolving plate F^2, the bed plate B, the king bolt C, the supporting bars A A′, the bed pieces U U′, the cords Z Z′, the ratchet wheels K K′ K″, and cranks L L′ L″, the cords J J′, &c., and the axles *a a′*, and crank R, combined, arranged, and operating substantially as and for the purposes above described.

2. The combination of the resting bars *g g′ g″* and sockets *d d′*, the supporting lever D, the supporting arms E E′ E″, and the pulleys F F^1, the pulley frame I, and pulleys G G′ G″, the circular revolving plate F^2, the bed plate B, the king bolt C, the supporting bars A A′, the bed pieces U U′, the cords Z Z′, the ratchet wheels K K′ K″, and cranks L L′ L″, arranged and operating substantially as above described.

3. The combination of the resting bars *g g′ g″* and sockets *d d′*, the supporting lever D, the supporting arms E E′ E″, the pulleys F F^1, the pulley frame I, and pulley G, the circular revolving plate F^2, and bed plate B, the king bolt C, the supporting bars A A′, the bed pieces U U′, the cords J J′, the axles *a a′*, and crank R, arranged and operating substantially as above described.

78,987.—Patrick J. McElroy, East Cambridge, Mass.—*Nursing Bottle.*—June 16, 1868.—Designed to be adapted for use both as a breast pump and a nursing bottle.

Claim.—The milk receiving and delivering bottle *a*, when combined with a breast-nipple tube, *d*, and having an outlet, *c*, flexible pipe *g*, mouth and nipple-attaching tube *h*, and artificial nipple *i*, all arranged to operate substantially as described.

78,988.—Albert C. McKendree, Conneaut, Ohio.—*Ladder.*—June 16, 1868.—A frame containing a shaft and rollers is arranged to be fitted to the lower end of one side of the ladder, so that by raising the other side of the ladder the whole may be trundled to any desired place.

Claim.—The shaft O, roller o^1, and slotted bar o^2, when combined and arranged with the ladder A′, as and for the purpose set forth.

78,989.—Peter H. Mellon, St. Louis, Mo.—*Quilting Frame.*—June 16, 1868.—Metallic plates, slotted to receive the roller journals, are attached to the inner sides of the ends of the side bars of the frame, and between the two are sliding keys to prevent the rollers from working out of place.

Claim.—Securing the rollers E in the ends of the bars B by means of the slotted metallic plates D and slotted sliding plates F, as herein shown and described.

78,990.—ALBERT C. MINER, Philadelphia, Pa., assignor to himself and JAMES GUILD, Washington, D. C.—*Railroad Car Heater.*—June 16, 1868.—A steam box extends the entire length of the car floor and is provided with suitable pipes and stop-cocks or valves for regulating the supply of steam.

Claim.—The steam box E′, having its upper face corrugated, and forming the floor of the car E, in combination with the pipes B B^1 B^2, and valves C C′, when constructed and operating as herein represented and described.

78,991.—CHARLES MOSSANT, Bourg Du Péage, France.—*Felting Machine.*—June 16, 1868.—Designed for the felting of hat forms or cones by the combination of a rolling motion and a to-and-fro, or progressive and retrogressive longitudinal, motion. The progressive will be in excess of the retrogressive motion, whereby the cone or web will pass through and be delivered out of the machine, to be again entered at the point from whence it started, to undergo a second or third time the felting action of the machine.

Claim.—1. The hollow bed *a′*, in combination with the reciprocating platen, having vertically-sliding plates, *i*, and the endless chains *x*, bearing the cone rollers *f*, substantially as described, for the purpose specified.

2. The felting plates *h*, having attached thereto, by springs *k*, the laterally-yielding felting strips *j*, substantially as shown and described, and for the purpose specified.

3. The roller-carrying chains, constructed as described, with open links for the purpose of providing bearings for the cone rollers, substantially as herein set forth.

4. Imparting a to-and-fro travel to the rubbing platen, the cone rollers *f*, and hollow chains *x*, with a proportionately small excess of forward progression of the roller chains, by means of the eccentrics P Q K, and their connecting rods, the crank shaft *l′*, and connecting rods M, the friction lever, and the pawl lever *o*, pawl *v*, and ratchet wheel N, all combined and arranged to operate in the manner herein shown and described.

78,992.—GERRIT V. ORTON, Cincinnati, Ohio.—*Hanger for Shafting.*—June 16, 1868.—On the lower half of the box or bearing is formed a spherical extension to fit into a corresponding socket in a supporting stem, the latter having a thread on its exterior, so that it can be revolved for adjusting the shaft in a vertical line. The box is retained in its seat by a through bolt.

Claim.—1. The convex projection *a*, in combination with the bolt *c*, for retaining the box in its seat, substantially as described.

2. The threaded stem *b*, when arranged to adjust the box by its own rotation, as herein set forth and described.

3. The screw bolt *c*, for retaining the box in its seat, in the manner and for the purposes specified.

4. The combination and arrangement of the convex extension *a*, revolving screw stem *b*, and screw bolt *c*, arranged and operated substantially as set forth and specified.

78,993.—GEORGE T. PALMER, Brooklyn, N. Y.—*Bottom for Boiler.*—June 16, 1868; antedated June 6, 1868.—A perforated plate or false bottom is placed on the bottom of a culinary boiler pot to prevent articles from being burned when boiled.

Claim.—A perforated plate, *a b*, with a depressed rim and handle, *c*, made substantially in the manner shown, and for the purpose set forth.

78,994.—ELIAS C. PATTERSON, Rochester, N. Y.—*Railroad Car Jack.*—June 16, 1868.—A jointed brace to be attached to the coupling pin of a car and operated by means of a lever, whereby one man can move cars on the track.

Claim.—The jointed brace B and C, operated by lever A, substantially as described.

78,995.—BENJAMIN P. PENDEXTER, Minot, assignor to himself and GEORGE W. HORNER, Mechanics' Falls, Maine.—*Machine for Sharpening Saws.*—June 16, 1868.—The annular file is rebated out upon one of its inner edges, to receive the flange of an annular metallic washer upon the hub of the shaft. The upper metallic portion of the bearing of the opposite end of the shaft is provided with an upwardly projecting anvil to receive the teeth of the saw.

Claim.—1. The annular file *a* secured to the flanged wheel A, upon the arbor C, by means of the flanged washers H, as herein described for the purpose specified.

2. The anvil *e*, for the saw set, formed upon and with the journal box of the arbor C, as herein shown and described.

3. In combination with the anvil *e* formed with the journal box, the pivoted hammer arm S, operated by the toe a^2, and spring S^2, as herein described for the purpose specified.

78,996.—L. H. PFLEEGOR, Milton, Pa.—*Safety Hook.*—June 16, 1868.—The long shank of the hook locks under a point of the lever, and the hook can be readily unlocked, if necessary, without slacking the draught.

Claim.—The combined construction and arrangement of the stock A, hook B, and lock lever C, substantially as and for the purpose herein specified.

78,997.—W. E. PHELPS, Elmwood, Ill.—*Corn Marker.*—June 16, 1868.—A frame provided with three wheels so arranged that, as the machine is drawn along, three furrows will be made, the wheels being allowed to conform to the inequalities of the surface.

Claim.—The frame A, provided with the two wheels C C, one at each end, in combination with the bar D, connected to the rear of frame A by a joint *c*, and provided with a wheel E, all constructed and arranged substantially in the manner as and for the purpose set forth.

78,998.—DAVID B. PLATT, Madison, Ind.—*Combined Harrow, Drill, Planter, and Roller.*—June 16, 1868.—A combined harrow, drill, planter, and roller so constructed and arranged that the drill and roller or planter and roller may be used together, or the roller and harrow may each be used alone.

Claim.—1. The combination of the rollers I with the removable seed box C, drill shaft E, wheels F, adjustable plows B, and frame A, all constructed, arranged, and operating substantially as described.

2. The combination of the removable seed box S, shaft T, planting rollers U, pinion W, toothed rack S, and lever Y, with the adjustable plows B and frame A, all constructed, arranged, and operating substantially as set forth.

3. The combination of the pivoted tongue L, bar M, connecting rod N, pivoted lever O, perforated standards P R, and frame A, substantially as described, and for the purpose specified.

4. The combination of the slides G, plates H, removable seed box C, roller E, and wheels F, substantially as described.

5. The frame K, when its front and rear cross bars, K^1 K^2, are provided with teeth, in combination with the removable toothed cross bar K^3, substantially as set forth.

78,999.—FREDERICK POST, Plano, Ill.—*Scraper.*—June 16, 1868.—The scraper being lowered to contact with the surface of the ground, the disconnected earth is forced back, by the movement of the machine, into the cavity of the scraper, which latter, when filled, is elevated, and the load carried away and emptied.

Claim.—The combination of the scraper A, chains E, rollers M, ratchet wheel H, ratchet I, spur wheel F, pinion G, and crank D, all constructed substantially as described, and operating as specified.

79,000.—GEORGE RAFT, Erie, Pa.—*Device for Fitting Wrist Pin.*—June 16, 1868.—A tool shaft bearing a cog wheel, and having a long bearing in the frame plate of the machine, bores out the eye for the wrist pin, while the crank shaft is still on the centers of the lathe.

Claim.—The improved device herein described for boring out the eyes for wrist pins.

79,001.—SAMUEL REED, Rising Sun, Md.—*Cultivator.*—June 16, 1868.—The pointed or rudder teeth may be readily inclined to one or the other side by means of the long lever.

Claim.—1. The combination of the forked draught bar I, curved notched bar J, and sliding catch K, or their substantial equivalents, with each other and with the frame A of the cultivator, substantially as herein shown and described, and for the purpose set forth.

2. The pointed or rudder teeth C, removably attached to the pivoted shanks D, for the purpose of pivoting the said teeth to the frame A, substantially as herein shown and described.

3. The combination of the long lever F, short slotted levers E, pivoted shanks D, and pointed or rudder teeth C, with each other, and with the cultivator frame A, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the lever catch G, with the long lever F, and with the curved and notched rack H, attached to the cultivator frame A, substantially as herein shown and described, and for the purpose set forth.

79,002.—CHRISTIAN C. REESE, Attica, Ind.—*Churn.*—June 16, 1868.—The dashers are so formed that when rotated in one direction the cream will be thoroughly agitated, and when rotated in the opposite direction they serve to gather the butter.

Claim.—1. A churn dasher, consisting of the vertical shaft F, radial arms G H, dashers I *i*, J *j*, and gatherers K L, the whole being arranged and operating substantially as herein described and set forth.

2. In combination with the elements F, G, H, I, *i*, J, *j*, K, and L, of the preceding clause, the pinion D, spur wheel E, and winches *e e'*, for the purpose specified.

79,003.—CHRISTIAN REINHART, New Haven, Conn.—*Escapement for Clock.*—June 16, 1868.—The crown wheel is made double, having two rims on which the teeth incline to each face. The verge collet is fitted on a vertical shaft to which a forked lever is secured. Above the verge collet is placed a stop plate provided with an open space through which the teeth of the crown wheel escape as the lever vibrates.

Claim.—1. The double-tooth crown wheel A, as constructed, in combination with the verge collet B and stop collet E, operating substantially as and for the purposes herein specified.

2. The verge collet B, stop plate E, as constructed and arranged, in combination with the forked lever D, pin *h*, arm *k*, and balance wheel H, as set forth.

3. The forked lever D, with its open space *m*, stop pin or stud *n*, when the lever is balanced on the verge shaft C, so as to distance the motion of the collet B and stop plate E, to allow the points *a a* to escape through the incline openings *e e* and opening *f*, as herein described.

79,004.—F. A. RICH and H. W. BASSETT, Wallingford, Conn., assignors to HALL, ELTON & CO., same place.—*Die for Cutting Spoon Blank.*—June 16, 1868.—A cutter on the die is so arranged as to divide the blanks upon one edge, while the die proper cuts a series of blanks from the other edge, the blanks on the opposite edge being formed by the space between the blanks upon the edge where the die operates.

Claim.—The arrangement of the cutter G on the one part, and the corresponding edge *a* on the other part, and combined with the die C and punch E, and in such relative position thereto that the whole will operate in the manner substantially as set forth.

79,005.—GEORGE RICHARDS, Richland Centre, Wis.—*Wagon Bolster.*—June 16, 1868.—The ends of the bolsters are provided with journals having metal caps provided with sockets for holding the stakes. The caps are held in an upright position by springs, and can be turned down out of the way when desired.

Claim.—The combination, with the bolster A, of the cap B, spring *d*, and lug C, substantially as and for the purpose described.

79,006.—E. H. RIPLEY, North Chelmsford, Mass.—*Machine for Planing Moldings.*—June 16, 1868.—The machine is so constructed and arranged that by very simple adjustments the same cutter may be used for cutting moldings of many different designs.

Claim.—1. Pivoting or hinging the feed box J' to the plate F', attached to the upper end of the vertical shaft D', substantially as herein shown and described and for the purpose set forth.

2. The eccentric plate or frame V, constructed substantially as herein shown and described, in combination with the vertical shaft D', as and for the purpose set forth.

3. The combination of the adjustable connecting rod U, and weighted or balanced lever Q, with the cam O and pivoted eccentric plate or frame V, substantially as herein shown and described and for the purpose set forth.

4. The combination and arrangement of the slotted lever R, centrally pivoted to the vertically adjustable support X Y, the rod Z and step A', with relation to the cam P and vertical shaft D', all constructed and arranged to operate in the manner and for the purpose substantially as herein shown and described.

5. The combination of the adjustable arm V' and slotted rigid arm U' with the vertical shaft D' and pivoted collar E', through which said shaft passes, substantially as herein shown and described, and for the purpose set forth.

79,007.—WILLIAM ROBERTS, Farnham, N. Y., assignor to himself, AUSTIN ROBERTS, and WELCOME SPRAGUE, same place.—*Corn Sheller.*—June 16, 1868.—The roller journals are supported upon blocks and springs placed in recesses in the side of the frame to admit of the roller yielding upwardly and horizontally.

Claim.—Supporting the journals *a'* of the toothed roller A within the slots or recesses *b'*, in combination with the blocks C and springs C', or their equivalents, when these parts are constructed and operating in the manner substantially as herein described.

79,008.—JAMES H. ROWE, Fort Wayne, Ind.—*Churn.*—June 16, 1868; antedated June 6, 1868.—The beaters are beveled and chamfered so that in passing through the milk to be agitated, converging and diverging currents are alternately formed without the tendency of throwing the milk into a spray.

Claim.—A churn dasher, constructed in the manner and for the purpose herein specified and described as an article of manufacture.

79,009.—WILLIAM F. RUNDELL, Genoa, N. Y.—*Harvester Reel.*—June 16, 1868.—Relates to an improvement upon a patent granted to the same inventor December 31, 1867, and consists in a modification of the elbows by which the beaters are secured to the arms, so that they may be tightened in the event of becoming loose by shrinkage.

Claim.—The constructing of the elbows E of two longitudinal parts, with bolts passing transversely through the two parts, and also through the arms and beaters, substantially in the manner as and for the purpose herein set forth.

79,010.—FREDERICK M. RUSCHHAUPT, New York, N. Y.—*Explosive Powder.*—June 16, 1868; antedated June 4, 1868.—Consists in the mixture of chlorate of potassa and naphthaline, the latter being purified by pressing and sublimation and pulverised, and to which is added a compound varnish.

Claim.—The use of naphthaline, in a manner as described, and for the purpose set forth.

79,011.—DANIEL SAGER, New York, N. Y.—*Corn-Husking Machine.*—June 16, 1868.—The picker is provided with a series of cutting edges running in a direction of its length, and formed on one side by straight radial lines and on the other by curved lines.

The husking rollers are provided with grooves and rotate in opposite directions.

Claim.—1. The picker B, when formed as herein described, and for the purposes specified.

2. The husking rollers D D, with their grooves *d d*, as and for the purposes set forth.

79,012.—N. C. Sanford, Meriden, Conn.—*Auger.*—June 16, 1868.—The auger is formed with two or more cutting lips so arranged that the paths of the several lips will be different and distinct.

Claim.—Two or more cutting lips, *a b c*, of different radial distance from the axial center of the auger, and in different horizontal planes, all constructed to operate substantially in the manner and for the purpose as set forth.

79,013.—Elhanan W. Sargent, Lowell, Mass.—*Mechanical Movement.*—June 16, 1868.—For converting reciprocating into continuous rotary motion. A cross-head is arranged to slide upon guide rods in sleeve bearings secured to the back plate of the cross-head. Pivoted nippers armed with needle points engage with an endless belt and move the latter as the cross-head is reciprocated.

Claim.—1. The cross-head K, constructed as described, and provided with nippers *n*, and combined with the guide rods *g* and belt H, in the manner and for the purpose substantially as described.

2. The combination of all the operative parts specified, arranged to operate substantially as and for the purpose set forth.

79,014.—John W. Schreiber, New York, N. Y.—*Lamp Burner.*—June 16, 1868.—The chimney is supported upon springs projecting from the base of the burner so as to leave an open space for the air below the chimney. An outer wick tube extends above the upper end of the main wick tube, and rests on springs so that a horizontal circular plate projecting from it is held against a contracted portion of the chimney.

Claim.—1. The secondary tube D, arranged around the main wick tube B of a burner, and projecting above the same, when said secondary tube is, by means of springs *a a*, that fit under a plate, E, projecting from the tube, held up, and adjusted up and down, as set forth.

2. Closing the chimney of a lamp burner by means of a perforated plate, E, which is held up against a contracted portion of the chimney by means of springs *a a*, as described, so that all the air will have to pass to the flame through the said plate E.

3. A lamp burner, consisting of the body A, tube B, and base plate C, in combination with the secondary tube D, perforated plate E, springs *a*, cap G, and spring holders F F, or their equivalents, all made and operating substantially as herein shown and described.

79,015.—Otto A. Schulz, Chicago, Ill.—*Tongue Depresser and Atomizer.*—June 16, 1868.—The atomizing tubes pass through the tongue-depressing holder to which are secured wires for the support of the bottle holder and the attachment of a handle. The guard prevents the ends of the tubes from coming in contact with the membranes of the mouth and pharynx.

Claim.—The combination of the atomizer and tongue depresser, provided with atomizing tube holder B, guard C, and bottle holder D, arranged and operating in the manner as herein described and specified, or in any other manner producing substantially the same result.

79,016.—William Fishley Serjeant, St. Louis, Mo.—*Railroad Rail Tie.*—June 16, 1868; antedated June 4, 1868.—The ties are slipped upon the rail sections previously to securing the latter in place.

Claim.—1. The employment of a holding-down cross-tie, which is constructed with jaws upon its ends, which will embrace the rails, when said tie is secured to, or adapted for being secured to, the wooden bed of the track, by means substantially as described.

2. A metallic cross-tie, constructed of one piece of metal, with jaws, *a a*, upon its extremities, and with transverse perforations through it, as herein described and shown.

79,017.—S. Sichel and S. Feust, New York, N. Y.—*Ticket Register.*—June 16, 1868.—The tickets are arranged in a continuous roll and are withdrawn by rollers, one ticket at each revolution, so as to protrude beyond the converging edges of the plates. The delivery of a ticket is indicated by a bell.

Claim.—The combination of the rollers J, plates *g*, cam I, crank L, spool D, bell G, hammer H, with any suitable train of wheel work, connecting the rollers with the dials of any suitable registering apparatus, all substantially as shown and described, and for the purpose set forth.

79,018.—F. L. A. M. Smith, Brooklyn, N. Y.—*Oven Rack for Ship Stoves.*—June 16, 1868; antedated June 4, 1868.—A device to be placed in the ovens of ships stoves or cabooses so as to retain the dish, containing the article to be cooked, in a horizontal position under the rolling of the vessel.

Claim.—1. The adjustable box E, containing a meat pan, F, suspended on journals *a*, to uprights A A, all constructed, arranged, and operating substantially as described.

2. The grooved uprights or standards A A, provided with a series of holes, through which a removable pin, *c*, is passed, for sustaining the journals or trunnions *a a*, of box E, substantially as and for the purpose described.

3. The application of the bars D to the frame in which the box E is suspended, to prevent the tilting or tipping over of the frame within the oven, substantially as set forth.

79,019.—Robert D. O. Smith, Washington, D. C.—*Connecting Rod Adjustment.*—June 16, 1868.—By turning the screw sleeve the distance between the ends of the rod may be increased or diminished without detaching either end from its wrist connections.

Claim.—1. A connecting rod or pitman constructed in two parts, and united by the sleeve D with right and left screws, substantially as and for the purpose set forth.

2. A washer provided with an inward projecting tongue, M, to be placed between a main and check nut, in connection with a spline, N, cut in the screw, substantially as and for the purpose set forth.

79,020.—Sidney Smith, Worcester, Mass.—*Hot Air Furnace.*—June 16, 1868.—The radiating surface of the furnace is formed with a series of corrugations, against which the moving currents of air are brought by means of deflecting plates.

Claim.—1. The shell A, corrugated horizontally, as described, in combination with the deflecting plates C C, substantially as and for the purpose set forth.

2. The flues E, constructed with corrugated walls *e*, and hollow cones *f*, substantially as and for the purpose set forth.

3. The deflecting plates C C, or their equivalents, to deflect the upward currents of air against the radiating surfaces of the furnace.

79,021.—John Souther, Boston, Mass.—*Steam Fire Extinguisher.*—June 16, 1868.—The weight that operates the lever attached to the steam valve is suspended from a line leading over a pulley and across a room or vessel. When the line is severed by a fire, the whistle is sounded and the escaping steam or other fluid serves to extinguish the flame.

Claim.—1. A self-operating fire alarm and extinguisher, consisting of the pipes A and H, whistle B, valve C, lever F, and weight E, or their equivalents, all constructed and arranged to operate substantially as herein described.

2. The pipes A and H, fusible plugs I and J, and valve stem K, constructed and arranged to operate substantially as herein described and for the purpose set forth.

79,022.—Jacob D. Spang, Dayton, Ohio.—*Gas Stove.*—June 16, 1868.—The burner is constructed of two pieces, the one being screwed to the pipe and provided with a single hole at the center, and upon the end of which is screwed the other piece, provided with several holes arranged to throw jets of gas at different inclinations from the vertical jet in the center.

Claim.—The burner, consisting essentially of the parts *m n*, constructed as described, and operating in the manner and for the purpose set forth.

79,023.—A. STEWARD, Plano, Ill.—*Thread Show Case.*—June 16, 1868.—Spools of thread are placed on shelves inclining from front to rear, and are prevented from rolling out by a cleat or stop in front. When a spool is removed its place is supplied successively by those in the rear.

Claim.—The show case for containing spools of thread, consisting of the ends A, top B, partitions D, stops E, and inclined planes G, substantially as specified.

79,024.—EUGENE SULLIVAN, New York, N. Y., assignor to the AMERICAN HORSE COLLAR COMPANY, Boston, Mass.—*Fabric for Covering Horse Collars.*—June 16, 1868.—The combination of some elastic fibrous fabric with a layer of vulcanized rubber or other elastic water proof substance.

Claim.—The within-described improved elastic water-proof covering for the bearing surfaces of horse collars.

79,025.—ABNER TAYLOR, New Hartford, Conn.—*Farm Gate.*—June 16, 1868.—The gate when unlatched assumes a vertical position, the rear portion of the extended upper rail being weighted.

Claim.—The gate A, posts B B′, rail C, bar *d*, and rod *e*, the whole being constructed and arranged as and for the purpose described.

79,026.—WILLIAM A. TERRY, Bristol, Conn.—*Calendar Clock.*—June 16, 1868.—The wheel C, to which the disk is attached, is provided with a number of pins placed in such positions that, at the end of each month before one having less than thirty-one days, one end of the pawl when released will fall against the proper pin to regulate the position of the pawl, so as to be taken up by the pin at the proper time to give the right number of days in the following month.

Claim.—1. The use of thirty-two teeth in the month wheel, instead of thirty-one, substantially as herein specified.

2. The use of the month wheel with a year wheel, or four years' wheel, revolving together upon a common axis, and so arranged that the year wheel, or four years' wheel, shall change its relative position to the month wheel one tooth or division at a certain point in each revolution, substantially as herein described.

3. The combination of the disk A with the wheel C, the pawl *a a′*, the wheel D, and the pinion *g*, or its equivalent, constructed and operating substantially as described.

4. The disk A, in combination with the pointer B, so arranged that the same pointer shall indicate the month and the day of the month, substantially as described.

79,027.—AUGUSTUS THAYER, Albany, N. Y.—*Implement.*—June 16, 1868.

Claim.—The implement, consisting of the parts A A′, having the head B, tack holder D, roughened surfaces *b b′*, *c c′*, *d*, *e*, *f*, notches *j l*, holes *k m*, cutters *i i*, grooves *o*, projections *n*, saw set *p*, screw-driver *h*, and claw *g*, all constructed and arranged to operate substantially as and for the purposes herein shown and described.

79,028.—MARX THODE, Mattoon, Ill.—*Subterranean Wall.*—June 16, 1868.

Claim.—In the formation of subterranean structures, the employment of double walls *e g*, with the space between them filled with pitch, *m*, or asphaltum or other impervious material, to be melted and poured therein, as the walls are built up, and a bottom, formed by the layers *b d*, with a layer of pitch or asphaltum *m* between them, all constructed and arranged as described for the purpose specified.

79,029.—W. R. THOMAS, Catasaqua, Pa.—*Car Wheel.*—June 16, 1868.—A hollow enlargement surrounds the hub and communicates with hollow arms having between them a thin webbing of metal also connecting with the rim and the said enlargement.

Claim.—A cast-metal car wheel, provided with the hollow enlargement A, hollow arms B communicating with the same, and the inturning thin metal webbing, all constructed and arranged substantially as and for the purpose described.

79,030.—JOHN A. THOMPSON, Auburn, N. Y.—*Machine for Grinding Mowing Machine Knives.*—June 16, 1868.—Improvement upon a machine patented to same inventor, March 17, 1868. The invention relates to certain details in the construction and means of adjusting the same.

Claim.—1. Providing the bar C with the rollers L, and the clamps K provided with the rollers J, substantially as described.

2. In combination with the bars C and C′, connected by the jointed links *b*, the plates A and D, constructed and arranged to operate as set forth.

3. The bar C′, connected to the index plate A by the jointed links *b*, and the levers E and E′, substantially as represented in Figs. 7 and 8.

4. In combination with the apparatus, constructed as last above described, arranging the bar C to slide longitudinally thereon, for the purpose of moving the sickle along without changing the position of the frame, as set forth.

5. The auxiliary stone R, when arranged to be adjusted on either end of the shaft, for use in connection with the main stone P, substantially as and for the purpose set forth.

79,031.—JOHN A. THOMPSON, Bucyrus, Ohio.—*Machine for Cleaning the Intestines of Slaughtered Animals.*—June 16, 1868.

Claim.—1. The cleaning of the intestines of animals by revolving brushes, substantially as herein described.

2. The cleaning of the intestines of animals by machinery, which operates to draw the intestines through between contiguous revolving brushes, by means of contiguous rollers, substantially as herein described.

3. The driving wheel *a*, pinion *d*, grooved or flanged roller *c*, gear wheel *e*, gum roller *h*, fluted roller *i*, and brushes A A, when arranged, combined, and operated substantially in the manner herein shown and described, for the purpose set forth.

79,032.—DENNIS H. TIERNEY, New York, N. Y.—*Bevel and Tapering Gauge.*—June 16, 1868.—An angular bar and a slide bar, each furnished at one end with an adjustable blade, are combined with an adjustable slide fitted on the angular bar. An adjustable arm is so combined with the sliding bar as to readily adapt the gauge to the beveled portion of a cavity.

Claim.—1. The combination of the slide B, angular bar A, adjustable slide bar C, and adjustable blades *c e*, all arranged substantially as and for the purpose specified.

2. In combination with the subject-matter of the foregoing clause, the adjustable arm *g*, arranged substantially as and for the purpose specified.

3. The arrangement of the graduated scale plate *m*, adjustable blade *c*, and bar A, substantially as and for the purpose specified.

79,033.—Canceled.

79,034.—RICHARD UREN and JOHN WALKER, Houghton, Mich., assignors to themselves and JOHN UREN, same place.—*Stamp Mill.*—June 16, 1868.—Supplementary cylinders and pistons are provided at each end of the main cylinder, to act as cushions, against which the force of the stamp piston may be expended without damage whenever the piston may be forced against the ends of the steam cylinder.

Claim.—1. The supplementary cylinders H H′ and pistons J J′, in combination with the cylinder G, piston F, stamp C, and coupling D, substantially as described for the purpose specified.

2. The supplementary pistons J and J′, in combination with the yokes K K¹ L, stamp C, and coupling D, substantially as described for the purpose specified.

3. The rock shaft *h*, adjustable cams *i*, fixed cams

x, and arm *y*, in combination with the coupling D and stamp C, substantially as described for the purpose specified.

4. The crank shaft S, cam *p*, connecting rods W W′, and valves O O′, in combination with the rock shaft *h*, cams *i x*, coupling D, and stamp C, substantially as described for the purpose specified.

5. The bracket R′, lever *j*, and floats *l*, in combination with the cam *i*, stamp C, and coupling D, substantially as described for the purpose specified.

6. The horizontal shaft *a*, cam *b*, valve 2′, and valve-rod *d*, in combination with the coupling D, substantially as described for the purpose specified.

7. The combination of the spring bed 23, rod *m*, spring *n*, spring catch o^2, tappet *p*, arms Y *u*, and spring *t*, substantially as described for the purpose specified.

79,035.—W. H. and L. WADDELL, Churchville, Va.—*Churn*.—June 16, 1868.—The rotation of the wheel imparts a reciprocating motion to the beam to which the dasher-rod is attached.

Claim.—The combination of the wheel, roller, and lever beam, as above described, for the purpose of operating the common churn.

79,036.—WILLIAM WALLACE, Ansonia, Conn.—*Machine for Forming Lamp Tubes*.—June 16, 1868.—By forcing apart the bars the tube is spread and stretched into proper form.

Claim.—The arrangement of the two bars *a* and *b*, their outer edges parallel to each other, or nearly so, so as to receive the cylindrical tube, and combined with a device to force the said bars, so as to flatten and form the tube substantially in the manner herein set forth.

79,037.—ENOS WATERBURY, Stamford, Conn.—*Sewing Machine*.—June 16, 1868.—Beneath the path of the shuttle and near to the needle is a vibrating hook, which enters between the needle and its thread, after the former has receded a short distance from its lowest position, so as to hold the loop and push aside or spread it open to allow the point of the shuttle to enter.

Claim.—The combination of the pivoted right-angular arm M, pin J, slotted carriage G, and shuttle driver K, substantially as described for the purpose specified.

79,038.—JACOB WEAVER, Jr., Elizabethville, Pa.—*Corn Planter and Seed Drill*.—June 16, 1868.—The ratchet wheel is made to engage with a toothed lever under control of the driver, to lock the axle and prevent its rotation when necessary.

Claim.—1. The seed tubes and cultivator bar or frame I, provided with the teeth J, in combination with the frame A, lifting lever L, and seed wheels or rings E, all arranged and operating as described.

2. The arrangement of the rag wheel or ratchet *b* on the axle, in combination with the toothed lever or brake *b*′, operating as described.

79,039.—ALFRED M. WEEKES, New York, N. Y.—*Lamp Shade*.—June 16, 1868.—The elongated projections serve to shade the eyes on one side.

Claim.—Providing the lamp shade with one or more elongated projections, *a a*, substantially as and for the purpose herein shown and described.

79,040.—FRANZ RUDOLPH WEGMAN, Saxony, assignor to himself and TOBIAS KOHN, Hartford, Conn.—*Wire Spring Mattress*.—June 16, 1868.—Patented in Saxony March 6, 1865.—The mattress is stretched in the frame by inserting struts which rest against the upper corners of the frame.

Claim.—1. A mattress or cushion, composed of spiral wire springs, braided or linked together in two or more series, so as to form one connected web of woven wire, substantially as herein described.

2. The combination of the struts H H with a mattress of wire springs, substantially as described, for the purpose of stretching it and rendering it more elastic.

79,041.—D. A. WHITE, Chagrin Falls, Ohio.—*Stove Pipe Damper*.—June 16, 1868.—Deflectors are formed on the edges of the disk so as to allow the smoke to escape and throw the heat against the sides of the pipe.

Claim.—The herein-described stove damper, consisting of the convex disk A and deflectors B, constructed and arranged in the manner as and for the purpose specified.

79,042.—F. R. WILLSON, Columbus, Ohio.—*Harrow*.—June 16, 1868.—Designed as an improvement on a patent of the same inventor, of September 24, 1867. On the under sides of the inner and outer rails is a series of blocks formed with grooves in which are secured metal plates that constitute the harrow teeth.

Claim.—The arrangement of the outer rails A A and inner rails B B, and the grooved teeth-holding blocks K K, pivoted in the manner described, and the perforated bars D D, when the several parts are constructed and operated substantially as specified.

79,043.—GEORGE W. WOOD, Richmond, Ind., assignor to himself and JAMES W. SLATER, same place.—*Inking Apparatus for Color Printing*.—June 16, 1868.—Designed for printing in more than one color. Adjustable inking tablets are arranged in sets parallel with one another, each set receiving one color and disposed upon corresponding lines of type. In traversing the ways, each roller is brought in contact with the face of its own table, without touching the others.

Claim.—1. The combination of the reciprocating bed B, ways C, adjustable tablets D D^1 D^2, and rollers G G^1 G^2, substantially as described.

2. The combination of the reciprocating bed B and roller frame F, so connected by intermediate mechanism that the movement of the former shall communicate motion to the latter in an opposite direction, substantially as and for the purpose set forth.

79,044.—S. W. WOOD, Cornwall, N. Y.—*Pneumatic Grain Elevator*.—June 16, 1868.—The grain is drawn into and conveyed in a pipe or passage to the apparatus by atmospheric pressure produced by the continued partial exhaustion of the air therefrom, and then discharged.

Claim.—1. The combination and arrangement of the atmospheric conveying pipe or passage A, exhaust chamber B, and pump or blower C, substantially as and for the purpose herein specified.

2. In combination with the foregoing, the self-acting discharge valve D, operating substantially as and for the purpose herein set forth.

3. The additional chamber H, and discharge valve I, alternating with the valve D, substantially as and for the purpose specified.

4. The contracted aperture *o* of the receiving nozzle, for the purpose specified.

5. The combination of a pneumatic pipe or passage, for conveying grain, with a mechanical grain elevator, as herein specified.

6. The curved or bent discharge nozzle *g*, arranged in combination with the discharge pipe or spout, so as to distribute the grain by its own gravity, substantially as herein specified.

79,045.—CHARLES WULSTEN, Lafayette, Ind.—*Printers' Ink*.—June 16, 1868.

Claim.—An ink, for all the purposes for which printers' ink is used, in which the silicate of alumina, white clay, or Jersey clay, or kaolin, prepared with sulphate of zinc, and with or without dilute sulphuric acid, is partially substituted for lamp black, blue, green, or other coloring matters, with drying materials and varnish, prepared as and in the proportions substantially as shown and described, and for the purposes set forth.

79,046.—FRANCIS ZELL, Louisville, Ky.—*Sash Fastener*.—June 16, 1868.—When the sashes are closed the gravitating movement of the handle causes the projection to take into an aperture in the case to prevent the bolt from being operated from the outside.

Claim.—1. The spring D, so attached to the spring bolt B, that when the latter is retracted it shall be retained in its retracted position, but be partially projected from its casing by the movement of the sash, so as to be brought against a projection, released, and thrown into the socket when the sash is closed, substantially as and for the purpose set forth.

2. The pivoted handle F, provided with a projection or finger, *f*, for locking the bolt, and operating in the manner and for the purpose explained.

79,047.—**Francis Zell**, Louisville, Ky.—*Shutter Fastening.*—June 16, 1868.—The shouldered head enters a recess and is secured in place by a partial turn. Two slotted and matched retaining plates are applied to the shank of the fastening device from opposite directions, and secured to the frame to prevent displacement by an outward or inward movement.

Claim.—1. The fastening device, consisting of the successive cylindrical portions C C^1 C^2, the thumb piece C^3, and shouldered head C^4, in combination with two matched retaining plates, substantially as and for the purpose set forth.

2. The plates D D, constructed with slots having diverging sides, and with corresponding projections *d d*, substantially as and for the purpose set forth.

79,048.—**Henry C. Appleby**, Conneaut, Ohio.—*Carbureter.*—June 23, 1868.—The arms being rapidly rotated with the tube create a partial vacuum, inducing a current of air which descends through the vertical tube and is discharged into the hydrocarbon liquid by the horizontal arms. The air ascends through the liquid and escapes into the gasometer. The valve prevents the escape of vapor through the tube. A horizontal serrated disk is placed above the arms in the tank to moderate the rotary motion of the liquid.

Claim.—1. Discharging a current or currents of air into hydrocarbon liquid by centrifugal force, substantially as and for the purposes described.

2. In combination with a carbureting apparatus, the valve *i*, operated by the weighted lever J, and the serrated disk H, substantially as and for the purpose described.

79,049.—**Daniel W. Ayers**, Sheldon, Ill.—*Device for Grinding Tools.*—June 23, 1868.—The instrument when in use may be held like an ordinary bit stock, the main wheel being turned by hand. The device is especially designed for grinding sickle cutters but may be clamped to a table for general use, the tool being applied to either the circular grinding wheel or the conical grinding wheel, as occasion may require.

Claim.—An implement for grinding or sharpening tools, composed of a stock, gearing and grinding wheels, one or more, arranged to operate in the manner substantially as shown and described.

79,050.—**Lewis H. Baker**, Tarrytown, N. Y.—*Lounge.*—June 23, 1868.—Provision is made for forming a double bed, with space for the bed clothing when not used as a bed, and also for the addition of an adjustable washstand and drawer.

Claim.—In combination with a furniture lounge, an extension or folding washstand, arranged and operated substantially as described.

79,051.—**E. H. Benjamin**, Oak Hill, N. Y., assignor to **Gifford, Potter and Company**.—*Self-Locking Shutter Hinge.*—June 23, 1868.—The eye of that part of the hinge which is attached to the shutter fits upon a pintle on the other part, which is attached to the casing, and the contiguous surfaces of the two parts of the hinge are so formed that when the shutter is opened to the full extent, it descends to a limited degree carrying its part of the hinge downward and thus causing a hole in the shutter part of the hinge to catch over a vertical stud on the other part so as to hold the shutter open. When the blind is to be closed it is necessary to raise it. The parts of the hinge are adapted to be used at either part of the shutter.

Claim.—1. The reversible pintle plate P, provided with a curved recess, the pintle F, and pin *f*, and adapted to be secured to the arm *b* of the right angular plate B by means of the tongue *i* and screw *k*, all constructed and arranged as described, for the purpose specified.

2. The perforated projection G cast upon the plate A, and provided with the notched rib *z* and semi-circular extension *r*, in combination with the recessed pintle plate P and the right-angular plate B, having the stops S S′, all constructed and arranged as described, to produce a reversible shutter hinge, as herein set forth.

3. The semi-circular rib *q*, or its equivalent, substantially as shown and described, in combination with the screw *k* and pintle plate P, for the purpose of holding the latter firmly, all as set forth.

4. The tongue *i* of the pintle plate P, or its equivalent, substantially as shown and described, in combination with the slotted projection *b*, for the purpose of permitting the firm attachment of the pintle plate, all as set forth.

79,052.—**A. H. Blaisdell**, Newton Corners, Mass.—*Carpenters' Gauge.*—June 23, 1868.—The extremities of the fingers being moved along in contact with the curved edge of a board, adjust themselves by moving upon their pivot pins, so as to cause the marking point to move in a line corresponding with the edge of the board.

Claim.—The fingers E E, pivoted on the sliding block C, and operating so that their four ends will always remain in contact with a curved or straight edge, substantially as herein shown and described.

79,053.—**T. W. M. Castle** and **J. B. Conner**, Adriance, Ind.—*Printing Press Frisket.*—June 23, 1868.—The frisket is operated by the raising and lowering of the tympan, the parts of the frisket being closed upon the tympan, so as to grasp the sheet, by the action of spiral springs, and turned outward, to permit the printed sheet to be removed and a blank sheet placed in position, by the contact of levers pivoted to the tympan with prongs attached to the rear end of the bed.

Claim.—Constructing the frisket of the parts D D, attached to the tympan A, substantially as shown, in combination with the pulleys or semi-pulleys F, springs E, levers G G, and the prongs *e e*, all arranged and applied to operate in the manner substantially as and for the purpose set forth.

79,054.—**John G. Cross**, Brattleboro, Vt.—*Railway.*—June 23, 1868.—The outer lip of the chair may be extended up to the top of the rails, or a separate piece may be applied so as to form a sub-rail for the car wheels to roll upon in passing from one rail to another, the object being to make a continuous rail.

Claim.—1. The rails A, formed with rounded heads and branched or arched bases, and having their ends halved vertically to overlap and fit upon each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination the two-tie chair B, having a sub-rail, C, formed upon or attached to it, with the overlapped ends of the contiguous rails A, substantially as herein shown and described, and for the purpose set forth.

3. The sub-rail C, made solid with and upon the chair B, substantially as herein shown and described, and for the purpose set forth.

4. The detachable sub-rail C, secured to the chair B by means of the lug b^3, formed upon the outer lip b^2 of said chair, and entering a notch or opening in the lower edge of said sub-rail, substantially as herein shown and described.

5. The ends of the main rail A, having its ends secured to the sub-rail C and to the chair B by the bolts D and wedge keys E, substantially in the manner herein shown and described, and for the purpose set forth.

79,055.—**Isaac Davis**, Brooklyn, N. Y.—*Connection for Soft Metal Pipes.*—June 23, 1868.—The object is to dispense with the use of solder in connecting the ends of lead pipes. The ends of the pipes are spread out to form flanges, and a washer being placed between the two ends of the pipe, the caps are screwed together until the washer is firmly clamped between the flanges.

Claim.—A lead-pipe connection, consisting of the screw clamps C D, applied over flanges *a a*, and packing, all substantially as and for the purpose set forth.

79,056.—CLAYTON DENN, Frankford, Pa.—*Gridiron.*—June 23, 1868.—The detachable cover of the gridiron may be used as a cake griddle, by turning it bottom side up and placing it over the stove hole. The gridiron proper is depressed at the part adjacent the handle, inducing the gravy to flow into the handle, where it is saved for use. For broiling small articles, such as oysters, a wire gridiron is placed within the main griddle.

Claim.—1. The gridiron A, constructed substantially as and for the purpose described.

2. The combination, with the gridiron A, of the cover F, substantially as and for the purpose described.

3. The combination of the gridirons A and L, and the cover F, substantially as and for the purpose described.

79,057.—HENRY F. W. DETERDING, Alton, Ill.—*Harvester Rake.*—June 23, 1868.—A variable motion is transmitted from the axle through gearing and shafts, to a chain which is reciprocated across the platform and gives a similar motion to the rake. The platform is slotted in a direction parallel with its front edge to admit of the rake teeth passing up through it and traversing its whole length, from right to left. In moving inward to discharge the grain, the rake teeth are held in a vertical position by the action of the spring fitted upon the end of the rake head, and in moving outward the teeth are depressed so as not to interfere with the falling of the grain upon the platform.

Claim.—1. The wheel I, rack J, gearing *c* K L, and the shafts M O Q, all arranged and applied as shown, or in an equivalent way, for the purpose of operating the endless chain V and rake, substantially in the manner as and for the purpose set forth.

2. The pivoted plate X and spring *n*, in connection with the recesses *o q*, in the inner edge of the plate of the metallic framing Q', and the bent rake tooth *h* x of the rising and falling rake, all arranged to operate with the slotted platform S, substantially as and for the purpose specified.

3. The coiled spring *j*, in combination with the rake head *i* and socket W, whereby the rake teeth *h* are held in a vertical position, as herein described, for the purpose specified.

79,058.—HENRY L. DOANE, Green Oak, Mich.—*Horse Hay Fork.*—June 23, 1868.—The operator holding the hinged tines in an extended position thrusts the fixed tines into the hay, whereupon the hinged tines are forced down to bring the corresponding points of each pair of tines in contact, and thereby inclose the quantity of hay to be elevated.

Claim.—1. The swinging tines E E G, constructed of one piece of metal, when the parts E E are crossed, as shown, whereby their points are brought obliquely across the points of the fixed tines, as and for the purpose herein set forth.

2. The two pairs of tines A A, B B, each formed on one continuous rod or bar of metal, and hinged together by the cross part G and bent eyes *a a*, all substantially as shown and described, and for the purpose set forth.

79,059.—JACOB EBERHARDT, Newark, N. J.—*Hat Blocking Machine.*—June 23, 1868.—As the dies are brought together to shape the hat body, the brim is held upon a yielding surface and hence preserves its shape.

Claim.—The brim preserver, consisting of the elastic annular plate E, between the metallic annular plate D and frame B, in combination with the elastic male die A, and metallic female die C, as herein described, for the purpose specified.

79,060.—JOHN ENRIGHT, Louisville, Ky., assignor to himself and JAMES R. DEL VECCHIO, same place.—*Passenger Register.*—June 23, 1868.—The mechanism by which motion is transmitted from the turnstile to the recording apparatus, is so constructed and applied that the register is not affected by the exit of a passenger.

Claim.—1. The combination of the doors or bars F, shaft B, radial arms G, having stop pins *g'*, or their equivalent, attached to them, spring pawl J, and bent lever L, with each other when placed at the entrance of a car, boat, room, or other place, substantially as herein shown and described, and for the purpose set forth.

2. In combination with the above and with each other, the toothed wheel V attached to a shaft, S, having a single tooth or cog E', formed upon it, and carrying an index finger G', the toothed segment or wheel B', carrying an index finger, I', the dial plate H', lever or arm R, pawls W and A', connection P, lever O, rod J, and gong K', all arranged and operating as set forth for the purpose specified.

79,061.—R. H. FISHER, West Meriden, Conn., assignor to BEAVER FALLS CUTLERY COMPANY, Beaver Falls, Pa.—*Cutlery.*—June 23, 1868.—The bifurcated tang is formed at the end of the blade, and the edges of the prongs are flush with the sides of the handle, while their ends are bent in so as to take a firm hold in the handle. The bolster is fitted into recesses in the edges of the tang so as to be flush with the surfaces of the handle and tang.

Claim.—1. The bifurcated tang B, provided with hooks *c c*, fitting into the recesses in the handle C, and secured in position by means of the bolster D, fitting into the recesses *b b* and over the end of the handle, as herein shown and described.

2. Securing the bifurcated tang B to the handle C, by compressing the arms *a*, and slipping the bolster D into the recesses *b*, as herein shown and described.

3. Securing the bolster D to the handle by means of the rivet *d*, passing through the handle between the arms *a a* of the tang, substantially as herein shown and described.

79,062.—W. T. FISHER, Lenoir's, Tenn.—*Bevel Square.*—June 23, 1868.—The object is to combine within a single instrument several tools, which are generally used separately, namely, a bevel square, right-angle square, plumb, and level. The instrument is also designed to be used for determining angles and measuring distances.

Claim.—1. The arrangement of the fixed index, G, and movable index, H, with relation to each other, and the stock A, graduated blade B, and slotted protractor D, whereby the required angle of the blade with the stock is determined, as herein shown and described.

2. The described arrangement of the slotted stock A, graduated blade B, slotted protractor D, fixed index finger G, movable index finger H, and set screws E F, all operating as described, for the purposes specified.

79,063.—THOMAS J. FLAGG, New York, N. Y.—*Neck Tie and Watch Guard Combined.*—June 23, 1868.—The band or ribbon is passed round the neck, and the knot or bow is slipped up to its place under the chin. The elastic loop attached to the bow is passed over the front button of the shirt neck band to prevent the bow from slipping down. The guard ring of the watch may be permanently attached to the extremities of the neck band, or it may be attached by a snap, or otherwise.

Claim.—As a new article of manufacture, the combined neck-tie and watch guard A, consisting of the widened part a^1, and the narrow parts a^2 a^2, the latter being adapted to receive the slide a^3, which is secured to the button of the shirt by its loop a^4, thereby holding the neck tie in proper position on the neck of the wearer, the ends a^2 being also provided with a suitable means for attaching to the watch, the whole constructed and arranged as herein set forth.

79,064.—MARTIN GAYHART, Young America, Wis.—*Trace Buckle.*—June 23, 1868.—The buckle is made in two parts, pivoted together by a rod, and having corrugated surfaces between which the trace is pinched when strain is applied to the two parts, the object being to relieve the tongue of a portion of its duty.

Claim.—The parts A A A' A'' and B B B B', pivoted together by a rod, *a*, and provided with a rigid tongue, *e*, corrugated cross piece A' and B', all constructed and operating substantially as shown and described, and for the purpose set forth.

79,065.—JACOB GINTHER, Mier, Ill.—*Horse Rake.*—June 23, 1868.—The rake is attached to the axle by hinged bars, and revolves to discharge the load when its forward ends are made to encounter the ground. When the hay is to be discharged the rake is raised, together with its suspending frame, in order that the forward ends of the teeth may be depressed by the superincumbent weight, and the foot is lifted, at the same time, from the two central teeth upon which it rests to keep the rake from revolving, until a sufficient quantity of hay is collected. The trip stick has a pivoted stop rod, the lower end of which is in contact with a short stop tooth when the rake is gathering hay, the stop rod yielding when encountered by an opposite stop tooth at each semi-revolution of the rake. The rake may be sustained in an elevated position by the ratchet rack.

Claim.—1. The described arrangement of the trip stick *d*, having a ratchet handle, *g*, foot *b*, pivoted stop rod *e*, and spring brace *f*, with relation to the hinged bars *l*, carrying the rake A, said bars *l* being adapted to be elevated and lowered by means of the cord *a*, drum *o*, and lever *j*, all as and for the purposes herein shown and specified.

2. The combination of the ratchet rack and trip stick, substantially as described.

79,066.—J. H. GOODWIN, Scotland Neck, N. C.—*Hammer.*—June 23, 1868.—A screw driver is fixed in the end of the graduated handle, the head of the latter serving as a lever in using the screw driver. The groove in the inner side of the hammer head is intended to receive a nail, as shown, so that the nail may, preparatory to driving it, be thrust into the board. One of the prongs of the nail claw is notched to serve as a brad or tack claw.

Claim.—As an improved article of manufacture, the tool, consisting of the combination of a hammer with graduated handle and tack claw with a screw driver, constructed as described.

79,067.—JAMES GRAY, Newark, N. J.—*Sad-Iron.*—June 23, 1868; antedated June 13, 1868.—The cover is hinged or removable, and the perforated fire bed is fixed stationarily in the lower part of the hollow sad-iron. The interior communicates with the outside air by a hole in the side of the iron.

Claim.—1. The cover D, constructed as described, consisting of the plates *b c*, forming a cold air chamber, the upper plate being slotted for the passage of the arm *e* of the catch damper G, as herein shown and described.

2. The adjustable sliding damper G, when arranged below or near the mouth of the smoke pipe C of a hollow self-heating smoothing iron, substantially as and for the purpose herein shown and described.

3. A self-heating smoothing iron, when provided with a perforated cap fixed in the interior of the hollow iron, with a double cover, D, and with an adjustable damper, G, all made and operating substantially as and for the purpose herein shown and described.

79,068.—WILLIAM HACHENBURG, White Pigeon, Mich.—*Washing Machine.*—June 23, 1868.—The rubber is operated by a lever pivoted to an arm projecting from the upper part of the tub. The spring lever is attached to a shaft carrying arms, which pass between the ends of the rubber and the side walls of the box, and which may, by pressure applied to the spring lever, be made to bear down upon the journals of the rubber to exert the desired pressure upon the clothes.

Claim.—The combination of the curved sides B, bearing the rollers C, segmental rubber E, whose journals e^4 are hung in vertical slots, slotted bar F, connecting bar G, lever handle H, shelf I, shaft J, bars K, and spring lever L, all arranged as described for the purpose specified.

79,069.—C. O. HANSEN, Memphis, Tenn.—*Bevel Square.*—June 23, 1868.—The slotted plate has a scale on which the sliding head of the set screw may be set, by tightening up the said screw, at certain points, to mark the proper angles for figures having various numbers of sides.

Claim.—The bevel square, constructed as described, and consisting of the graduated plate B, longitudinally slotted, the pivoted arms A, links C, and sliding clamp nut D, all arranged to operate substantially as herein shown and described.

79,070.—JAMES T. HARRIS, Swampscott, Mass.—*Leather Roller.*—June 23, 1868.—When the wet leather adheres to the rollers it is detached by moving the guard or guards upon the pivoting points. The guards also stop the hand of the operator at a safe point as it moves forward with the leather.

Claim.—The guards D and E, either or both, and whether made separate or in one piece, in combination with the rollers of a leather-rolling machine, substantially as herein shown and described, and for the purposes set forth.

79,071.—DEXTER HEAD, Medusa, N. Y.—*Hoisting Apparatus.*—June 23, 1868.—The weight to be hoisted is attached to the lazy tongs, which are designed to accelerate the operation.

Claim.—The lazy tongs C, arranged to operate in connection with the derrick A, slotted frame B, the pulleys, cord *e*, and windlass, *f*, as herein described, for the purpose specified.

79,072.—SIDNEY HOLT, Baraboo, Wis.—*Hop Stripper.*—June 23, 1868.—The fixed and sliding bars have two series of teeth, a spring holding the movable bar in such position that its teeth occupy corresponding positions with those of the fixed bar; but the movable bar may be slidden laterally to remove the corresponding fingers from each other, and permit the vines to be inserted between the teeth of the different series, which being done, the handle is released and the bar restored to its normal position by the spring. The vines being then drawn outward from between the fingers, the hops are stripped off and fall upon the endless apron. The fine hops pass beneath the roller mounted above the apron, but clusters are caught by the curved fingers of the roller, and, being carried over the latter, are torn asunder by the action of said fingers and those fixed above them.

Claim.—1. The combination and arrangement, upon the frame A, of the fixed and sliding bars E F respectively, substantially as and for the purpose set forth.

2. The combination and arrangement, with relation to the toothed cylinder J, of the endless carrier D, rollers B, and vertically adjustable hangers C, as herein shown and described, for the purpose specified.

3. The toothed bar L, in combination with the toothed roller J, substantially as and for the purpose herein set forth.

4. The described arrangement upon one frame A of the hop-stripping device, consisting of the parts E, F, G, H, I, the breaking device J K L M N, and the endless carrier D, passing around adjustable rollers B, all constructed and combined to operate in the manner and for the purpose substantially as set forth.

79,073.—GEORGE E. HUTCHINSON, Cleveland, Ohio, assignor to himself and J. B. BROWN, Peekskill, N. Y.—*Toy Cannon.*—June 23, 1868.—The sliding barrel, in the enlargement at the rear of the bore, is retained in its retracted position, to keep the spring compressed, by the gravitating pin, which falls in front of said barrel when the latter is pushed back by a ramrod. An arrow or bolt is inserted in the bore to be discharged by the forward impulse of the barrel when the detaining pin is raised by the lever.

Claim.—A toy cannon, having an enlarged chamber, *r*, at the rear end of the bore, and having the front end of the spring confined in a sliding barrel, E, in combination with the lever F and pin *d*, all made and operating substantially as herein shown and described.

79,074.—JOSEPH H. KLEPPINGER, Cherryville, Pa.—*Horse-Power.*—June 23, 1868.—The pawl is pivoted to a disk to which the sweeps are attached. As the horses move forward the pawl catches against one of the teeth of the ratchet wheel and carries the shaft around. The fly wheel acquires momentum which is sufficient to continue the motion of the shaft in case the progress of the horses be interrupted. When the duty devolves upon the fly wheel the pawl slips over the teeth of the ratchet.

Claim.—The wheel E, with the toothed face, and the loose wheel F, with the pawls *b*, all arranged as described, in combination with the shafts of a horse-power, and with the fly wheel H mounted on one of them, as specified.

79,075.—William H. Lee and Charles M. Hardenbergh, Minneapolis, Minn.—*Hot Air Furnace.*—June 23, 1868.—The air enters from below into the spaces within the annular drums and passes thence upward through the vertical tubes in the upper fire drum. By opening the damper the heat is allowed to escape directly into the discharge flue. By closing the damper the heat is compelled to pass down into the annular drums and thence upward through the pipes which conduct it into the chimney above the damper. The lower drums have partition plates which retard the products of combustion passing through the drums.

Claim.—1. The arrangement and combination of the furnace drum A, (with the vertical air tubes *a*,) the annular flue drums C, the smoke flues D and E, and the chimney flues F and J, substantially as described and for the purposes set forth.

2. The partition plates H and damper G, in combination with the furnace drum A, annular flue drums C, smoke flues D E, and chimney flues F J, as herein shown and described.

79,076.—E. O. Leermo, Gold Hill, Nevada.—*Safety Guard for Mining Shafts.*—June 23, 1868.—A contrivance to be applied to the top of mining shafts to prevent the trucks from being accidentally run into them when the cage is not in proper position to receive the trucks.

Claim.—1. The combination, with a railroad track and the cage of a mining shaft, of the automatic safety-guard attachment, substantially as and for the purpose described.

2. The combination of the spring buffer H, spring lever E, and slide D, substantially as and for the purpose described.

79,077.—Carl Millar, Sandoval, Ill.—*Smut Machine.*—June 23, 1868.—The grain is fed to the upper screen to remove the straw and coarse material; thence it is delivered within the outer shell of the conical smutting device, which has at its base a fan; thence the grain is passed to the conical brushing apparatus, which also has a fan at its base; and finally it passes over a vibrating screen to the hopper for grinding.

Claim.—The smut machine C, with its screen B and blower E, in combination with the brusher G, blower H, and screen K, when constructed and arranged in the manner and to operate substantially as described.

79,078.—Ira Page, Adams, N. Y.—*Manufacturing Butter from Whey.*—June 23, 1868.—The whey remains in vats for twenty-four hours, and then the cream is skimmed off. Saltpeter is added to this cream and the cream is churned. The butter thus produced is washed and worked, and then salt and white sugar are added to it, after which it is again worked to render it fit for use.

Claim.—The improved mode of manufacturing butter from whey, substantially as and for the purpose described.

79,079.—George H. Pierce and Martin T. Glimsetal, Mineral Point, Wis.—*Extension Trestle.*—June 23, 1868.—A portable trestle horse for scaffolding and other purposes, the same being capable of vertical and longitudinal extension and contraction.

Claim.—1. The traveling boards B B′, constituting the platform of trestle or horse, substantially as shown and described, in combination with the braces *a a a′* and their respective bolts *r r r′*, all as and for the purposes set forth.

2. The screws G, in combination with the cross bar *i* and the hooks *f*, substantially as shown and described, and for the purpose specified.

3. The slotted girders D D′, in combination with the legs A, platforms B B′, and bolt *r′*, substantially as shown and described, and for the purpose specified.

4. The plates *m*, substantially as shown and described, in combination with the braces *h* and the slotted girders D D′, all as and for the purpose set forth.

5. The cross bars *i*, substantially as shown and described, in combination with the legs A, braces *h*, and slotted girders D and D′, all as and for the purpose set forth.

6. The cross bars *i*, substantially as shown and described, in combination with the screw G and legs A′, all as and for the purpose set forth.

7. The brace *a′*, when combined with a guide *a″*, and bolt *r′*, all constructed and operating substantially as shown and described, and for the purpose specified.

8. The hooked and hinged cross bar *i′*, substantially as shown and described, in combination with the legs A, slotted girders D D′, and platform B B′, all as and for the purpose set forth.

9. The chains *g*, in combination with the bolts *r* and legs A, all substantially as and for the purpose shown and described.

10. The notches in the legs A, in combination with a corresponding notch on the girders, and the screws G, all substantially as shown and described, and for the purpose specified.

11. The clamp device, consisting of the metallic strap *k*, and eccentric roller *v*, substantially as shown and described, in combination with the legs A′ and supplementary legs A″, and strips *p*, all as and for the purpose set forth.

12. The tongue and its groove *e′*, in combination with the girders D D′, substantially as shown and described, and for the purpose specified.

79,080.—William T. Porter, Wilmington, Del.—*Device for Stopping and Starting Calender Rolls.*—June 23, 1868.—When the roll is to be started the clutch is drawn in contact with the friction flange by turning the hand wheel at the opposite end of the roll. When the roll is to be stopped, the hand wheel is seized and held, and the continued motion of the roll throws off the clutch from the friction flange, whereupon the roll ceases to revolve.

Claim.—The rod E, passing through the roll A, and connected at one end to the shaft D of the roller and friction disk, by a swivel joint, its other extremity fitting within the hub block H, provided with the hand wheel G, all constructed and arranged to operate substantially as and for the purpose herein set forth.

79,081.—A. C. Rand, New York, N. Y.—*Gas Burner.*—June 23, 1868.—The gas issues through a narrow opening which is adjustable in width for the purpose of varying the size of the jet.

Claim.—A gas burner, in which a movable cheek is adjustable toward or away from the stationary cheek, as herein described for the purpose specified.

79,082.—Isaac Roush and John W. Truby, Otto, N. Y.—*Organ.*—June 23, 1868.—The block moving in the grooves is attached to a jointed lever which is connected with a treadle and which operates a stop of the organ by moving with its end in contact with the curved surface of a pivoted plate.

Claim.—The grooves R, in a surface, in combination with a block moving in such grooves, substantially as and for the purpose described.

79,083.—William Sinnott and John McNaughton, Brooklyn, N. Y.—*Tailors' Measure.*—June 23, 1868.—Designed to aid tailors in taking correct measurements for gentlemen's coats.

Claim.—The adjustable quadrangular frame, composed of the metal bars, on each of which a graduated scale is marked, in combination with the vertical bar *d*, sliding upon the lower bar *b* of the quadrangular frame, and carrying the adjustable tape measure C, as herein described, for the purpose specified.

79,084.—Joseph Smallwood, St. John, New Brunswick.—*Portable Stove.*—June 23, 1868.—A portable, diminutive stove for workmen and others, whereby they may heat their coffee and tea and warm their dinners. When in use, the boiler is withdrawn, inverted and set upon the flange inside and near the top of the furnace.

Claim.—The furnace or part A, and the boiler or part B, when constructed so that they will slide or fold together, as seen in Fig. 2, and when used for the purposes set forth, or in combination with a lamp, substantially as described.

79,085.—S. L. Stockstill and H. H. Dille, Medway, Ohio.—*Meat Cutter.*—June 23, 1868.—The cutters and arms are set spirally around their respective rollers, so as to feed the cut meat toward one end of the machine, where, at a point below the cutters, it is discharged. Such pieces of meat as are not retained by the spikes or arms fall upon the slotted plate, and are thereon cut up into such small particles that they can fall through the slots.

Claim.—1. The inclined slotted plate E, attached to opposite sides of the shell A, below the spikes *a*, whereby, as the two halves of the shell are brought together, the inner edges of the plates fit against each other, to form a partition, as herein described, for the purpose specified.

2. A meat cutter, consisting of two rollers, B and C, carrying spikes and cutters respectively, and working within a case A, that is, by means of a slotted partition, E, divided into two compartments, as set forth.

79,086.—Martin Streeter, New Haven, Conn., assignor to himself and Artell Austin, Jersey City, N. J.—*Shutter Operator.*—June 23, 1868.—The pivoted lever is held rigidly by clamping it to the guard plate, the blind being thus retained in any desired position.

Claim.—Securing the blind C in any desired position, by means of the screw handle G, upon the screw shank of the lever D, acting upon the curved edge of the plate E, as herein shown and described.

79,087.—Peter Thompson, Sardis, Ohio.—*Shoe Laster.*—June 23, 1868.—The supplemental jaws close upon the outside of the main jaws. When the handles are pressed together, the movement forces the springs against the tails of the supplemental jaws, so that the four jaws close simultaneously.

Claim.—In combination with the pincers or parts A A′, the jaws C C and springs *f f*, constructed, arranged, and operating substantially as shown and described.

79,088.—James P. Thorp, Southington, Conn.—*Thill Coupling.*—June 23, 1868.—The hook holds the thill in the event of the breaking or casual withdrawal of the thill bolt.

Claim.—The hook F, applied to the thill coupling, and passing through a hole in the thill wire, to operate in the manner substantially as and for the purpose set forth.

79,089.—Robert Tyrrell, Sumner, Ill.—*Tire Bending Machine.*—June 23, 1868.—The revolving disk is operated by the lever, the tire being drawn between the peripheries of the disk and roller bent and around the disk. The disk has two circular surfaces, suitable for the tires of fore and hind wheels. The roller is set up to the smaller circle of the disk when that circle is being used.

Claim.—The combination of the rotary disk A, having the two diameters *e f*, and provided with the lever B and clamping device *g h*, with the horizontally and vertically adjustable roller C, slotted arm D E, blocks *n o*, headed rod *h*, provided with the nut *j* and gudgeon *k*, all constructed and arranged to operate substantially as herein set forth.

79,090.—R. A. Webster, Sandisfield, Mass., assignor to himself, John Dowd, and R. J. Dowd, Lee, Mass.—*Inner Soles for Boots and Shoes.*—June 23, 1868.—An insole consisting of five layers of different material cemented together and arranged in the following order: cloth, gutta percha, or India-rubber, wood veneer, gutta percha or rubber, and cloth or paper.

Claim.—The inner sole A, constructed substantially as described, for the purposes set forth.

79,091.—J. M. Wilson, Lexington, Miss.—*Plow.*—June 23, 1868.—A plow for working ground containing young cotton plants. The point is shaped like an arrow head and is secured to the standard or formed as a part of it.

Claim.—1. A plow, consisting of the combination of the arrow C with the scraper D, all made and operating substantially as herein shown and described.

2. Providing the scraper D with notches *a b*, to facilitate its fastening to the standard A and arrow C, substantially as herein shown and described.

79,092.—Kenelm John Winslow, Montpelier Row, Twickenham, England.—*Apparatus for Converting Motion.*—June 23, 1868.—Communicating rotary motion to axles, especially applicable to sewing machines. The machine being put in motion, alternate action is given to the pawls, which, working on the ratchet wheels within the drums, impart continuous rotation to the axle. The pawls are suspended inside of hollow drums upon which the treadle bands act. Each pawl is kept in operative position by means of a link attached by a pin to the end of the pawl, the other end of the link being fastened to a ring or pulley working loosely upon the axle or bearings of the drum. Friction retards the movement of the ring. When the drum is moved backward the link, acting on the pawl, lifts it free of the ratchet. A cord from a pulley placed beside and attached to one of the drums is passed over the upper pulleys to a pulley attached to the other drum.

Claim.—1. The combination of the loose hollow drums C, hinged pawls D, link connections E E G, friction pulley H, fixed ratchet wheel B, and shaft A, all constructed and arranged to operate substantially as and for the purpose herein shown and described.

2. In combination with the above, the retarding rings K and spring L, and also the cord O and pulleys Q, all constructed and arranged to operate in the manner and for the purpose herein shown and described.

79,093.—C. A. Woodbury, Woodstock, Vt.—*Thread Cutter.*—June 23, 1868.—Springs project axially from the center of the shield, which is attached to the cutter by inserting the springs in the eye of the cutter and bending the teeth of the shield over the edge of the cutter. The cutter, thus completed, is attached to the spool by inserting the springs in the axial hole thereof.

Claim.—The thread cutter, consisting of the disk A, having a sharp edge, the notched shield B, and springs *a*, substantially as herein set forth.

79,094.—John Armstrong, New Orleans, La.—*Steam Generator.*—June 23, 1868.—The inclined connecting flues conduct any deposit of sediment that may be made therein into the vertical tubes, from which it passes into the clearing pipes to be discharged by the blow-off valves or cocks.

Claim.—The central line or set of vertical tubes A, in combination with the outer lines or sets of tubes, and with the system of oppositely-inclined connecting flues B, arranged in the manner and for the purpose set forth.

79,095.—Alpha A. Atherton, Waterbury, Vt. *Washing Machine.*—June 23, 1868.—The lower washboard consists of rollers, in each of which a number of holes are bored at right angles to the axis upon which the roller turns.

Claim.—The combination of the board D with the knuckles, and the board E with rollers containing holes, which allow the water to flow freely through them, as and for the purpose specified.

79,096.—Alfred M. Bailey, Middlefield, Conn., assignor to Metropolitan Washing Machine Company, same place.—*Wringer.*—June 23, 1868.—The peculiar manner of arranging the bearings of the spring is designed to prevent the tilting or rising of the roller at one end, when the clothes to be wrung are inserted near such end.

Claim.—1. In clothes wringers, and other machines in which two rolls are required to operate at varying distances from each other, the employment of a spring, whose ends extend beyond the bearings of the upper or driven roll, in the manner described, so that the ends of said roll shall bear against the spring, at points intermediate between the bearing points of said spring, as and for the purposes set forth.

2. In combination with a spring whose bearing points are located with relation to the points where it is in contact with the upper or driven roll, in the manner specified, the employment of screws, or equivalent devices, for regulating the pressure of the spring, arranged immediately above the points where the upper roll bears against the said spring, as shown and set forth.

3. The herein-described combination and arrangement of the spring with the upper roll, the frame, and the regulating screws, so that the said spring may be readily applied to or removed from the machine.

79,097.—Nelson Baker, Algansee, Mich.—*Cultivating Hops.*—June 23, 1868.—The smudge of saw dust, leaves, straw, weeds, pennyroyal, or other vegetable substance is prepared by mixing or moistening it with a diluted solution of sulphuric or muriatic acid, paraffine, coal, gas, or other tar. The smudge being set on fire, the smoke and fumes are blown among the vines, destroying the insects.

Claim.—The herein-described method of destroying insects upon hop-vines in the open fields by subjecting the vines to the action of pyroligneous, sulphurous, hydrocarbon, or other similar vapors, in the manner specified.

79,098.—Joseph P. Ball, Lebanon, Ind.—*Medicine for Hog Cholera.*—June 23, 1868.—The ingredients of the composition are rosin, saltpeter, sulphur, ginger, bayberry, cayenne pepper, galls, flax seed, gentian, cream tartar, and anise seed.

Claim.—The improved and newly-discovered medicine, for the cure and prevention of hog cholera, compounded and prepared of the materials and substances in the manner and proportions and administered as herein set forth.

79,099.—Samuel Barry, Dayton, Ohio.—*Saw.*—June 23, 1868.—The teeth have an angular groove in their sides into which the sides of the aperture in the saw blade enter as the teeth are driven into position. As the teeth are being forced in, the projections which proceed from the base of the said aperture bend the forked parts outward and thereby secure the teeth in the blade.

Claim.—The mode of attaching the teeth B and C to the saw plate A, substantially as shown and described.

79,100.—B. F. Bean, Schuylkill, Pa.—*Implement.*—June 23, 1868.—A device intended to perform the functions of a pair of tongs and a monkey wrench.

Claim.—The combined implement herein described, consisting of the tongs B C and screw wrench C D E, the movable jaw of the latter being made adjustable upon the arm or handle C by a nut, H, which is fitted to a screw thread cut upon the arm C, the whole constructed and operating in the manner and for the purpose specified.

79,101.—Edward E. Brewster, Cleveland, Ohio.—*Washing Machine.*—June 23, 1868.—The clothes are rubbed between the corrugated boards and the brush. The soap drawers being under the perforated washboard, the water mixes with the soap and forms suds which reach the clothes through the perforations.

Claim.—1. The soap drawers J, in combination with the perforated washboard B, for the purpose specified.

2. In combination with the above, the arrangement of the frame D, brush H, and standards C, all arranged to operate in the manner as and for the purpose specified.

79,102.—David S. Brown, Jr., New York, N. Y.—*Machine for Cutting Soap.*—June 23, 1868.—A slab of soap is placed upon the bench and in front of the transverse bar of the rack frame, which being moved forward presses the soap through a frame of parallel, vertical wires, cutting the soap into bars. The bars, thus formed, pass under the stamps, which are depressed by a lever and raised by a spring.

Claim.—1. The combination and arrangement of the bar B′, arms B B, racks C, wheels D, shaft E, wire frame H, and bench A, the whole being made and operated as shown and described.

2. The arrangement, on the frame I, of the stamping bar *d*, stamps *c c c*, toggle-jointed bar *e*, and lever *h*, for the purpose of stamping a number of bars of soap simultaneously, the whole being made as shown and described.

3. The combination and arrangement of the soap cutting and stamping devices herein shown and described.

79,103.—Moses Calvert, Marshall, Ohio.—*Churn.*—June 23, 1868.—The frame in which the driving mechanism is mounted is supported by inclined braces. The dasher has a vertical reciprocating motion imparted to it by the pulley and crank wheels, and is shown detached in the engraving.

Claim.—The construction and combination of the frame, gearing, and dasher, when arranged and operating as herein described, and for the purposes set forth.

79,104.—Henry T. Carter, Portland, Me.—*Car Truck for Changing Gauge.*—June 23, 1868.—The wheels of the car truck are mounted upon telescopic axles so that they may be moved laterally toward or away from each other. At the station where the car is to be transferred from a broad to a narrow gauge track, the truck is run upon an adjusting table consisting of two beams, each having guard rails in addition to the ordinary rails so as to retain the wheels upon the latter during the adjustment. One of the beams, with its rails, is adjustable in relation to the other, it being supported upon roller trucks and moved by a screw. The shoulders on the friction plate of the bolster preserve the proper relative position of the truck and bolster.

Claim.—1. The four shoulders d, d', d'', and d''', constructed on the bolster B, substantially as and for the purposes set forth.

2. The combination of the shoulders d, d', d'', and d''', with the transverse rods, substantially as and for the purposes set forth.

3. The lateral-moving rail o' with its guard rail h', in combination with the fixed rail and guard rail *o* and *h*, substantially as and for the purposes set forth.

4. The combination of the lateral-moving rail o' and guard rail h', with their bed or beam, and friction rollers or trucks, substantially as and for the purposes set forth.

79,105.—George P. Tew, Cranston, administrator of Charles W. Clewley, deceased, assignor to American Eyelet Company, Providence, R. I.—*Eyelet Machine.*—June 23, 1868.—The two subjects of invention for which letters patent of the United States, numbered 25,318 and 28,737, and dated September 6, 1859, and June 19, 1860, for improvement in machines for making watch rims, and improvement in devices for making the rims of watch and locket cases, respectively, were granted to the above-mentioned Charles W. Clewley, are incorporated under the present invention in a machine for making eyelets, together with certain additions whereby the combined devices are adapted for the purpose stated.

Claim.—1. The compound instrument B, composed of a male cutter, *c*, a die, *a*, and a female cutter *b*, in combination, constituting the moving instruments in the formation of an eyelet, substantially as described.

2. The combination of the above-described compound instrument B, with the stationary female cutter *d*, "former," *e*, male cutter *h*, and collar *f*, substantially as described..

3. The piston H, in combination with the die *a*, arranged and operated substantially as described, for the purposes specified.

79,106.—William S. Coffman, Coldwater, Mich.—*Horse Hay Fork.*—June 23, 1868.—The bolt is held in its highest position, to lock the two parts of the fork together, by the spherical rubber spring; and the tripping cord, which is pulled in order to discharge the load, is attached to a hook or ring at the lower part of the bolt.

Claim.—In combination with the two parts A E of the horse hay fork, hinged together as shown, the spherical rubber spring G and bolt *k* upon one part, and the keeper or recess *a* on the other part, the two acting together, substantially as and for the purpose described.

79,107.—EDWARD A. COOPER, Buffalo, N. Y.—*Harness Snap.*—June 23, 1868.—The sides of the hollow chamber in which the spring is centrally hinged are formed respectively of the main shank of the snap hook and the tongue or catch plate.

Claim.—The arrangement with the main body of the hook, constructed with a flat plate and inwardly projecting lug *g*, and an outwardly projecting thumb piece, *h*, and a flat spring, E, one end of which is secured to the lug, which receives the screw in the main body, and the other end bears against the lug *g*, and having an entirely closed chamber for the spring, as herein described.

79,108.—DAVID B. COX, Troy, N. Y.—*Extension Ring for Base of Cooking Stoves.*—June 23, 1868.—The extension ring rests upon the base, and receives upon it the body or upper part of the stove; said ring being removable and changeable in order to adapt stove bodies of different size to one base, or to bases of one size.

Claim.—An extension ring, A, applied between the base B and body C of a stove, substantially as and for the purpose herein specified.

79,109.—JONATHAN DAVID, East Enterprise, Ind.—*Farm Gate.*—June 23, 1868.—When the gate is to be opened the lever is moved forward, so as to draw the bolt from its socket, and at the same time raise the front stile and the forward ends of the rails sufficiently to clear obstructions, such as snow and freezing clods of earth. The cam in revolving acts against a pin in the post to which the gate is hinged. The gate and post when thus raised are sustained by check pins passing through the cam into the main post, the object being to allow small domestic animals to pass under the gate.

Claim.—1. The arrangement of the forked lever F and sheave *c* with the articulation of the said lever on the bar *a*, by means of which the front stile C is lifted simultaneously with the drawing back of the bolt G, in the manner and for the purposes substantially as described.

2. Hoisting the gate by means of the cam J and pin *b*, through the medium of the slotted supplementary post B and guide bolts or screws *n n*, or their equivalents, when used substantially in the manner and for the purposes as set forth.

3. The articulated arrangement of the bars a a^1 a^2 a^3 in the stiles C and C′ on the pins 1 2 3 4 6 7 8 9, by means of which the forward end of the gate may be lifted, and kept up by a pin inserted in the hole 5, over the upper bar D, in the manner as specified.

79,110.—GEORGE B. FIELD, New York, N. Y.—*Steam Generator.*—June 23, 1868.—The cast-iron sections are each analogous in form to a wheel having hollow hub, spokes, and rim. The enlargement in the water spaces of the arms and rim causes a drainage therefrom into the central cylinder formed by the succession of hubs, from which the sedimentary matter descends into the reservoir below the grate, said reservoir having a waste pipe and cock, whereby the contents of the reservoir and generator may be drawn off. The feed pipe extends into the hub of the central section and discharges the cold water in the center of the mass of hot water, and also within a central cylinder, the effect of either provision being to prevent the cold water from being discharged against the surface of the generator. The annular enlargement in the central cylinder of the generator serves to deflect the heated water rising at the sides of the generator toward the center of the descending column of cold water. The orifice of the safety valve is designed to afford the greatest space for steam escape.

Claim.—1. A steam generator, constructed of cast iron or other cast metal, with a hollow cylindrical hub, radiating hollow arms, and a hollow rim connecting the outer ends of said arms, substantially as set forth.

2. Constructing a cast-metal steam generator, as above described, with a continuous enlargement of the water space from a point between the arms, through the same, to the central hub, as described and shown.

3. The cylinder C, arranged as shown and described, and for the purpose set forth.

4. In combination with the sections A of a steam generator, such as described, a reservoir, E, standing under the main cylinder of said generator, and beneath the fire grate, as described.

5. In connection with the central cylinder or hub of a steam generator, such as described, and the inclosed cylinder C, the annular enlargement N, for the purpose and with the effect set forth.

6. In combination with a steam generator, composed of one or more sections, as herein described, the safety valve M, having an orifice as large as the interior diameter of the cylindrical hub or largest tube of the generator, as set forth and described.

7. The arrangement of the feed pipe B, in connection with the central cylinder or hub of the steam generator described, so that the feed water shall be discharged at the center of the descending current, as set forth and described.

8. A steam generator, composed of sections A, in the form of hollow rings, with hollow radiating arms connecting said rings with a central cylinder or hub, said sections being placed one above another, and so arranged as to fill the space within the chimney without being imbedded in the same, and with the radial arms so disposed as break joint with each other, all as set forth and described.

9. The tubular rods J J, arranged to secure the sections A to each other, and located outside of said sections, so as to increase the circulation and steam surface, as described.

79,111.—LAWRENCE F. FRAZER, Jersey City, N. J.—*Life Boat.*—June 23, 1868.—The boat consists of two hollow metallic semi-cylinders, connected together by intermediate framework, and divided into water-tight compartments, into which the provisions are stowed. When the boat is thrown overboard either side is liable to be uppermost when she rights, and the hollow sheet-metal bow and stern are therefore so applied that after the boat reaches the water they may be drawn up by small chains and secured in the position favorable to the passage of the boat over the waves, through the surf, &c.

Claim.—1. The combination of a buoyant and adjustable bow and stern, so arranged that whichever side of the boat floats uppermost the desired form may be given to the ends thereof.

2. The adjustable bottom, so arranged that whichever side of the boat is uppermost it may be secured as low as possible, to give room to the feet and legs of the persons carried.

3. Connecting the adjustable bottom to the adjustable bow and stern in such a manner that when the latter are secured in the desired position the former is also fixed as required.

4. The provision for stowing bread and water in such a manner that whichever side of the boat comes uppermost it is all readily accessible to those on board, all for the purpose and in the manner substantially as described.

79,112.—GEORGE B. GARLINGHOUSE and CYRUS B. GARLINGHOUSE, North Madison, Ind.—*Harvester Pitman.*—June 23, 1868.—The pitman pivot enters a seat or socket in one side of the heel of the cutter bar, the opposite side of the heel having a socket to receive one end of the clamp, which, at its other end, is held to the pitman by a set screw.

Claim.—1. In the pitman connection with the cutter of a harvesting machine the single conical or conoidal pivot or point on the pitman, entering into a corresponding hole in one side of the knife heel, in combination with the clamp, or its equivalent, arranged to work on the opposite side of the heel, on a center coincident with the point of the pitman, for the purpose of affording free movement in turning on the centers, and to take up the slack caused by wear in working the machine.

2. In combination with the pitman and cutter bar

of a harvesting machine the separate, detachable holding device or clamp D, constructed as described, for the purpose of keeping the pitman in proper position with the knife heel, and to be easily removed.

79,113.—W. B. Guernsey, New York, N. Y.—*Box.*—June 23, 1868.—The cylindrical box is represented as composed of two counterparts, each of which has its body cemented in an annular groove in a head or end piece. One part fits within the other, the box being designed to hold butter and other produce.

Claim.—The improved box, made of veneer, with its sides fitted and cemented into perpendicular grooves in the heads thereof, as a new article of manufacture.

79,114.—William Hagerty, Monongahela, Pa.—*Hull of Steamboats.*—June 23, 1868.—The recess in the stem of the hull for the reception of a balanced rudder is constructed upon strictly geometrical principles, the object being to enable the timbers to be worked out in the yard and put up in a frame without the necessity of cutting them to the proper shape after being in place.

Claim.—The geometrical system or rule as illustrated in Fig. 1 of the drawings for draughting the cross timbers so as to form a segment of a conoid in the hulls of vessels, substantially as set forth and described.

79,115.—Martial Hainque, San Francisco, Cal., assignor to himself and John Lowth, same place.—*Drill Stock.*—June 23, 1868.—The gib is a metallic block, whose concave side rests against the drill stock, while its straight side is acted upon by the lever. The lever being turned upon its fulcrum binds the gib against the drill stock, which binding prevents the further revolution of the lever around the drill stock, and causes the latter to turn with the lever as the motion thereof is continued.

Claim.—The combination of the drill stock A with the lever D, the plain or corrugated gib C, and the sleeve B, the said parts being constructed and arranged substantially as described.

79,116.—David E. Hall, Detroit, Mich.—*Joint Clamp.*—June 23, 1868.—A thin plate of steel is bent as shown and has struck-up barbs. The clamp is used for staying the corner joints of boxes, picture frames, &c.

Claim.—The herein-described metallic clamp, when constructed in the manner as and for the purpose set forth.

79,117.—Bernard Havanagh, New York, N. Y.—*Wash Basin Overflow and Discharge Pipe.*—June 23, 1868; antedated June 13, 1868.—The drip pan receives any leakage consequent upon the coupling of either cock becoming loose, and a pipe conveys it from the pan to a sewer. A box, constituting a stench trap, is formed on the under side of the drip pan, said box being the chamber of communication between the hollow column supporting the basin and the sewer pipe.

Claim.—The trap *e* and pipe *f* below the drip pan *d*, in combination with the hollow column *g*, supporting the basin, and arranged to receive its discharge and overflow, as and for the purposes set forth.

79,118.—Andrew B. Hester, North Vernon, Ind.—*Sash Balance.*—June 23, 1868.—An improvement on the sash balance for which patent No. 44,866 was granted to same party November 1, 1864. The object, in the present case, is to have the parts of the sash-suspending cord move in parallel lines, to avoid friction.

Claim.—The sash balance, consisting of the plate A, with the pulleys 1 2 3 as arranged thereon, the pulley B, the cord K, the cap C, and the lever F, the whole constituted and arranged substantially as described.

79,119.—Justin H. Hill, Clinton, Ill.—*Cultivator.*—June 23, 1868.—The inner frame is pivoted at its forward end to the forward end of the main frame, and is raised when the front end of the main frame is lifted by depressing the foot levers. The plows are thus raised clear of the ground. The shovel handles are attached to arms upon which they swing laterally, and which are connected by a strap joint to the pivoted frame so as to have vertical play. The handles are connected together by an adjustable link or bar, whereby the relative position of the shovels may be varied.

Claim.—1. The frames A and C, and the lever F, combined and operating substantially as set forth.

2. The shovel handles G, arms H, and connecting bar I, arranged substantially as described, in combination with the frame C and its adjuncts, substantially as and for the purpose set forth.

79,120.—Justin H. Hill and John T. Hammond, Clinton, Ill.—*Corn Planter.*—June 23, 1868.—By the movement of the slide the tongue is made to close the side of the chute into which the seed is dropped, and to open the opposite side of the chute to permit the escape of seed deposited therein by the previous movement of the slide.

Claim.—The combination and arrangement of the slides H H and plates *a a*, with the tongue *h*, chute F, and plow E, as set forth.

79,121.—W. D. Hillis, Elgin, Ill.—*Fence.* June 23, 1868.—The picket is fixed in position by securing the flattened part of the rail in the corresponding part of the picket slot by driving a pin in the enlargement above or below it. The flattened and headed ends of the rails are passed up through a vertical slot in the plate, and the strain upon the rails draws their heads into recesses in the plate. The plate is secured to the post by a screw passing between the ends of the rails.

Claim.—1. The combination of wire rails E E^1, constructed as above-described, with the slotted pickets F F and the pins c' c', substantially as and for the purpose set forth.

2. The metallic plates D D, when constructed with the slots and recesses above described, and with the enlarged space *m m*, and used in combination with the screw *a* and the wire rails E E^1, substantially as and for the purpose specified.

79,122.—C. Hochbrunn, New York, N. Y.—*Flower Frame.*—June 23, 1868.—A frame representing an anchor, wreath, heart, star, or other object, is made by winding wire around moss, and strengthened by stay rods. The frame is embellished by flowers or plants.

Claim.—The frame for flower ornaments, constructed and arranged as herein shown and described.

79,123.—Amos Holbrook, Jr., Lynn, Mass.—*Book Binding.*—June 23, 1868.—The different signatures are united by passing a parallel thread within the fold of each, said thread passing from signature to signature at or near the end, and being connected at regular intervals by a single or double chain stitch. The object is to adapt the work to the operation of a book-sewing machine.

Claim.—1. Connecting two or more signatures of a book by a parallel thread passing within the fold of each signature, and through the slit in the end to the next signature, substantially as described, and for the purpose set forth.

2. Combining with the parallel thread, arranged as set forth in the first claim, a series of chain stitches, substantially as described, and for the purpose set forth.

79,124.—J. F. Hollister, Plano, Ill.—*Globe Joint.*—June 23, 1868.—The pitman is attached by straps to the shanks of the globe, so that the axis of the latter is perpendicular to the line of motion of the pitman. An opening is made in the bar to receive the two-part box, whose concave surfaces are made to fadge upon the globe when the parts are put together. The fissure in the bar enables the prongs of the bar and the parts of the box to be drawn together by a screw bolt. The lips on the outer corners of the box bind the prongs of the bar and serve to secure the box in position.

Claim.—1. The mode of connecting the globe C, by means of straps on its poles, or their equivalent, substantially as set forth.

2. The concaves K K, and vibrating bar B, com-

bined with the globe C, and pitman A, the whole constructed and operating substantially as described.

3. The lips L L L L, for the purposes set forth.

4. The fissure M in bar B, for the purpose set forth.

79,125.—Samuel W. Huntington, Augusta, Me.—*Door Spring.*—June 23, 1868.

Claim.—A spring for closing doors, &c., consisting of a strip or cylinder of vulcanized India-rubber, and sockets, *m m*, in which the ends of the same are held, constructed and arranged as described, and applied to the edge of the door and jamb, to which the door is hinged, in the manner set forth.

79,126.—Alfred Fauvin Jaloureau, Paris, France.—*Machine for Manufacturing Telegraphic Cables.*—June 23, 1868.

Claim.—1. The improved method of forming telegraphic cables by the application of successive layers of bitumen, separated and maintained by spiral bands of bitumenized paper, and consolidated by coils of bituminized twine or yarn, the whole protected, when necessary, by an outer covering of metallic wire, substantially as above specified.

2. The improved combination of machinery, by aid of which the manufacture of the said cable may be effected with facility, certainty, and economy, substantially as herein set forth, and shown in the figures of the accompanying drawings.

79,127.—H. C. Johnson, Delavan, Wis., assignor to himself and C. H. Johnson, same place.—*Stove Pipe Shelf.*—June 23, 1868.—Articles placed on the shelf are kept warm by the heat of the stovepipe.

Claim.—1. A stove-pipe shelf, when made in pieces B and B′, with leaves C and C′, secured to a stovepipe, substantially as described.

2. Loops D and E, in combination with hooks F, to secure leaves C and C′ to the center shelf B and B′, constructed as described, one loop being wide, and the other narrow, on each piece B, to provide for the parts B and B′ being adjusted.

3. Forming hooks F straight on top, and with the semicircle projection on the bottom, as described, for the purpose of easing down the leaf and holding it in place.

79,128.—William H. Jones, Boston, Mass.—*Quarter Boot for Horses.*—June 23, 1868.—A device to prevent injury of the fore foot of a horse from overreaching. The back rest supports the boot on the top of the heel, and the internal projection fits into the hollow of the heel to prevent the boot from turning or rising on the hoof. The boot is grooved to receive the fastening strap, whose outer surface is consequently flush with that of the boot. The groove holds the strap in place and prevents it from being torn off by the rear foot. The canvass prevents the quarters from being torn by the strap rivets.

Claim.—1. The quarter boot, as made with one or more grooves, arranged as described, in its outer surface, and especially about its heel, such being to receive the fastening strap or straps, as set forth.

2. The arrangement of the fastening strap within a groove going around the heel and through either or both the sides or quarters of the boot, in manner substantially as specified.

3. The boot, as made with a heel projection, *a*, and the back rest *k*, arranged as specified.

4. The arrangement of the canvass quarter facings with the shoe and the strap rivets, in manner as described.

79,129.—Gilman Joslin, Boston, Mass.—*Elevator.*—June 23, 1868.—A series of carriages are hung upon two endless chains running upon separate sprocket wheels, between which the carriages pass. The guide near the top of the elevator assists in maintaining the vertical position of the carriage in passing between the upper sprocket wheels. The bottom bevel of the carriage acts in conjunction with the partition to guide the carriage into the descending well room. The trap door opens upward if any part of the person of the passenger comes in contact with it. The guides which inclose the chain prevent it from falling in the event of breaking.

Claim.—1. The arrangement of the upper sprocket wheels and independent journals, leaving the space between the two wheels open for the passage of the carriages, substantially as described, and for the purpose set forth.

2. The guide S, operating in combination with the carriage, substantially as described, and for the purpose set forth.

3. Beveling the bottom of a chain-elevator carriage and arranging the top of the partition V, substantially as described, and for the purpose set forth.

4. The narrow trap door X, arranged and working substantially as described, and for the purpose set forth.

5. The endless chain or band inclosed within guides, substantially as described, and for the purpose set forth.

79,130.—Henry Keck, Canaan, Ohio.—*Grain and Hay Elevator.*—June 23, 1868.—The two windlasses are employed to raise the platform with the hay or grain thereon. The load being elevated to the desired height, the ropes proceeding from the windlasses are passed under the double pulley and then tied to a hook. The rake is then operated by a crank, to clear the platform.

Claim.—The combination and arrangement of the windlasses B B, platform C, pulley and crank *c*, block and tackle E E, rake F, and double pulley *g*, when used in a barn, substantially in the manner and for the purpose as herein shown and set forth.

79,131.—Jonas Kendall, South Framingham, and Addison Hathaway, Lenox, assignors to Andrew T. Serven, Lenox, Mass.—*Machine for Grinding Glass Plates, &c.*—June 23, 1868.—The plate to be ground is held upon the reciprocating table under the rotary grinders, whose supporting frame is capable of vertical movement in guideways, an automatic downward movement being imparted to the grinders at the end of each movement of the carriage by the action of gearing upon the screws on which said frame is hung.

Claim.—1. In combination with the series of disks or grinders, rotating around a common axis and over a reciprocating table, giving to each disk or grinder a positive rotary motion on its own axis, substantially as described.

2. In combination with the rotary grinding disks, the mechanism for automatically effecting their downward movement as the grinding progresses, substantially as described.

79,132.—Jonas Kendall, South Framingham, and Addison Hathaway, Lenox, assignors to Andrew T. Serven, Lenox, Mass.—*Machine for Polishing Glass.*—June 23, 1868.—The plate to be polished is held upon a horizontal table, having a longitudinal reciprocating movement under a laterally traversing or reciprocating carriage, upon which is mounted a series of vertical rotary shafts, at the lower end of which is a polishing tool, fixed to and rotated by the shaft, the several polishers being pressed down to the surface of the glass by springs. Each polishing disk is connected to its shaft by a universal joint, permitting the polishing surface to rock freely in accordance with the unevenness or irregularity of the surface of the plate.

Claim.—1. The combination of the horizontally reciprocating table *c*, the laterally reciprocating carriage *l*, the rotary shafts *m*, and the polishers *n*, when arranged to operate substantially as described.

2. Giving to each polisher a capability of upward yielding movement by means of a spring, *s*, substantially as set forth.

3. Giving to each polisher a capability of rocking movement, substantially as described.

79,133.—Alexander Kirkpatrick, Newark, N. J.—*Implement for Shielding Plants from a Hoe.*—June 23, 1868.—The lower edge of the shield may be serrated for crusty earth, and plain for sandy ground. The handles project below the shield, steadying and supporting the same when forced into the ground alongside of the row of plants.

Claim.—The shield, single or double, for protecting plants from injury by the hoe, constructed in the manner and for the purposes specified.

79,134.—Robert H. Lecky, Allegheny City, Pa.—*Lathe Dog.*—June 23, 1868; antedated June 6, 1868.—The object is to adapt the lathe dog to the different diameters of the various articles to be held in a fixed position in the turning lathe. The groove which receives the point of the screw gradually increases in depth, forming an incline, which causes the screw to increase its hold on the cam when any back movement of the latter occurs.

Claim.—The body A, cam B, thumb-screw *f*, and groove *x*, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

79,135.—Abraham W. Lozier, New York, N. Y.—*Hay Loader.*—June 23, 1868.—The "clevises" are bolted to the felloes, and are cast with projections which enable the wheel to obtain purchase on the ground, and they are also provided with the pins which adapt the wheel to act as a drum in raising the load as the wagon moves forward. The end of the hoisting rope is attached to one of the clevis pins by a hook, which is jerked from the pin when the ascent of the load is to be arrested, at which time the elevated position of the load is maintained by a spring catch operated by a rope.

Claim.—1. The detachable pin clevises *k k*, &c., in combination with the wheel B, constructed, arranged, and operating substantially as and for the purposes described.

2. The combination and arrangement of the clevises, the derrick, and the elevating forks, the whole constructed and operating as described, and for the purposes set forth.

79,136.—John W. Lyder and Henry Shreve, Alliance, Ohio.—*Mode of Splicing Belting.*—June 23, 1868.—The ends of the belt are clamped between two plates; screws pass through the ends of the inner plate, thence through the belt, and thence into ridges on the outer plate. Prongs between the screws also project from the inner plate through the belt, and into the outer ridges.

Claim.—The four-lipped metallic belt fastener A, provided with the ridge *c* on its upper or outer side, and with or without the hinge C, arranged and operating substantially as and for the purposes herein set forth.

79,137.—C. K. Marshall, New Orleans, La.—*Metallic Horse Collar.*—June 13, 1868; antedated June 6, 1868.—The metallic plates are of a shape suited to the neck and shoulders of the animal, and they may be cast or formed of sheet metal, and united by riveting, brazing, soldering, or otherwise. The collar is tubular, and internal brace pieces are introduced at different points. The rein eyes and trace clips are attached directly to the collar, in order to dispense with hames.

Claim.—1. A metallic horse collar, constructed substantially as described and for the purpose specified.

2. Bracing the metallic plates of which the horse collar is formed, substantially as described, and for the purpose specified.

3. The combination of the plates A A, "rein eyes" *e e*, and trace clips *d d*, when the same are constructed and arranged substantially as described.

79,138.—John E. Marshall and Jacob W. Schroeder, Baltimore, Md.—*Hoisting Apparatus.*—June 23, 1868.—A horse turns the sweep on the shaft of the master gear-wheel, and the movable clutches are alternately locked upon the drum or spool shaft to cause it to reverse its motion, the buckets attached to the two ropes being in motion simultaneously—one ascending while the other is descending.

Claim.—1. The revolving cranes E E, in connection with the rope *a* and spool C, arranged and operating substantially as and for the purposes above set forth.

2. The combination of the beveled gear *e*, beveled pinions *c c*, clutches *g g* and *b b*, spool C, with brake *h* revolving on the shaft *d*, and the rope *a*, revolving cranes E E, braces F F, and buckets G G, arranged and operating substantially as and for the purposes above set forth.

79,139.—James E. McBeth, New Orleans, La.—*Pocket Knife.*—June 23, 1868.—One of the flanges being inserted under the nail, prevents the cutting of the flesh or quick in paring. The concave adapts the blade to the shape of the end of the finger.

Claim.—The blade B, with the upper part *a* only sharpened, flanges C and concave *c*, arranged and operating substantially as and for the purposes herein set forth.

79,140.—Josiah McFarland, Clinton, Ill.—*Fire Kindler.*—June 23, 1868.—The bowl is filled with sawdust, plaster, or other porous material, which is saturated with benzine or petroleum, poured through the burner. The kindler is lighted by applying a match to the burner.

Claim.—The within-described fire kindler or torch, having a hollow bowl, A, filled with porous material, and a perforated burner, B, as set forth.

79,141.—William McFarlin, Jackson, Ill.—*Fence for Crossing Streams.*—June 23, 1868.—The fence is hinged to the foundation post, and held upright by a breakable pin above the pivot. The force of the water or drifting matter breaks the pin, and prostrates the fence, but the pivotal attachments hold the fence to its moorings.

Claim.—The construction and arrangement of the devices described, substantially as and for the purposes set forth.

79,142.—Charles E. Miller, Indianapolis, Ind.—*Wash Boiler.*—June 23, 1868.—The pits enter the boiler openings of a stove, and the directing plates cause the heated water to ascend in the conduits at the sides of the boiler, from which conduits the water is discharged upon the clothes through the adjustable spouts. A vacuum is induced below the perforated bottom, and the heated water consequently forced downward through the clothes by atmospheric pressure.

Claim.—A portable wash boiler, having the elevated and perforated bottom B, from which depend pits C, having the oblique and perforated directing plates D, in combination with pipe E and adjustable spout or spouts F, substantially as set forth.

79,143.—George F. Nutting, Randolph, Vt.—*Pump.*—June 23, 1868.—The lower end of the barrel is immersed in a bucket or cistern, and the suction pipe conducts water from a well. The piston is attached to a cage which straddles the barrel, and is suspended from the operating lever.

Claim.—The combination of the open-bottomed barrel A, plunger B, upper removable part, containing the valve chamber H, eduction pipe G suction pipe I, and valve *d*, all arranged in the manner and for the purpose herein described and represented.

79,144.—Charles T. Palmer, Norwich, Conn.—*Spice Can.*—June 23, 1868.—In preparing the cans for transportation, the perforations in the cover are closed by a disk of tin, over which a strip of paper is secured to hold the disk in place.

Claim.—A spice can or powder box, as not only made with holes or perforations *a a a* in its cover, but as having a cavity, *b*, and an annular bead, *c*, arranged therewith, and with the periphery *d d* of the top of the cover, substantially in manner as explained, and for the purpose of receiving a disk or plate to cover the perforations, the whole being substantially as specified.

79,145.—A. E. Roberts, Des Moines, Iowa.—*School Seat and Desk.*—June 23, 1868.—The lid has a slate surface on top, and a portfolio underneath, and is slidden down in grooves in the inside of the frame when not in use. Behind the grooves on the frame are pins entering grooves in slats fastened to the desk lid, which is steadied thereby. The notched ends of the slats and flange on the top strip serve to make a close joint between said strip and the lid, and aid in supporting the latter when in use. The seat is for two scholars, and has a box for books standing upright between them.

Claim.—The arrangement of the slate-surfaced folding lid E, with its notched and grooved slats I, in combination with the grooved frame P, its flanges *n*, stationary seat A, and book-holding partition B, the several parts being constructed and used substantially as and for the purposes set forth.

79,146.—ALBERT H. RUSSELL, Adrian, Mich.—*Stock Pump.*—June 23, 1868.—The animal seeking water steps upon the pivoted platform, at either side, and by depressing the same raises the pump rod, together with the bottom board of the bellows. Water is thus forced into the tub from which animals drink. The flow continues until the bellows is depleted or the animal steps off the platform; in the latter case, the platform being raised by the weight, and the bottom board sinking so as to again fill the bellows.

Claim.—A stock pump, in which are combined and arranged the rod U, running through the bore of the pump-log A, the hydrostatic bellows Z, and the pivoted platforms C, B, and D, substantially as described.

79,147.—JOHN J. RYMAL, Rochester, Minn.—*Automatic Swing.*—June 23, 1868.—A child's swing to be supported on the floor, screwed to the ceiling, or hung upon wall brackets. The connection between the driving clock mechanism and the rock shaft which vibrates the swing is adjustable in order to vary the sweep or degree of oscillation.

Claim.—1. The projecting flanges C C on top of case A, whereby it can be attached to the ceiling, substantially as and for the purposes herein set forth.

2. The angle and curve E in the bottom of case A, forming bearings, to hang it on brackets attached to a wall, substantially as and for the purposes herein set forth.

3. The adjustable legs D, to set it up or take it down at will, substantially as and for the purposes herein set forth.

4. The adjustable connecting rod I, attached to shaft G by means of hook J, and which can be lifted off and on at pleasure, substantially as and for the purposes herein set forth.

5. The movable arm *d* on the bottom on lever F, fastened by means of the thumb screw *e*, substantially as and for the purposes herein set forth.

6. The combination of lever F, arranged on the side of case A and cam wheel B, producing a noiseless vibrating motion, substantially as and for the purposes herein set forth.

79,148.— LUCRETIA E. SALLEE, Peoria, Ill.—*Leather-Work Ornaments.*—June 23, 1868.—Leather, gutta percha, or analogous flexible material is pressed in molds so as to receive the form of doll heads, carved work, flowers, &c. The material thus molded is supplied with a coating of dissolved isinglass and shellac, thickened with pulverized sand, which upon hardening gives a fixed or rigid character to the form of the object.

Claim.—The combination of the cement with the leather, untanned hide, gutta percha, and other flexible material, when formed substantially in the manner and for the purposes as herein described.

79,149. — AMBROSE H. SASSAMAN, Lebanon, Pa.—*Car Brake.*—June 23, 1868.—A brake designed to check the speed of cars when in descending grades they crowd toward the locomotive. The conductor pulls the bell rope, and withdraws the lock from its shoulder on a bumper-bar, which is then forced forward while an adjacent bumper is forced rearward, the combined action of the two, in conjunction with the levers, arms, chains, and pulleys, serving to force the wedges against the brakes and the brakes against the car wheels.

Claim.—A brake for railway cars, having lock F, wedges V, arms G and H, levers K K and L L, chains D E, *h h*, *o o*, and Y, and rods P, M, and O, constructed, combined, and arranged, substantially as specified.

79,150.—ANDREW H. SCHOLFIELD and DE WITT C. STERRY, Worcester, Mass.—*Pump.*—June 23, 1868.—Upon disengaging a pawl from a ratchet wheel, the weight of the lower tube devolves upon the diaphragm, causing the water to pass upward through the pipe. The diaphragm is restored to its normal position by turning the ratchet wheel.

Claim.—The diaphragm pump, having a hollow rod with telescopic connections, and operating substantially as described.

79,151.—PETER SEEBALD, New York, N. Y.—*Compound for Destroying Bed Bugs and other Vermin.*—June 23, 1868.—A compound of water, potash, lime, lard, and mercury.

Claim.—1. In preventive for bed bugs, a compound, which is used as a whitewash for walls, substantially as and for the purpose herein set forth.

2. The compound, composed of the ingredients herein described, or substantially the same, and for the purpose herein shown.

79,152.—LORENZO SIBERT, Mt. Solon, Va.—*Manufacture of Iron and Steel.*—June 23, 1868.—A compound of manganese and common salt is employed in connection with the usual lime flux. Epsom salts are stirred into the molten metal in the crucible. They are employed as a purifying agent. As a means of securing uniformity in the metal produced, the blast is increased or diminished without changing the binder of the furnace.

Claim.—1. The use of manganese, in combination with common salt, substantially in the manner and for the purposes herein set forth.

2. The use of Epsom salts in the treatment of iron in the furnace, for the purpose of purifying the iron.

3. The method of treatment herein described for reducing and purifying the ores and the metal, and for securing uniformity in the quantity of the metal produced.

79,153.—WILLIAM SMEAD, Rochester, N. Y.—*Universal Joint Coupling.*—June 23, 1868.—The pivoting points enter recesses cast in the clamping iron, which is made in two parts, held together by a bolt.

Claim.—The pivoting points C, cast on the jaws of an ordinary universal-joint coupling, in combination with the clamping iron B, constructed substantially as herein described, and for the purposes set forth.

79,154.—GREENVILLE CARTER STAMPER, Pella, Iowa.—*Animal and Bird Trap.*—June 23, 1868.—The animal being pushed into the trap by the revolving wheel is dumped through a trap door into a box and drowned. A modification renders the trap suitable for catching birds. A weighted, graduated lever adapts the trigger to heavy and light game. The pull upon the bait aids to spring the trap if the weight of the animal be insufficient.

Claim.—1. The combination and arrangement of the fixed part A, and removable half A', of the case or shell of the trap, with the wheel B and platform C, as and for the purposes set forth.

2. The box E, when constructed with foraminous top, trap-door bottom, and trap guard *f'*, and used in connection with the chamber D, in which the animal is caught, and the box G, in which he is drowned, in the manner and for the purposes set forth.

3. The employment of the underground box G, in connection with the bottomless chamber D, and for the purposes set forth.

4. The combination of the platform C and bait hook *c'*, with the lever N and beam O, as and for the purpose set forth.

5. The combination of the platform C and weighted lever M, substantially as and for the purpose set forth.

79,155.—G. CARTER STAMPER, Pella, Iowa.—*Wagon.*—June 23, 1868.—The force of the springs may be made to rotate the wheels, in order to afford assistance to the team when upon a grade. Provision is made for strengthening the axles, and reducing friction upon the parts of the running gear.

Claim.—1. The springs B, when attached directly to, and arranged to act directly upon, the wheels of a wagon or other carriage, substantially as and for the purposes specified and set forth.

2. The anti-friction rollers *s s'*, when arranged

upon the connecting-rods O O, substantially as and to operate as described.

3. The spring brace *m*, as combined with the rear axle and the spring braces *n* and *n'*, for the front, substantially in the manner illustrated, and for the purposes set forth.

79,156.—Andrew Stump, Bodega, Cal., assignor to himself and Charles Colby.—*Churn.*—June 23, 1868; antedated June 6, 1868.—The box revolves upon spindles at either end, and a shaft, arranged axially, carries the beating arms, and is turned in a direction opposite that of the motion of the box, but held by the clasp against independent motion when the butter is formed, the box being then revolved so as to mass the particles.

Claim.—In combination with the revolving box A, the interior revolving shaft F and arms *c c*, together with the clasp H and pin I, the whole constructed and operating substantially as and for the purpose herein described.

79,157.—John M. Sturgeon, New York, N. Y. —*Postage Stamp.*—June 23, 1868; antedated June 10, 1868.—The stamp is attached to the paper by a mucilage composed of glue, saccharine matter, and acetic acid. The colorless ink is composed of tannic acid, sulphate of iron, gallic acid, starch, and balsam Riga. The colored vegetable printing ink is adapted for printing stamps to which the colorless ink is applied, and consists of scarlet, crimson, or other lake, sap green, indigo, or other coloring-matter, flour, starch, and balsam copaiba.

Claim.—1. Attaching stamps to papers or other surfaces by means of an insoluble mucilage or cement, prepared substantially as herein described, for the purpose set forth.

2. Printing upon the face or back of the stamp with the colorless and invisible ink above described, or its equivalent, any canceling mark or device, which will become visible on being dampened by water or steam, as and for the purpose set forth.

3. As an article of manufacture, the insoluble mucilage or cement above described.

4. As an article of manufacture, a stamp coated with the insoluble mucilage or cement above described.

5. As an article of manufacture, a stamp having a canceling device printed upon its face or back in the above-described colorless ink, or its equivalent, as and for the purpose described.

6. As a new manufacture, the colored vegetable printing ink, prepared substantially as described.

79,158.—Peter Sweeney and John Bradburn, New York, N. Y—*Platform for Rock Drills.*—June 23, 1868.—The platform is adjusted to a level position by means of its screw-threaded supporting legs. The lower ends of the tubular guides are brought to bear upon the surface to be acted upon, and enable the drills which work through them to accurately strike the points to which they are directed.

Claim.—In a drill stand, rendered adjustable by means substantially as shown, the adjustable guides C C, constructed and operating substantially as and for the purpose set forth.

79,159.—Jerome B. Sweetland, Pontiac, Mich. —*Hook.*—June 23, 1868.—A chamber in one hook admits the other hook at the point where the two are pivoted together. The instrument may be used as a rafter hook or as an ice hook, under an obvious mode of adaptation.

Claim.—1. The hooks A A, when cast with a chamber and with pins, *a* and *b b*, substantially as and for the purposes herein set forth.

2. The triangular plate B, provided with hook D and slots *c c* and *d*, substantially as and for the purposes herein set forth.

3. The combination of the hooks A A, triangular slotted plate B, ring C, and hook D, constructed and operating substantially as and for the purposes herein set forth.

79,160.—Derk A. Ter Hoeven, Philadelphia Pa.—*Manufacture of Fertilizers.*—June 23, 1868.— The horns and hoofs are placed in a chamber and steamed; they are then transferred to the floor of a drying kiln, and upon reaching a brittle state are placed in a grinding pan and reduced to a powder.

Claim.—The process of making horn dust as a fertilizer, by the combination of steaming, drying, and crushing, as a whole operation, in the manner substantially as described.

79,161.—Elbert Terril, Cold Water, Mich.— —*Cultivator.*—June 23, 1868.—The handles, by which the implement is guided, serve as shanks for the outer cultivator blades, which are held in their normal working position by the lateral pressure of the springs upon the handles, which may be vibrated laterally in order to guide the outer blades without moving the beam or inner cultivator blades.

Claim.—1. The arrangement, herein described, for connecting the handles C C and cultivator blades F F with the beam A and stationary cultivator points E E, so that the whole may be operated substantially as and for the purposes herein set forth.

2. The round pieces D D, with their shoulders *c c* and springs *f f*, in combination with the handles C C, for controlling the action of the outside cultivators, as herein specified.

79,162.—Lancaster Thomas, Philadelphia, Pa. —*Bottle Mold.*—June 23, 1868.—The mold has an opening into which is inserted a plug whose inner face conforms to the interior of the mold and bears the design or stamp. It is connected to the mold by a hinge. Different designs or stamps can thus be used without necessitating the construction of new molds.

Claim.—The application of a plug or die of any device to bottle molds, when the same is arranged in the manner and for the purpose above set forth and described.

79,163.—Samuel C. Thornton, Moorestown, N. J.—*Railway Signal.*—June 23, 1868.—The racks are respectively provided with projecting arms, against which a yielding bumper on the cow-catcher strikes, an appropriate interval occurring between the times at which the respective arms are acted upon. The effect is to move the racks in opposite directions so as to lower the signal curtain, and then reverse the motion of the racks in order to raise the curtain.

Claim.—1. Frame, composed of C P, P, and P', roller C R, and curtain C, bevel-geared wheels B V, B V', arm A, shaft S, arm A', bevel-geared wheels B V'' and B V''', arm A'', shaft S', pinion P N, arm A''' racks R and R', all constructed, arranged, and operating in the manner as above set forth and described.

2. Racks R and R', with their arms D and D', said racks arranged with or without bearings, and operating in the manner and for the purpose above set forth.

3. Bumper H, with its toggle joint and spring S P, arranged and operating on arms D and D', in the manner as above set forth and described.

4. A railway signal, composed of the above-described parts, all combined, constructed, and operating in the manner as above set forth and shown.

79,164.—H. M. Viets, Carlisle, Ohio.—*Making Cheese Hoops.*—June 23, 1868.—A piece of cloth large enough to cover the bottom and periphery of the cheese is placed upon and snugly adjusted within a hoop, the edges of the cloth lapping over the outside of the hoop. Another hoop is then forced over the first, binding the cloth thereto. The curd is put in the hoop and on the cloth and pressed, after which the cheese is removed, the edge of the cloth folded down upon the upper side thereof, and the naked face of the cheese covered by a disk of cloth.

Claim.—The hoop C, in combination with the hoop A B, in the manner as and for the purpose specified.

79,165.—Smith D. Wackman, Auburn, N. Y. —*Axle for Vehicles.*—June 23, 1868.—The ends of the plate forming the trough-like axle are bent in the form of tubes to constitute the journals. The latter are shown as having oil ducts.

Claim.—1. A trough-shaped axle for vehicles, substantially as set forth.

2. The combination, substantially as set forth, with a trough-shaped axle, of tubular bearings.

79,166.—R. Warriner and J. H. Baker, Saratoga Springs, N. Y.—*Corn Husker, Straw and Stalk Cutter.*—June 23, 1868.—The rollers strip the husks from the ear after it has been broken from the stalk, the wool brushes serving to keep them clean and prevent their clogging with the silk or husks of the corn. The rotary brushes operate to turn and agitate the ear when it is passed down upon said rollers.

Claim.—1. The arrangement of the brushes E E upon the sides of the leather-covered rollers D D, in the manner and operating as and for the purposes set forth.

2. The brushes T T in the plate *m*, on the under side of the lid S, to operate upon and with the rollers D D, as specified.

79,167.—Gardner Waters, Cincinnati, Ohio.—*Lubricator.*—June 23, 1868; antedated March 31, 1868.—The metallic socket protects and strengthens the reservoir at the opening therein, and connects the same with the conducting tube.

Claim.—An automatic lubricator, the glass bulb of which is provided with a soft metal socket or guard, cast not only around but also within the lower portion of said bulb or reservoir, so that the metal shall form a button against the enlarged or bulging part of the reservoir, substantially as and for the purposes herein set forth.

79,168.—Seth Wheeler, Albany, N. Y.—*Shaft Coupling.*—June 23, 1868.—Shafts which deviate from a right line and which are required to rotate, are coupled by means of a spherical enlargement fitted into a socket and connected thereto by a rolling driving pin, so applied as to allow the shaft's free articulation.

Claim.—1. A ball-and-socket, or other analogous closed coupling, having an anti-friction pin, stud, or roller applied to it, substantially as and for the purpose described.

2. Constructing the socket C with recesses in or through it, adapted for receiving a pin, *a*, which is applied to an enlargement, D, of a spherical or other shape, substantially as described.

3. Fitting the driving pin *a* into a flaring hole *b*, made through an enlargement, which works in a socket, C, and covered by means of caps *c c*, or their equivalents, substantially as and for the purpose described.

4. An articulating coupling, with a pin, stud, or roller, which is free to roll on its impinging surfaces, and also to vibrate, substantially as described.

5. The combination of the flaring or oblong pinhole or slot in the ball of the coupling with the oblong slots of the socket, substantially as described.

79,169.—William O. Wheeler, Deposit, N. Y.—*Street Lamp.*—June 23, 1868.—A lighting torch is admitted to the lantern through an opening, to uncover which the torch is pressed against a lug to move a valve having pivotal attachment to the burner and being connected to a sleeve upon the burner, which sleeve, upon being turned with the valve, opens the gas vent of the burner. An additional valve is provided for closing the lantern opening when the gas is lighted.

Claim.—1. A tube of a street lamp, of the described construction, when provided with a diaphragm and openings, and having communication effected or cut off by means of an inclosing sleeve, all as described, and for the purpose set forth.

2. In combination with the above devices, the valves, constructed and operated as described, and for the purpose set forth.

3. A street lamp, so constructed that the gas may be turned on or off by moving the valve which closes the orifices of the lamp, substantially for the purpose set forth.

79,170.—William N. Whiteley, Springfield, Ohio.—*Harvester Rake.*—June 23, 1868.—The rake is of the kind which have independent arms jointed to a revolving shaft head, and guided by a cam-way having a switch so arranged that when said switch is not opened the rake or reel arms pass above the platform at such distance that the cut grain is not removed therefrom. The guide frame has an opening which obviates the accumulation of clogging matter and the consequent impeding of the switch in its operation.

Claim.—A guide frame B, constructed with an orifice, H, over which the switch D, or its equivalent, must move in opening and closing, substantially as and for the purpose set forth.

79,171.—William N. Whiteley and Thomas Harding, Springfield, Ohio.—*Harvester Driving Wheel.*—June 23, 1868.—The spindle of the driving gear wheel is adjustable upon a center, eccentric to said spindle, so that by turning the spindle upon said center the axis of the spindle may be changed in position, and the mesh of the gear wheel with its pinion adjusted accordingly.

Claim.—The eccentric hollow axle C, provided with the stud I, or its equivalent, and the notched flange E, in connection with a pin, H, socketed coupling arm F, and bolt D, substantially as and for the purpose set forth.

79,172.—Robert Wilde, Philadelphia, Pa.—*Steam Generator.*—June 23, 1868.—The longitudinal partition plates of the boiler are perforated to afford steam and water communication between the several divisions. The transverse partition plates prevent surging of the contained water. The lower boiler is fed by overflows from the upper boiler. The float shifts a band from a fast to a loose pulley to turn the feeding cylinder.

Claim.—1. In a steam boiler or generator, the perforated dividing partition plates a'' or b'', substantially as and for the purpose described.

2. In combination with a steam boiler or generator, the vertical transverse partition plates a''' or b''', the same being constructed and arranged substantially as and for the purpose described.

3. The vertical overflow pipes G G, constructed and arranged substantially as and for the purpose described.

4. In combination with two or more steam boilers or generators A and B, arranged with one directly above another, and connected together by means of the open vertical overflow pipes G G, as described, the employment of the float I in the lower boiler, and the feeding cylinder C, with its case D, on the upper boiler, the same being connected together by the lever K, pulleys H H', and any suitable moving "band," and the whole being arranged to operate together, substantially as and for the purpose described.

79,173.—Henderson Willard, Grand Rapids, Mich.—*Horse Hay Fork.*—June 23, 1868.—The lower cross bar being movable is forced down as the screw is turned, and forms a binder at the top of the hay. By pulling upon the trip lever when the hay is raised to the desired point, the handle is released and the screw turned by the weight of the hay, which is thereby detached from the fork.

Claim.—The arrangement of the horizontal bars A and C, and tines B B, with the worm screw D, levers *g* and *h*, and cords *f* and *j*, when used as and for the purpose herein fully set forth.

79,174.—Torwald Winter, Boston, Mass.—*Recumbent Chair.*—June 23, 1868.—The parts of the chair move with the person so that the whole length of the body is supported, whether leaning back or lying in a nearly horizontal position. The chair is likewise adapted for an erect posture.

Claim.—1. The combination of the stationary base and seat frame *a*, tipping back *b*, jointed arms *c*, levers *d*, leg rest *i*, spring rack bar *n*, and its foot piece *q*, when all are arranged to operate together, substantially as shown and described.

2. In combination with the above, the foot piece *k*, arranged to swing down against or up from the arms *l*, substantially as shown and described.

79,175.—W. S. Winterbottom, Philadelphia, Pa.—*Combined Square and Miter.*—June 23, 1868.—The angular extension, in connection with the square stock, forms a suitable instrument wherewith to mark miter lines.

Claim.—The angular continuation *b*, of the blade of a square, beyond the rear edge of the stock, for the purpose specified.

79,176.—SANFORD ADAMS, Boston, Mass.—*Machine for Making Wire Screens, &c.*—June 23, 1868.—The jaws hold the screen while being laced. The lacing wire is coiled about the transverse wires to fasten the longitudinal wires thereto at the points of intersection. The jaws, when brought together, force the longitudinal wires into notches on the guides, in order to hold the wires in place while being laced and rolled. The lacing wire, after being applied, is bent down between the longitudinal wires by the crimper, whose teeth depress the coils, while the spurs pass between the wires to guide the teeth.

Claim.—1. The revolving crimper G, provided with teeth *n n n*, either with or without spurs *x x*, when arranged and operated substantially as described, and for the purpose set forth.

2. The jaws B and C, when arranged to hold the parallel wires into the guides F F′, substantially as described and set forth.

3. Connecting the guides F F′ together by the connecting pieces I I, to keep them in position substantially as and for the purpose set forth.

79,177.—WILLIAM ADAMSON, Philadelphia, Pa.—*Manufacture of Leather.*—June 23, 1868.—The hides are treated with dilute phosphoric acid for the purpose of "abating" them, or rendering them soft and porous after they have been depilated and fleshed.

Claim.—The treatment of hides or skins with the material and in the manner described for the purpose specified.

79,178.—WILLIAM ADAMSON, Philadelphia, Pa.—*Preparation of Glue Stock.*—June 23, 1868.—This invention consists in treating raw hide clippings, for the purpose of producing glue therefrom, with the dilute phosphoric acid which remains after the treatment of bones and horn pith in the manufacture of glue from the last mentioned materials.

Claim.—The treatment of raw hide with the material and in the manner substantially as described, for the purpose specified.

79,179.—J. K. ALWOOD, Delta, Ohio.—*Machine for Shearing Sheep.*—June 23, 1868.—The movable member of the shears is operated by the rotating wheel within the shear case, said wheel being driven by a cord from a pendent cone pulley mounted upon bars suspended from a universal swivel joint, through the thimble of which works the cord, whereby motion is communicated from an elevated driving wheel to the suspended pulley, so that the shears, while being operated, may be moved forward or backward or vibrated in any desired plane. The upper driving wheel is operated by a treadle.

Claim.—1. The combination and arrangement of the pendant wheel F with the tension rods H, bars G, book bars N, spring *d*, screw *p*, and cylindrical boxes, substantially as described for the purpose specified.

2. The slotted vibrating arm W in the shear case S, when operated by the cord *g g′* and wheel Y, as herein described for the purpose specified.

3. The universal swivel joint E, constructed as described, of the hinged joint ring *a*, spiral spring *d*, encircling the central tube, the bar *n*, and slide swivel *c*, as herein set forth.

4. The construction of the swivel holders or guides D, as herein described for the purpose specified.

5. The combination of the universal thimble joints E, tension rods H, bars G, pulleys B F, and shear case S, substantially as described, for the purpose specified.

6. The portable sheep-shearing device, operated by means of the treadle *t*, pivoted to the rod I of the driving mechanism as herein described, for the purpose specified.

79,180.—R. B. ANDERSON, Oneida, Ill.—*Securing Buckles and Rings to Harness.*—June 23, 1868.—The end of the strap is passed through the ring or buckle and reflexed. The tapering box is then slipped over the strap, thus doubled, and pressed toward the ring or buckle till it fits tightly; screws or rivets are then passed through the box and strap to hold the parts together.

Claim.—Securing buckles or rings to leather straps by means of a tapering metallic box, B, secured by screws *d d*, whereby the end of strap is inclosed, as specified.

79,181.—FREDERICK T. ANDREWS, Charlottesville, Va.—*Instrument for Testing Shoe Soles.*—June 23, 1868.—An instrument for detecting paper filling in shoes; the same consisting of a stock having a screw and cutter at one end, whereby a hole may be cut in the inner sole and the core removed. The core is returned to its place, it being secured by paste and smoothed down by a hammer.

Claim.—The instrument for testing boots and shoes, constructed substantially as herein shown and described, as a new article of manufacture.

79,182.—E. H. ASHCROFT, Lynn, Mass.—*Steam Safety Valve.*—June 23, 1868.—The auxiliary valve closes the lower valve seat and prevents the escape of steam in the event of the breaking of the spring of the primary valve. The diaphragm overcomes the tendency of the valve to draw or lift a quantity of water when suddenly opened. Water of condensation collects in the lower groove of the main valve and serves as a packing. The ledge upon the valve forms an inclosure within which steam accumulates until it acquires power to raise the valve. The ledge of the valve seat prevents undue lateral spreading of the escaping steam.

Claim.—1. The combination of the diaphragm *c*, valve *e*, valve *g*, stem *d*, with the base *b*, and spring *i*, substantially as herein set forth.

2. The construction of the valves *g* and *e*, and the arrangement of the recesses *n* and *m*, ledges *k* and *l*, valve *e*, opening *f*, spring *i*, and diaphragm *c*, substantially as herein set forth.

79,183.—ROBERT ATKIN, Brooklyn, N. Y.—*Propeller.*—June 23, 1868.—Screw propellers are applied to the sides of a sailing vessel, and raised and lowered from the bulwarks by a lifting chain and windlass. The frames of the propellers are held by supporting chains from the bulwarks, the lifting chains being hung from the davits. The propellers are driven by endless chains passing through the sides of the vessel and worked by steam power.

Claim.—The application of the helical propellers B B to the sides of a vessel, by means of a hinged frame C C, in combination with a suitable mechanism for actuating said propellers, the latter having no connection with the vessel below the water line, and the entire apparatus being made capable of being elevated and turned up against the side of the vessel, and out of water when not required for use, substantially as and for the purpose specified.

79,184.—JOHN G. BAKER, Philadelphia, Pa., assignor to HENRY DISSTON, same place.—*Swage for Circular Saws.*—June 23, 1868.—The forked foot of the adjustable bar rests upon the edge of the central washer or collar of the circular saw. The tooth is set by giving the swage several blows with a hammer. The swage is hung loosely to the bar, and its independent movement is limited by a pin entering a hole in the bar. The plate resting against the face of the saw blade prevents lateral twisting of the bar.

Claim.—1. A bar, A, adapted at its lower end to or arranged to embrace the collar, washer, or spindle of a circular saw, in combination with the swage D, hung loosely to the said bar, but having its movement on the same limited, all substantially as and for the purpose herein set forth.

2. In combination with the said bar, a plate, *n*, for fitting against the face of the saw blade, as described.

79,185.—JOHN GULICK BAKER, Philadelphia, Pa., assignor to himself and HENRY DISSTON, same place.—*Saw.*—June 23, 1868.—The object is to avoid the straining and warping of the saw, which result from the use of rivets.

Claim.—A hard metal block, adapted to an opening formed in the blade of a saw, and having projections which fit notches in the detachable tooth, in combination with a soft metal packing, fitting the said opening at one side of the block, and maintaining the latter in its place, all being constructed and operating in the manner substantially as described.

79,186.—William Ballard, Lapeer, N. Y.—*Carriage Brake.*—June 23, 1868.—When the vehicle crowds toward the team the rod is turned axially, and the brakes are forced against the wheels. The consequent rearward movement of the sliding plates upon the reach forces the pendent brake against the ground.

Claim.—1. The bent hound bolt or crank, as described, and fastened to hounds and tongues by means of iron straps *j j* and *o*; also the said manner of fastening, as herein described, and for the purposes set forth.

2. The rod *f*, connected with the slides *k k*, (slots or slides,) and with rod *l* and brake *m*, in four parts, *m*, *t*, *p*, and *r*, with slides, slots, and spiral coil springs, in combination with crank-hound bolt *g*, and other parts herein mentioned and claimed, substantially in the manner and for the purposes herein described and set forth.

79,187.—Stephen J. Batchelder, Manchester, N. Y.—*Lamp Extinguisher.*—June 23, 1868.—The flanged cap is constructed to fit closely upon the wick and vapor tubes, to prevent the escape of vapor and gas. The flat spring, by pressing upon the spindle crank, keeps the cover firmly in place when closed over the tubes.

Claim.—The flanged cap or extinguisher A, so constructed as to cover the wick and vapor tubes F and G, in combination with the flat spring or band C, embracing the wick tube F, and operating in connection with the spindle crank B.

79,188.—Joseph Beaumont, Chambersburg, Pa.—*Mangle.*—June 23, 1868.—A cloth is tacked along one edge to the surface of the middle cylinder. This cloth being spread upon the surface of a table hinged to the frame, the fabric to be smoothed is laid thereon, and rotation given to the central cylinder, so as to draw the attached cloth together, with the fabric between the lower and middle cylinder, and wind them around the latter.

Claim.—The rollers *a c c'*, in combination with the enveloping cloth *e*, table A, adjustable brackets *d d'*, and springs *c'' c'''*, as and for the purpose described.

79,189.—Sanford Beckwith, Oshkosh, Wis.—*Seeding Machine.*—June 23, 1868.—The shaft, rotating in the bottom of the hopper, has at certain intervals delivery screws, directly beneath which are cups, from which the seed falls into the conducting or scattering tubes. Above the screws are semi-cylindrical caps, attached to a sliding frame, whereby the discharge of seed may be regulated or entirely cut off. The vertical adjustment of the movable part of the conducting tube contracts or enlarges the discharge opening thereof.

Claim.—1. The screw cylinder *d*, cup *m*, and adjustable cap *e*, arranged relatively one to the other for joint action, substantially as and for the purposes set forth.

2. The screw cylinder *d*, in combination with cup *m*, as herein described, for the purposes set forth.

3. The semi-elliptical tube or scatterer *k l*, as and for the purposes set forth.

4. The slots *n n*, as a means of adjusting the part *l* relative to the part *k*, as and for the purposes set forth.

79,190.—John Benson, Yonkers, N. Y.—*Basin Faucet.*—June 23, 1868.—The object is to render the coupling between the cock and water pipe easily accessible, for the purpose of being repaired, or for the removal of obstructions without involving the necessity of first taking away the basin slab. The shell incloses the coupling and imparts a symmetrical appearance to the faucet.

Claim.—1. The combination of the coupling tube A, having nuts *b* above and below the slab, with the stock C of the cock and locking nut D, all arranged and operating substantially as shown and described.

2. In combination with the above, the cap or shell E attached to the stock C, and inclosing the coupling joints, substantially as shown and described.

79,191.—Georg Bergner, Washington, Mo.—*Shears.*—June 23, 1868.—A projection in the under blade enters an aperture in the bolt, the latter being secured by a nut when in place. The coil spring is passed through an opening in the head and wound around the same, its outer end acting against a projection on one of the blades, so as to hold the shears open.

Claim.—The slotted bolt *b*, with its cap *e*, spring *o*, shoulder *n*, all in combination, when arranged in relation to each other and the blades of the shears, substantially as and for the purpose specified.

79,192.—E. W. Bingham, Williamsport, Pa.—*Brick Drying Kiln.*—June 23, 1868.—The furnaces are situated at the ends of a kiln divided into longitudinal apartments, having arched entrances which are closed by vertically sliding gates after the bricks are introduced. The flues of the furnaces run alongside of the entrances and communicate with the apartments of the kiln through laterally-branching flues guarded by valves. The main flues at points between the entrances may be closed by valves to cause the heat to traverse the flues successively.

Claim.—The combination and arrangement of the drying kiln A with its apartments, arched entrances *a a*, gates *b b*, side flues *d d*, and the valves *e e*, and the furnaces B B, with flues C C and valves *c c*, substantially as and for the purposes herein set forth.

79,193.—Charles Bishop, Trumbull, Conn.—*Shears.*—June 23, 1868.—The flange and recess, fitting together, form the bearing for the two blades, while the screw or rivet which passes through the two has only to hold the two blades together, it being thus relieved from strain.

Claim.—Shears, the joint of which is constructed in the manner described, that is to say, the one blade constructed with a circular flange, *d*, the internal diameter of which is less than the rivet or screw, the other blade with a recess corresponding to the said flange *d*, and so that a portion of the recessed blade will enter, fill, and fit the space within the circular flange on the other blade, and through the center of which a screw or rivet, *i*, is placed to secure the two blades together, substantially in the manner and for the purpose set forth.

79,194.—Charles C. Blakemore, Washington Court-House, assignor to George C. Robinson and Henry A. Manning, Cincinnati, Ohio.—*Card or Ticket Case.*—June 23, 1868.—The spring, when the case is filled and closed, presses the pack against the cover of the case. The lips close up the ends of the case when the cover is down, and only give way when a card is pressed out at either end by the fingers of the operator, to admit which an opening is made in the lid.

Claim.—The case A, hinged open-faced cover C, rectangular spring D, and elastic lips B, combined, arranged, and operating in the manner and for the purpose specified.

79,195.—Edmond Bosdevex, Philadelphia, Pa.—*Grate.*—June 23, 1868.—The space for containing the fuel may be enlarged or contracted, so that the upper surface of the fuel may be always maintained in close proximity to the culinary vessels above the fireplace.

Claim.—The combination of a permanent grate, B, and a grate, D, hung to the rear side of a fireplace, and capable of such adjustment that its front edge may be brought to any desired position on the grate B, for the purpose described.

79,196.—H. W. Bradley, Binghamton, N. Y.—*Paint Compound.*—June 23, 1868.—The materials enumerated are arsenic powder, sulphide of zinc, vinegar, litharge, borax, acetate or nitrate of lead, glue, tannin, or a decoction of white-oak bark, linseed or other oil, and turpentine.

Claim.—A paint, produced by combining the oxide of lead or zinc, or other pigment or pigments, with the materials hereinbefore named, mixed and treated in or about the proportions and substantially in the manner described, for the purpose specified.

79,197.—Joseph W. Bradly and George H. Jordan, Rocheport, Mo.—*Churn.*—June 23, 1868.—The agitator or dasher attached to the rotary shaft has perforations, in which are secured knives for the purpose of cutting the cuticle which confines the cream. The butter is removed from the churn by means of the strainer.

Claim.—1. The perforated agitator D, when provided with knives *x*, and operated as and for the purpose specified.

2. The strainer E, when used in combination with a churn, and constructed as and for the purpose herein set forth.

79,198.—John Brewer, Philadelphia, Pa.—*Expanding Mandrel.*—June 23, 1868.—An expanding tap, especially intended for the manufacture of gas and steam fittings. The cutters move radially within slots at the lower end of the tubular stock, and are arranged in grooves of the conical head or holder, (shown by detached plan view,) which is connected with the swivel and slotted stock, and serves to contract and expand the cutters by an ascending and descending movement within said stock.

Claim.—The cutter head E, in combination with the screw rod D, cap C, swivel B, slotted stock A, and the rod G, as shown.

79,199.—Jesse Brown, San Francisco, Cal.—*Sewer.*—June 23, 1868.—A mode of draining privy vaults by the use of a protective cap, to prevent sewers from clogging up, and a substitute for the grates or screens generally used for the purpose.

Claim.—The protective cap, when constructed and arranged as described, so as to secure the upper and lower drains of privies, as set forth.

79,200.—Thomas Brown, Alleghany City, Pa.—*Hydrant.*—June 23, 1868.—By turning the spout the valve is partially rotated and elevated, whereupon the water passes from the lower inlet pipe into the reservoir, whence it passes into the hollow valve and ascends in the vertical eduction tube leading to the spout.

Claim.—1. The spout D and pipe E, with the inclined slot B and movable cap C, combined, arranged, and operating substantially as described.

2. The hollow valve H and hollow-screwed stem G, with the nut L, pipe E, and spout D, combined, arranged, and operating as and for the purpose set forth.

79,201.—John A. Burchard and Richard Tattershall, Beloit, Wis.—*Gate.*—June 23, 1868; antedated February 12, 1868.—A downward pull upon one of the cords causes the pawl on the double pulley to engage with the ratchet on the shaft, and turn the latter. The cranks and pitmen being actuated raise the ends of the inclined planes, thus sliding the gates upward, freeing them of the latches and winding up the weight. The gates then freely open. On releasing the cord the weight rotates the pulley to its normal position.

Claim.—1. Broadly, the employment of the double pulley D *d*, pawl E, ratchet *e*, weight G, and cords *h h*, when constructed, arranged, and operated for the purpose of operating a gate or gates.

2. Broadly, the circular inclined plane J, when constructed and arranged substantially as herein set forth and described for the purpose specified.

3. The latches *n n* and stops *p p*, in combination with the inclined planes J J, shaft C C, cranks *c c*, pulley D *d*, cords *h h*, weight G, gate standards B B, rods *b' b'*, and rollers I I, when the whole is constructed and arranged to operate substantially as herein described.

79,202.—W. W. Burson and John Nelson, Rockford, Ill.—*Knitting Machine.*—June 23, 1868; antedated June 12, 1868.—A continuous tubular fabric is knit on two straight parallel rows of loop supporters, whose stock or carrier slides in the longitudinal guideway of a horizontal frame to which is joined the vertical frame which affords attachment and support for the yarn carrier, loopers, &c., which parts derive motion from a vertical reciprocating gate operated by a crank.

Claim.—1. The combination and arrangement, with the supporting frames A D, of the gate E, vibrating yarn carrier H, and plates B B, provided with loop carriers *e e e e*, and feed rack N, the whole operating as and for the purpose set forth.

2. The two parallel plates B B, carrying the loop carriers *e e e e*, constructed and arranged to move in the groove C, substantially as described.

3. The combination of yarn carrier H, with looper bearer K, groove *n*, and pin *m*, constructed and operating substantially as set forth.

4. The combination of yarn carrier H, constructed in two parts as described, with releasing lever P, loopers *a a'*, and loop hooks *e e*, arranged to knit irregular work, as set forth.

5. The reversing crank L, in combination with the looper bearer K, operating substantially as described.

6. The combination of the stop blocks *t t'*, reversing rods *o o*, and loop hooks *e e e*, when constructed and operating substantially as specified.

7. The combination and arrangement of reversing rods *o o*, cams *s s'*, and trip plate T, when constructed and operating substantially as described.

8. The combination and arrangement of the feed lever M, toothed rack N, and cam opening V, constructed and operating substantially as described.

9. The combination and arrangement of spring Y, feed bar M, and crank L, operating substantially as set forth.

10. The combination and arrangement of releasing lever P, looper bearer K, and crank L, when constructed and operating substantially as described.

11. Constructing and arranging a knitting mechanism, substantially such as herein described, so that the reciprocating motion of the gate E shall impart the proper motions to the different parts, substantially as set forth.

79,203.—F. Buxton and George Crosby, Lake Village, N. H.—*Edge Plane for Boots, &c.*—June 23, 1868.—The edge of the guard plate projects beyond the face of the plane and protects the upper of the boot or shoe from injury by contact of the cutter; it also bears against the cutter to keep it in place. The purpose of the bolster, against which a portion of the hand rests, is to allow the hand to be as near the cutter as possible in operating the instrument.

Claim.—1. The adjustable guard plate E, constructed substantially in the manner and for the purpose described and set forth.

2. Constructing edge planes with a bolster or part, L, substantially as described and for the purpose set forth.

79,204.—Isaac Church, Jr., Norwalk, Conn.—*Operating Slide Valves.*—June 23, 1868.—The piston operates directly upon the stems of the supplemental valves which admit the steam whereby the main valve is operated, an interior valve-operating arrangement being thus provided.

Claim.—The arrangement of the puppet valves I I' with relation to main valve D, steam passage H, and piston B, in such manner as to dispense with all outer connection therewith, substantially as shown and described.

79,205.—James B. Clark, Plantsville, Conn.—*Whiffletree Plate.*—June 23, 1868.—The device for attaching the whiffletree to the bar consists of three separate plates of cast metal, the first being provided with a circular bearing upon which is fitted the second which is held in place by the third.

Claim.—A whiffletree plate, with its shaft B, tenon C, bearings E and F, and third plate G, all constructed and operating substantially as described.

79,206.—Lyman Clark, Pine Island, Minn.—*Car Brake.*—June 23, 1868.—When the friction rolls are lowered or brought in contact with the revolving truck wheels, the shafts to which the rolls are attached are rotated, thereby winding up the rope or chain and drawing the brakes in contact with the car wheels.

Claim.—The friction wheels or rolls C and shaft F, combined with the wheels of a railroad car, and with the brakes controlling the same, when operated by a chain or cord winding upon a horizontal rod or shaft beneath the car, substantially in the manner and for the purpose herein set forth.

79,207.—Abram Clow, Port Byron, N. Y.—*Thread-Guiding Plate for Filling Tatting Shuttles.*—June 23, 1868.—The metal disk is provided with slots to receive the points of one side of the shuttle, and presents a suitable face for guiding the thread between the points as it is wound upon the shuttle.

Claim.—As an article of manufacture, the guide plate A, constructed and slotted as herein shown and described, and for the purpose set forth.

79,208.—AUGUSTUS COOKE, Orange, N. J.—*Toy Head for Canes.*—June 23, 1868.—The head of the cane is hollow and has the form of the head of a bird or animal, the eyes, tongue, and jaw being moved and a bell sounded by pressing the fingers upon knobs in the cane.

Claim.—1. Forming the top of a cane in the shape of an animal's or bird's head, the features of which can be moved by pressing upon knobs in the cane.

2. The combination of the wires b, g, and d with the eyeball plate a', tongue e, lower jaw f, and springs a', f', and c', when arranged and operating substantially as described.

79,209.—CHARLES CORLISS, Haverhill, Mass.—*Instrument for Adding Figures.*—June 23, 1868.—A secondary pawl engages with a ratchet connected with the hand that designates the units and is so arranged in relation to the gearing operating the indicators which register the amounts added, that by releasing the said pawl, the spring which is wound up in the act of adding, is also released, causing the indicators to return to their original position.

Claim.—1. Operating the indicator that designates the figure or number to be added, by means of a sliding rod or bar, in such a manner that the said indicator will return to its original position upon each retraction of the rod or bar to its projected position.

2. The simultaneous resetting of the several indicators, substantially as specified.

79,210.—ABEL J. CROSS, Greenport, N. Y.—*Clasp for Hoop Skirts.*—June 23, 1868.—The clasp is a zig-zag strip of sheet metal, the points being bent so as to secure the hoops to the tapes.

Claim.—A clasp for uniting the tapes to the hoops in skeleton skirts, the same being formed of a series of alternate diagonal metallic bars, extending from the penetrating points on one side to the penetrating points on the other side of the clasp, as specified.

79,211.—CHRISTIAN CUSTER, Philadelphia, Pa., assignor to himself and CHARLES K. BULLOCK, same place.—*Flour Packer.*—June 23, 1868.—As the packing progresses, the cylinder and the rotary shaft and propellers rise, and when the barrel is packed the strap-bar is actuated so as to throw the driving belt from the fast to the loose pulley in order to arrest the movement of the shaft and propellers, the cylinder being prevented from descending by depressing the retaining pawl. An empty barrel being mounted for filling, the pawl is raised and the cylinder and propellers permitted to descend. The upper propeller collects the loose flour as it descends from the hopper and forces it below the cross bar to the lower propeller, which packs it into the barrel.

Claim.—1. The combination in a flour-packing machine of a stationary cylinder, G, with a sliding cylinder, H, within which operate the devices for propelling and packing the flour.

2. The within-described propelling device, consisting of two propellers, f and f', attached to a shaft, I, one on each side of a cross-bar e', having inclined arms, the whole being combined with the sliding cylinder H, substantially as specified.

3. The sliding cylinder H and strap bar N, so connected that the said bar will be operated by the movement of the cylinder, substantially as described.

79,212.—D. W. CUTTING, Cambridge, Vt.—*Stove Drum.*—June 23, 1868.—Cold air enters and traverses the drum and is discharged in a heated condition. The pipes are adjustable in order that the air may be heated to a greater or less degree.

Claim.—The arrangement of the drum C over the fire box of a cooking or box stove, when said drum is provided with an opening near each side, from which project two pipes B B, that lie parallel to each other in the stove, and are provided with elbows, that pass through openings in the side of the stove, opposite to each other, for receiving and transmitting air, as and for the purposes set forth.

79,213.—HENRY DISSTON, Philadelphia, Pa.—*Device for Holding Rotary Cutters While Being Ground.*—June 23, 1868.—This device has bearings in which the spindle of a rotary cutter is mounted so as to be properly held while being applied to the grindstone. The teeth are ground successively, and the cutter is held against rotation, while under the action of the grindstone, by an elastic plate catching against one of the teeth.

Claim.—The frame A, arranged for the reception of the spindle of a rotary cutter, as set forth, in combination with the rear rollers f, and the vertically adjustable roller c, substantially as and for the purpose specified.

79,214.—D. FRANK DODGE, Lowville, N. Y.—*Mail Bag.*—June 23, 1868.—When the jaws are brought together, projections on one jaw enter openings in a shield attached to the other jaw, and inclosing a bolt, which being moved longitudinally causes locking tongues to enter apertures in the above-mentioned projections; a loop on the end of the bolt is by the same movement passed through the two contiguous end flanges of the jaws and a padlock is applied to this loop to secure the fastening.

Claim.—The construction of the mouth frame A B, with its several parts, as herein constructed and set forth.

79,215.—EDWARD DUNSCOMB, Boston, Mass.—*Steam Generator.*—June 23, 1868; antedated May 7, 1868.—The generator is shown as duplicated. Each consists of an external shell, containing water, and an internal drum, having large perforated and small imperforate disks united by a range of vertical water pipes and giving a circuitous route to the heat and products of combustion which are admitted at the lower and discharged at the upper end of the drum.

Claim.—A steam generator, constructed and arranged as shown and described.

79,216.—JOHN E. EARLE, New Haven, Conn.—*Corkscrew.*—June 23, 1868.—The handles by which the corkscrew is operated may also serve as handles to cutters for cutting the wire which secures the cork.

Claim.—The combination of the two handles B and D with the corkscrew E, pivoted together so as to operate in the manner shown and described, and with or without the cutters A and C.

79,217.—CHARLES F. EASTLACK, Mantua, N. J.—*Pump.*—June 23, 1868.—The weight of an animal upon the platform depresses the plunger and forces water up into the drinking trough, the platform and plunger being restored to their elevated position by the lever and weight.

Claim.—A pump, having cylinder A, plunger B, piston C, pipe D, platform E, lever G, trough K, constructed, combined, and arranged substantially as and for the purposes specified.

79,218.—JOHN T. EWAN and JAMES R. GLENN, Hillsboro, Ill.—*Smut Mill.*—June 23, 1868.—The grain is distributed between the inside jacket and steel files and is scoured. It is then acted upon by wire polishing brushes, the wheat being delivered into the lower ends of the suction legs, the light matter leaves it, and passes upward. The chaff strikes and descends from the check board and is discharged, the other light matter passes around the board and out through the air trunk and drum. The dust descends into a chamber whence it is carried by spouts into the upper part of the suction legs.

Claim.—The arrangement, upon the frame A, in the manner described, of the suction legs K K, chambers M M, check boards L L, air trunk D, and its valves R R, dust chamber O, and spouts S S, with the cylinder F, its wire brushes J, staves I, plates G H, fan P, and shaft C, with their various parts, all constructed and operating substantially as and for the purposes set forth.

79,219.—ROBERT FARIES, Indianapolis, Ind.—*Supplemental Jaw for Wrenches.*—June 23, 1868.—The supplemental jaw is tapered and curved in the direction of its length and has teeth to make it take an effective hold upon the pipe or other round object to be wrenched. It may be compelled to keep company with the wrench by a chain attaching it to the stationary jaw.

Claim.—The appliable wrench jaw, when made substantially as described, as an article of manufacture.

79,220.—JAMES B. FORSYTH, Boston, Mass., assignor to himself and JOHN H. CHEEVER, New York.—*Lining Flexible and other Hose and Tubes with India-rubber, &c.*—June 23, 1868.—A lining of vulcanized rubber is applied to the hose by means of a coating of gum, interposed between the two, steam, hot air, or hot water being introduced within the tubular lining for the purpose of softening the gum and forcing the same into the meshes or interstices of the article to be lined.

Claim.—1. Water-proof hose or tubing, composed of a tube of woven fabric, or other material, and a vulcanized India-rubber lining, the two being held and cemented together by interposed non-vulcanizable gum, as and for the purposes herein set forth.

2. The method of lining hose, or other tubular articles, by inserting in the article to be lined the vulcanized rubber, or equivalent lining, with its coating or exterior layer of unvulcanizable gum, and then expanding said lining, and forcing the said gum or cementing material into the meshes or pores of the article to be lined, by means of steam, hot water, or hot air introduced within the lining, as set forth.

3. A lining for hose, and other tubular articles, composed of a tube of vulcanized rubber, with an exterior coating or layer of unvulcanizable gum or cement, with or without one or more plies of cloth or other fabric, combined and united with the lining, as herein set forth.

4. The method herein described of coating the hose or tubing with vulcanized rubber, both internally and externally, as and for the purposes set forth.

79,221. — EDWARD A. GALBRAITH, Boston, Mass., assignor to himself and PAUL P. TODD, same place.—*Lamp Burner.*—June 23, 1868.—The wick is divided at top by a tube or a pair of plates so arranged as to admit the combined air and vapor to the interior of the flame.

Claim.—1. The combination, with the conduit for supplying air to the flame, of a vapor-conducting pipe, leading from the fluid reservoir of the lamp, and communicating with the said air conduit, substantially as and for the purposes herein shown and set forth,

2. A lamp burner in which the divided wick tube with its double wick, the air-supplying pipe or conduit, and the vapor conduit are combined and arranged for joint operation in the manner herein shown and described.

79,222.—CHARLES P. GORELY, Boston, Mass.—*Letter Box.*—June 23, 1868.—An improvement on the letter box for which the same party received United States Letters Patent, December 17, 1867. In the present invention the pivoted bars serve not only to ring the bell when the lid is opened, without interfering with the operation of the ordinary bell-pull, but operate to hold the lid firmly open when raised to a certain height, and to keep it securely closed when shut.

Claim.—1. The combination and arrangement of the lid B, bars D, E, F, wire or chain G, and spring S, all constructed and operating substantially in the manner and for the purpose specified.

2. The introduction of the chains H and G into the length of the bell wires, for the purpose of allowing either of two modes specified to be used in ringing the bell, without interfering with the other, as set forth.

79,223.—JACOB HARDING, Schoolcraft, Mich., assignor to HENRY I. ALLEN & Co., same place.—*Hames Fastener.*—June 23, 1868.—The metallic straps connect the ends of the hames and are connected by a lever which, being turned horizontally to a position the reverse of that in which it is shown, draws the hames together and acts as a spring catch to hold the parts in the desired position.

Claim.—1. The straps A and B, connected by the lever C, as and for the purposes set forth.

2. The projecting feather E and groove 3, when operated in connection with lever arm C and strap B, substantially as described and for the purposes specified.

79,224.—GEORGE W. HECKART, Columbiana, Ohio, assignor to himself and CHRISTIAN KRAMER, same place.—*Hames Coupling.*—June 23, 1868.—The ends of the hames are attached to the hooks on the case and ratchet bar sliding therein. The finger pieces are pressed together and the ratchet bar forced into the case, to draw the hames into the desired position, in which the parts are retained by the engagement of the spring pawls with the ratchet bar.

Claim.—A hames coupling, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

79,225.—H. HEINE, New York, N. Y.—*Steam Generator.*—June 23, 1868.—The boiler is formed of two distinct parts, one inside of the other. The steam dome of the inner part extends upward through the center of the outer annular water space, and the water and steam spaces of both parts, respectively, communicate with each other through pipes. In the combustion chamber the draught is downward, so that the fire comes in contact with the outer surface of the water jacket surrounding the fire box as well as with the inner surface thereof. Water pipes situated in the combustion chamber connect at their lower ends with the lower part of the water space of the central part and from their top ends siphons extend into the water legs. The heated gases pass from the combustion chamber through tubes in the annular water space.

Claim.—1. A steam generator, composed of an internal main or central part, M, and of an outer annular water space, G, said internal part being provided with a water space, D, and fire flues, *a*, and communicating with the outer annular water space by pipes *e* and *q*, all as shown and described.

2. The steam dome E, rising through the center of the bonnet I, which covers up the annular water space G, said water space and steam dome being connected by pipes *q*, substantially as and for the purpose set forth.

3. The water pipes H, situated in the combustion chamber F, between the central part and the annular water space, substantially as and for the purpose set forth.

4. The siphons *b*, connecting the pipes H and the water legs C, substantially as and for the purpose described.

79,226.—WILLIAM HIGHTON, Malden, assignor to MOSES POND & Co., Boston, Mass.—*Hot Air Register.*—June 23, 1868.—The auxiliary journals of the shutters of the register enters slots in a slide bar whose motion, produced by the turning of a wheel, effects the opening and closing of the register. The recesses in the projecting ribs at the ends of the frame serve as guides for the location of holes for receiving the screws by which the grate is fastened to the frame.

Claim.—1. The arrangement and combination of the wheel with the grate, the sliders, and the series of shutters applied to the frame A, as set forth.

2. The combination of the frame A and the ribs F with their recesses *r r*, as and for the purpose specified.

79,227.—A. L. HILL, Decatur, Ill.—*Fastening Check Hooks and Terrets.*—June 23, 1868.—The check hook and terrets are secured to, or have cast on them, loops which fit over and embrace the saddle strap. The loop of the check hook has a slot through which passes the back strap, which is thereby secured to the saddle strap.

Claim.—Providing the terrets B B and check hook A with loops *h h*, as and for the purpose specified.

79,228.—ALFRED HOUGHTON, Seville, Ohio.—*Horse Hay Fork.*—June 23, 1868.—The checks constitute abutments for the pin on the slide, in the open and closed conditions of the fork.

Claim.—The checks E F, springs G, in combination with the slide C, in the manner as and for the purpose specified.

79,229.—WILLIAM H. JACKSON, Salem, Mass.—*Manufacture of Gunpowder.*—June 23, 1868.—This mode of manufacture is by solution and evaporation instead of grinding and pressing.

Claim.—The manufacture of gunpowder by mixing a solution of nitrate of potash, or a known equivalent thereof, with a soluble vegetable extract, such as extract of logwood, or with other soluble organic matter, and by subsequently evaporating to dryness, with or without the addition of sulphur or of pulverized charcoal, substantially as hereinabove described.

79,230.—WILLIAM JONES, Chelsea, Mass.—*Gas Heater.*—June 23, 1868.—The invention is shown as applied to the heating of a calender roll, within which the burner is situated. The gas flows into the chamber of the plug in fine streams and mingles with the atmospheric air present in said chamber. As the mixture, which is lighter than air, moves into the pipe to supply the flame, a new supply of air enters the chamber of the cock.

Claim.—1. For the purpose of mixing air and gas to be burned, a plug cock, having a long, open, chambered plug, with inlets *k k* and outlet *j*, arranged to operate substantially as described.

2. In connection with a burner, arranged within a confined space, provision substantially as shown and described, for supplying fresh unvitiated atmospheric air, to be mingled with the gas passing to the flame, as set forth.

79,231.—BENJAMIN JOSEPH, Philadelphia, Pa., assignor to himself and WILLIAM MCNIECE, same place.—*Pessary.*—June 23, 1868.—The oval body of the instrument is introduced into the rectum after the prolapsed portion of the anus has been returned to its normal position. The short end of the base is placed toward the coccyx, while the long end occupies the perinæum and prevents the body of the instrument from ascending above the proper point of support.

Claim.—1. The hollow vertical shaft *c*, in combination with the body A, as and for the above described purpose.

2. The combination of the base B, shaft *c*, and universal joint *d*, as and for the above-described purpose.

79,232.—ROBERT JAMES KELLETT, San Francisco, Cal.—*Ticket Punch.*—June 23, 1868.—The instrument cuts a coupon from the ticket and punches the same at one operation, and the improvement is represented as applied to the ticket punch for which United States letters patent were granted to the same party May 28, 1867.

Claim.—A small auxiliary punch, so arranged as to punch a hole in the coupon or portion so removed, at the same operation which removes or punches the coupon or portion of the ticket, thus providing a convenient means for stringing said coupons or portions for preservation and reference, as described.

79,233.—ISAAC KLING, Seymour, Ind.—*Billiard Register.*—June 23, 1868.—Two slides, inclosed in a case, are operated by the rod which carries the points, and an index rod, furnished with dies numbered to record the games, is so arranged that the movements of the slides cause a die to be protruded from the case for every game that is played.

Claim.—1. Operating the index rod, which shows the number of games played, by the movement of the points to mark the games, as set forth.

2. The combination of the slotted slides B and C, doors I I, index rod D, and spring *c*, with the bar E and wire E^1, when arranged and operating substantially as described.

3. The pivoted plates d^2, and spring d^3, in combination with the notches H, for preventing the index rod from being raised from the outside of the case.

4. The spring b^2 and inclined plane B^2, for operating the connection and disconnection of the slider and bar E, as set forth.

5. The checking points e^2, provided with springs e^4, and latches e^3, in combination with the notch e^5 and depression f^2, for preventing the points from being moved backward and re-marked without counting a game, as set forth.

79,234.—FREDERICK A. CRAFT, Philadelphia, Pa.—*Zincing Iron.*—June 23, 1868.—The iron vessel to contain the molten zinc is lined with copper, or equivalent material, for preventing the formation of a dross from the iron and zinc.

Claim.—A zincing bath, composed of an outer casing of iron, containing an inner lining or casing of copper, or its equivalent, as set forth.

79,235.—EZRA B. LAKE, Bridgeport, N. J.—*Ships' Fender.*—June 23, 1868.—The interposition of one or more of these fenders between a wharf and vessel prevents injury to either when the vessel surges, as either the vertical or transverse rollers revolve freely according to the direction in which the vessel moves.

Claim.—The within-described fender, composed of a strip of wood and of vertical and transverse rollers, the whole being constructed and arranged substantially as and for the purpose herein set forth.

79,236.—CHARLES L. LEE, Fitchville, Ohio.—*Combined Cultivator and Planter.*—June 23, 1868.—The frame is suspended from the axle by screw bolts whereby it may be adjusted vertically. A lever is provided to enable the operator to control the working depth of the shovels, and another lever is employed to reciprocate the laterally-moving seed slide. When the machine is used as a planter only, the shovels are detached.

Claim.—1. The adjustable frame A, platform K, lever B′, axletree B, and wheels D, all constructed and arranged to operate in the manner substantially as set forth.

2. The slide boxes J, groove *a*, slide G, and lever H, as constructed and arranged to operate, in the manner and for the purpose specified.

79,237.—WILLIAM J. LEWIS and HENRY W. OLIVER, Jr., Pittsburg, Pa.—*Manufacturing Bolster Plates.*—June 23, 1868.—A continuous series of wrought-iron blanks wherewith to make bolster plates for wagons, are produced by rolling.

Claim.—A new article of manufacture, viz, iron bars rolled to the shape of a connected series o blanks for bolster plates, substantially as herein described, and for the purpose set forth.

79,238.—I. STONE LISTER, Philadelphia, Pa.—*Axle Box.*—June 23, 1868.—On removing the screw plug the reservoir may be supplied with oil through the opening occupied by said plug. A screw in the plug serves as a valve, to wholly or partially open or close the air passages at their point of communication, in order to control the flow of oil from the reservoir.

Claim.—1. A bearing, arranged within an axle box above a journal, and having a chamber and channels leading from the same, through which oil may flow by its own gravity to the journal, all substantially as and for the purpose described.

2. The combination of the said chambered bearing with the oil reservoir G.

3. The plug I, with its air passages *p* and *p′*, and regulating valve *q*, in combination with the reservoir G.

79,239.—THOMAS SALEM LIVERMORE, Leicester, Mass.—*Belt Coupling.*—June 23, 1868.—The outside of both head and nut is designed to be flush, or nearly so, with the surface of the belt when the screw is inserted and secured. If the point of the screw project, it is filed off to the face of the head.

Claim.—The above described coupling, consisting of the screw, with its conical head, in combination with a nut, of similar form, capable of being drawn into the belt, when constructed and operating in the manner and for the purposes above set forth and described.

79,240.—William S. Loughborough, Rochester, N. Y.—*Water-Proof Leather Cement.*—June 23, 1868.—Gutta percha is reduced to the consistency of cream by benzine or bisulphuret of carbon; sweet oil is then added to it. A small quantity of musk or rosemary is added for the purpose of counteracting the odor of the gutta percha. Isinglass glue may be employed in connection with the above for cementing materials other than rubber.

Claim.—The compound composed of the ingredients above set forth.

79,241.—John Mabrey, Jefferson City, Mo.—*Fever and Ague Medicine.*—June 23, 1868.—Composed of chinoidine, cider vinegar, Orleans molasses, lemon oil, and oil of peppermint.

Claim.—A remedy for the fever and ague, and other bilious diseases, compounded of the ingredients, in the proportions and in the manner herein specified, substantially as described.

79,242.—R. M. Mansur, Augusta, Me.—*Carpet Stretcher and Tack Holder.*—June 23, 1868.—The plate has notches for extracting tacks, and slits for holding tacks to be driven when the carpet has been pushed into place by the instrument. The rubber bands hold the tacks upright in the slits.

Claim.—The construction of the three-pronged plate, with the elastic rubber rings F F, as a tool for the purposes set forth and herein described.

79,243.—Jacob McDonald, Buffalo, Ohio.—*Bee Hive.*—June 23, 1868.—The hive is primarily a double hive, consisting of two similar parts, resting one upon the other. It rests upon the alighting board, causing the bees to enter at two sides only. To divide or colonize the bees the top section is placed on the alighting board by the side of the bottom section. The bottom section is then provided with a cap and a small board placed between the sections to cut off communication between them.

Claim.—The guiding board A, with the side strips *g g*, the two sections C C, and the cross board *i*, for the use and purpose as specified and herein set forth.

79,244.—James H. Monce, Hopkinsville, Ohio.—*Churn.*—June 23, 1868.—By means of the spring and gearing the verge, with its adjusting and regulating arm, together with the pitman balance wheel and churn dasher, are operated.

Claim.—1. The arrangement and combination of the adjustable arm K, pitman L, and reversible balance wheel M, as herein described and for the purposes set forth.

2. The combination of the pitman L and reversible wheel M, when constructed and operated as herein described, for the purposes set forth.

79,245.—Benjamin Monroe, Bristol, R. I., assignor to himself, William E. Chadwick and Nathan N. Cole, same place.—*Car Coupling.*—June 23, 1868.—The device is self-operating in coupling A pin and a shoulder limit the upward and downward movements of the draw pin.

Claim.—1. The combination of the draw pin B, constructed as described, with the slotted draw head H, having an inclined or funnel-shaped orifice, as described.

2. The combination of the head H, pin B, and link L, all constructed and operating as and for the purpose specified.

79,246.—Melvin M. Morse and M. V. Collins, Buffalo, N. Y.—*Shears Sharpener.*—June 23, 1868.—The blade of the shears to be sharpened is passed under the pressure roller, with the edge against the stops. The spring presses against the back of the blade to keep it engaged with the grinding wheel.

Claim.—1. The adjustable gauge plate D, provided with stops *e e*, arranged and operating with the grinding wheel B, substantially as set forth.

2. In combination therewith, the self-adjusting pressure roller F, substantially in the manner and for the purpose set forth.

3. The spring *h*, arranged with a pressure roller F, and gauge stops *e*, substantially as and for the purpose specified.

79,247.—John M. Moyer, Pittsburg, Pa.—*Brick Drier.*—June 23, 1868; antedated December 23, 1867.—The turn-table is situated above a furnace in a drying house, and has a number of radiating tracks to receive cars loaded with bricks to be dried. Each car has a set of supporting leaves which are capable of being raised and lowered upon hinges for convenience in loading and unloading. The cars are transferred from the brick machine to the drying house and thence to the kiln, by the endless chain.

Claim.—1. The turn table, with car tracks, with heater beneath, in combination with the grooved pulley wheels, arranged and operating substantially as and for the purpose herein described.

2. The car, with upright center plate, and hinged folding leaves, constructed and operating in manner and form as described, to and for the purpose intended.

79,248.—Henry North, New Britain, Conn.—*Sash Fastener.*—June 23, 1868.—This device not only prevents the opening of the sashes from the outside, but holds them in any desired position in the window frame when open. By turning the key so as to make the bit point upward, the bolt may be moved entirely away from the sash.

Claim.—1. The combination of the bolt D, pivoted at *f*, with the shoulder *k* and the leaf or bit *i*, for the purpose of locking the sash down when the lock is placed in the casing, or locking the sash up when the lock is placed in the sash, substantially as herein described.

2. The spring G, operating in combination with the bolt D, to press the sash laterally against the casing and prevent rattling when the bolt is locked into the recess L, substantially as described.

3. So constructing and arranging the several parts of the lock described, that the bolt D, which locks into the recess L to secure the sash in the manner described, when closed, shall turn upward when the sash is opened, and act as a pawl or stop, under the influence of the spring E, to hold the sash in any desired position, and which can be raised to release the sash by the same leaf or bit *i* which locks it down, substantially as herein specified.

79,249.—Gerrit V. Orton and John Richards, Cincinnati, Ohio.—*Mortising Machine.*—June 23, 1868.—The frictional device, by offering a steady resistance to the rotation, in either direction, of the shaft to which it is applied, prevents vibration in the radial links when the chisel bar is operating, or being thrown into operation. The table for supporting the piece to be operated upon has adjustments which admit of what is known as "hand feed" or "carriage feed." The bent stops keep the stuff down upon the table, and prevent it rising by the action of the chisel. A clamp screw passes through a radial swinging nut piece and is adjustable by moving the nut piece, so that it can be made to bear in the center of a large or small piece, placed upon the table, to be mortised. The clamp piece swings on a screw, carrying with it the table support and table.

Claim.—1. The fractional device *p* and *q*, for controlling the action of the treadle and chisel bar, substantially as herein described.

2. Adjusting the table support *a'* laterally upon the stud *b'*, in the manner and for the purposes shown.

3. The bent stops *n' n'*, when arranged to swing and adjust to different points on the stuff, in the manner herein set forth and shown.

4. The adjustable nut piece *h'*, arranged with a clamping screw, to act on stuff of different thickness, in the manner and for the object as specified.

5. The rotating clamp piece *i*, for adjusting and holding the table support *a* in different positions, as shown, and for the objects described.

79,250.—Edwin A. Palmer, Clayville, N. Y.—*Cheese Curd Rake.*—June 23, 1868; antedated June 12, 1868.—The rake is used to stir the cheese curd while it is scalding and being prepared for the press; also to raise the curd after it is checked.

Claim.—The upper head C, and the braces D D, or their equivalent, for the purpose therein described and set forth.

79,251.—Hiram Parker, Salem, assignor to H. W. Persing, Marion County, Ill.—*Wagon Box.*—June 23, 1868.—The side boards are hinged to the bottom, so that when the end gates are removed, after disengaging the hooks extending from the eccentrics on the end gates, the side boards may be turned inward and made to rest upon the bottom.

Claim.—The combination and arrangement of the eccentric *a*, working on the studs *f*, the rods *b b*, working in the staples *d d*, the pawl *y*, attached to the handle of the eccentric *a*, so as to work in the ratchet *g*, substantially in the manner shown and described, and for the purposes above set forth.

79,252.—William P. Parrott, Boston, Mass., assignor to N. F. Bryant, same place.—*Railway Truck.*—June 23, 1868.—The wheels are rendered capable of relative lateral movement by the telescopic construction of their axles or otherwise, in order to be transferred from a narrow to a broad gauge, or *vice versa.*

Claim.—The combination and arrangement of a car truck with laterally moving wheels, as described.

79,253.—Frederic Passy, Paris, France.—*Andiron and Fireplace.*—June 23, 1868.—Registers may be placed at the points where the air enters the andirons and where it leaves them, and an urn, or other receptacle for water, may be placed at the upper end of the andiron, so that the air, before leaving the andiron, shall heat its contents.

Claim.—1. An andiron, having channels or passages, arranged substantially as described, so that a current of air from the lower portion of the apartment in which the andiron is placed shall pass into and through the andiron, and be discharged into the apartment in a heated state, as specified.

2. The combination of the above and a water receptacle, arranged upon the upper end of the andiron, as and for the purpose described.

79,254.—Abram Perrin, Cleveland, Ohio, assignor to himself, Charles L. Rowand, George S. Selden, and Marmaduke Moore, Philadelphia, Pa.—*Car Coupling.*—June 23, 1868.—The arrowhead of the draw bar has a twist, which causes it to turn and enter when brought into contact with the bumper, after which it is turned to its original position by the attached weight so as to be retained within the draw head. The other end of the draw bar draws against a vertical abutment, has a lug entering a groove to prevent the bar from rotating, and is retained within the draw head by a pin closing the lateral opening.

Claim.—The construction of the draw head A, with its open side, and pin *h*, and having stops c^1, c^2, and c^3, of the form shown, in combination with the link or connecting irons D and H, the former being provided with a head, d^1, and lug 2, and weight G, all substantially as and for the purpose set forth.

79,255.—Amzi P. Plant and Amos Shepard, Plantsville, Conn.—*Machine for Forging Nuts.*—June 23, 1868.—A machine for feeding the nut blank from the cut-off mechanism to the dies for basiling its corners, punching the hole, and swaging the edges. The blanks, as they are cut off, are conveyed one to the right and one to the left, in alternate succession, the machine being of a duplex character, but having only one cut-off.

Claim.—1. The right and left hand conveyer *u*, when so constructed as to convey a nut blank from the cut-off mechanism, whether moving from the right or left, and slotted plate A, in combination with the cut-off device, and a forging mechanism on the right and left of it, substantially as described.

2. The swinging conveyers u^1 u^2 u^3, in combination with the forging, punching, and finishing mechanism, all constructed, arranged, and operating substantially as described.

79,256.—Canceled.

79,257.—Albert Rakestraw, Peoria, Ill.—*Cherry Stoner.*—June 23, 1868.—The movement of the slide delivers the cherries, one at a time, into the chamber traversed by a fork which carries a cherry forward to an opening through which the stone is forced, the pulp remaining in the fork until the latter is retracted to an opening whose shoulders disengage the pulp.

Claim.—A cherry stoner, having sliding beam D, openings B, C, E, H, and K, fork O, and block Q, constructed, arranged, and operating substantially as herein specified.

79,258.—T. C. Rice, Worcester, Mass.—*Tubular Axle.*—June 23, 1868; antedated June 9, 1868.—The clips are bolted to offsets, which are brazed or otherwise secured to the axle, the object being to firmly secure the axle to its wooden bed.

Claim.—The square-shouldered offsets C C, on the axle A, for securing it to the wooden bed B, with the clips *a a*, which fit over such shoulder, as herein shown and described.

79,259.—Jesse B. Rumsey, Sturgis, Mich.—*Coat Rack.*—June 23, 1868.—The frames may be opened outward, away from the partition, and held at any desired angle for use. They lie folded against the wall, so as to be out of the way when not in use.

Claim.—1. The form or construction of the butterfly-wing frames A A, with their series of overhanging coat hooks *a a a a*, as arranged and combined with the socket chairs B B′, substantially as described, for the purpose specified.

2. The combination of the connecting bar D, and the chairs B B′, with one or more hinged frames, having each a series of overhanging coat or clothes hooks, to be placed and secured in any desired position, substantially as and for the purposes herein set forth.

79,260.—D. Savalle, Paris, France.—*Apparatus for Distilling.*—June 23, 1868.—The crude liquor is placed in the lower compartment of the heater, steam is admitted thereto, and the resulting vapor rises to the upper apartment of the heater through the column of perforated partitions and passes thence to the condenser. The vapor being condensed, flows back into the column, over the plates of which it passes successively until it falls into the upper apartment of the heater, where it is brought into contact with the vapors from the lower apartment, which are thus partially condensed before entering the column. The non-condensed vapor passes from the condenser to a cooler, where it is condensed and from which it is drawn off. By graduating the openings and the length of the tubes a rapid passage of the liquid through the column is effected. The throttle valve and float, together with the pipes and casing communicating with the heater, are employed to maintain a uniform steam pressure and temperature.

Claim.—1. The combination, with the column B, of a casing, A, divided into two compartments, A′ B′, the lower containing a heating pipe, *m*, and the upper a perforated pipe, *a*, or its equivalent, substantially as and for the purpose described.

2. Graduating the size of the openings in the perforated plates of the column, and the length of the tubes which extend above said plates, substantially as and for the purpose specified.

3. The casing O, communicating with the heater A, or with its column, in combination with the casing O′, its tube *s*, and float *o*, connected to the throttle valve m^2, the whole being arranged and operating substantially as and for the purpose described.

4. The arrangement, in respect to the heater A and column B, of a cooler, F, consisting of a casing divided by partitions and pipes into two compartments, one communicating with the column, and the other with the water pipe c^1, as set forth.

79,261.—Charles A. Seely, New York, N.Y.—*Solidified Collodion.*—June 23, 1868.—The purpose of the nitro-glucose, which is dissolved in the liquid collodion and left incorporated with the hardened collodion after the evaporation of the solvent, is to increase the flexibility and toughness and counteract the brittleness of the ordinary hardened collodion.

Claim.—The compound of collodion and nitro-glucose, prepared and compounded substantially as described.

79,262.—Joseph Shalkenback, Chicago, Ill.—*Sad Iron.*—June 23, 1868.—The iron may be turned and held so that the operative face shall be either curved, flat, or angular, to suit the work to be done.

Claim.—The revolving sad iron A, constructed with flat and curved faces, as described, and adjusted in its handle, F, by means of the spring latch G and the disk S, in which are the notches K, arranged to correspond with the desired position of the sad iron, substantially as set forth.

79,263.—Henry F. Shaw, West Roxbury, assignor to James A. Woodbury and Solomon S. Gray, Boston, Mass.—*Steering Apparatus.*—June 23, 1868.—The rudder being turned in either direction is firmly held in position without the necessity of holding on to the wheel, regardless of any force that may be brought to bear upon the rudder or post below the operative parts. Springs are attached to the ends of the chains or rods fastened to the arm of the oscillating internal gear wheel, for the purpose of avoiding undue strain upon the gears and rudder post.

Claim.—1. The combination, with the rudder post C, of the sleeve G, provided with the eccentric *g*, and the gears D and E, substantially as and for the purpose specified.

2. The combination of a spring with the arm of the oscillating gear E, substantially as and for the purpose specified.

79,264.—Henry F. Shaw, West Roxbury, assignor to James A. Woodbury and Solomon S. Gray, Boston, Mass.—*Pulley Block.*—June 23, 1868.—The differential gear, described in United States patent No. 75,304, granted to same party March 10, 1868, is here applied in the construction of a pulley block, the object being to render it capable of sustaining a weight at any desired height, and to dispense with a lower or secondary sheave.

Claim.—The combination, in a pulley block, of the winding wheel D, the differential gear, pulleys E F, and an eccentric sleeve, substantially as and for the purpose set forth.

79,265.—C. Latham Sholes, Carlos Glidden, and Samuel W. Soule, Milwaukee, Wis.—*Type-Writing Machine.*—June 23, 1868.—By means of this invention, writing an ordinary communication, for example, is effected by mechanically-operated types instead of by hand. The types are arranged in a radiating series, and are pivoted to a disk, at whose center each type is made to act upon the paper through an opening, against a platen, under which an inking ribbon is automatically impelled. The paper to be written upon is confined upon a duplex frame, which has a regular intermittent feed motion, under an impulse derived from the operating keys, in order to properly space the consecutive letters upon the paper. One part of the carriage has an independent motion, in order that the position of the paper may be changed so as to space the lines.

Claim.—1. The key levers L, vibrating on the fulcrum M, with the inner ends or fingers *u* reaching under the type bars, so that the keys will act directly on the types, substantially as and for the purpose described.

2. The spacer or ratchet I, combined with the bifurcated lever H, connected with the bar T, pivoted at *s*, and resting on and across the arms of the keys L, behind the fulcrum M, so that striking the faces of the keys will work the teeth of the forks of the lever up and down and into the notches of the spacer, and give a certain uniform and regular space movement to the paper carriage, in line of the types, when made substantially as described.

3. The pins *e*, fastened to the table A^1, combined with the pawl *h*, and the spriug l', to give the paper carriage a certain and regular cross-line movement at a right angle to the space movement, from line to line when made substantially as described.

4. The clasps or springs *b*, attached to the bars C and C', on a line through the middle of the platen G, combined with the springs *a*, attached to the bar E, to hold the paper to the carriage, and press it down smooth and tight, in passing under the platen, when made substantially as described.

5. The spools *m*, combined with the gudgeon s', the shaft *l*, the pulleys *k* and R, the band c', the cord *v*, the weight W, the ratchet-wheel V, the pawl *t*, and the bar P, pivoted to the back of the case A^2, to feed a fresh part of the inking ribbon under the platen, to each type successively, when made substantially as described.

79,266.—J. D. Sibley, Middletown, Conn.—*Spirit Level.*—June 23, 1868.—Movable sights are attached to the ends of a common spirit-level frame, which revolves upon a pivot in the center of a disk, whose periphery is marked to indicate degrees of angles. The pivot is hollow, in order that a plummet line may be suspended therefrom.

Claim.—The combination of the revolving sighted level with the disk A, when arranged, and operating as herein described, and for the purposes set forth.

79,267.—Sidney Skillman, Jersey City, N. J.—*Car Truck.*—June 23, 1868; antedated June 16, 1868.—The boiler and the end of the car are mounted upon the truck in such a manner as to admit of a reasonable degree of oscillation in every direction, as in passing over obstacles or uneven parts of the road. The hole in the roof is somewhat larger than the stack, and the hooks of the braces are strong enough to sustain the stack under ordinary jars and concussions, but when, on account of an unusual occurrence the stack is struck against the roof with such force as to be deflected, the hooks break or straighten to permit the deflection of the stack without other injury.

Claim.—1. The swiveling of the truck on a center coincident with the center of the boiler, by means of the swiveling ring H, arranged substantially as herein described.

2. In connection with the above, the tilting ring G, turning on the centers g^1 g^2 and h^1 h^2, arranged substantially as and for the purpose herein specified.

3. In combination with the boiler D, located at or forward of the center of the truck, the employment of a bearing, I, in rear of the center of the truck, so arranged as to support or aid in supporting the weight of the car in such manner as to throw more of its weight upon the rear than upon the front axle of the truck, substantially as and for the purposes herein set forth.

4. The within-described arrangement of the hole P, stack *d*, boiler D, and weak braces M, or their equivalent, adapted to operate together in the manner herein specified.

79,268.—H. Julius Smith, Boston, Mass.—*Electric Fuse.*—June 23, 1868.—Designed to obviate the objections to such fuses as have two wires separately insulated, and not continued into the cap, but soldered to wires which proceed therefrom. The salt used as a flux in soldering attracts moisture, which interferes with the operation of the fuse.

Claim.—An electric fuse, in which the end of a single insulating cord, containing two insulated wires, is introduced directly into the cap containing the fulminate to be fired, in the manner described.

79,269.—William Smith, New York, N. Y.—*Book Binding.*—June 23, 1868.—Through each of two slits, punched at or near the back edge of the leaves, are passed two tapes, between the loose ends of which the cover boards are placed, and which are secured to said covers.

Claim.—A book when it has its covers secured to its leaves by tapes, or their equivalents, that are passed through the leaves, and then their loose ends fastened to both the outer and inner sides of the covers, substantially as described.

79,270.—George B. Snow and Theodore G. Lewis, Buffalo, N. Y.—*Automatic Dental Plugging Instrument.*—June 23, 1868.—The operator presses the plugging tool against the filling of the tooth, causing the tool holder to pass within the case, and the lifting bar to pass over the incline of a wedge and release its hold upon a catch; whereupon the hammer is driven down by the force of its spring, and strikes a blow upon the head of the tool holder.

Claim.—A plugging instrument, having all its automatic operating parts contained within the case forming the handle of the instrument, substantially as described.

79,271.—P. A. Sparre, Stockholm, Sweden.—*Transmitting Signals.*—June 23, 1868.—Signals are transmitted by means of a column of air, acting upon a disk or diaphragm. The air is contained in a pipe, and is compressed and forced against the diaphragm by means of a cylinder of caoutchouc, or other elastic substance. At each compression the elastic diaphragm of the receiving apparatus is raised, and it reassumes its former shape on the cessation of the pressure. It is this alternate elevation and depression of the diaphragm which is here made available as a means of transmitting signals.

Claim.—1. The disk *d*, in combination with the stop *e*, stand *f*, and bolt *g*, as described.

2. The rack *i*, in combination with the pinion *j*, connected with the gear *k*, by means of the ratchet wheel *l*, in connection with the catch *m*, escapement *n*, and spring *o*, as described.

3. The plate p^1, affixed to the cylinder p^3, in combination with the lever *q*, spring *r*, hook *s*, and spring s^1, as described.

4. The plate *t*, hinged to its case, as shown at t^1, in combination with the rack *i*, square *u*, pin u^1, and spring u^2, as described.

5. The stop *v*, mounted on the disk *d'*, in combination with the inclined planes v^1, v^2, v^3, hook *s*, and spring s^1, as described, to operate substantially as herein set forth.

79,272.—Nelson Spofford and Charles Corliss, Haverhill, Mass., assignors to Charles Corliss.—*Instrument for Adding and Registering Numbers.*—June 23, 1868.—By pressing in the projecting end of the graduated bar, the line or mark denoting the figure on the bar that coincides with the end of the casing will be indicated and registered on the dial.

Claim.—1. The graduated sliding spring bar *b*, when applied and operating substantially in the manner and for the purpose set forth.

2. The sliding graduated bar *b*, in combination with ratchet *f*, and toothed-wheel *e*, as and for the purpose specified.

3. The combination with the bar *b*, and spring *d*, of the system of gearing, and the indicators, as set forth.

4. The combination of graduated bar *b*, casing *a*, and head *c*, substantially as and for the purpose specified.

5. The method of adding a series of figures or numbers, by means of a sliding bar, operating a system of gearing or watch work, substantially as set forth.

79,273.—Edward L. Stevens, Houlton, Me., assignor to Isaac Barker, same place.—*Sled.*—June 23, 1868.—The sled is guided by means of the cords or ribbons attached to the rudder. The slotted bar allows the rudder to move back and forth, and is, together with the spring, designed to aid in steering, and facilitate the passage of the sled over obstructions and uneven places.

Claim.—1. The slotted bar G, in combination with the spring D, when constructed and operating substantially as and for the purposes described.

2. A coasting sled, having rudder A, bell holder and bell C, spring E, slot H, chains K, ribbons O, and stirrups S, constructed, arranged, and operating substantially as specified.

79,274.—David Stoddart, San Francisco, Cal.—*Reciprocating Steam Engine.*—June 23, 1868.—The arrangement of the passages and small pistons is such that the latter are acted upon by escape steam from the cylinder, and effect the reversal of the valve. The auxiliary passages prevent a change of valve while the piston is passing across either of the main openings.

Claim.—1. The arrangement of the pistons B^1, B^2, small pistons D^1, D^2, valve C, and the passages H^1, H^2, communicating to the cylinder, substantially as described.

2. The arrangement of the auxilliary passages K^1 K^2, substantially as described.

79,275.—David Stuart and Lewis Bridge, Philadelphia, Pa., assignors to Stuart, Peterson & Co., same place.—*Base Burning Fireplace Stoves.*—June 23, 1868.—The object is to provide a stove of comparatively small dimensions, which shall present an extended heating surface for the air admitted thereto.

Claim.—1. The base of the stove, inclosing the passages E, F, and G, arranged and communicating with the pipes P and P', substantially as described.

2. Two or more pipes P and P', arranged within the outer casing of a fireplace stove, for conveying the products of combustion to the chimney, and for heating the air admitted to the space within the said outer casing, all substantially as and for the purpose herein set forth.

3. The pipes P and P', in combination with the compartments *k* and *k'*, and the valved partition between the same.

4. The double cover, consisting of plates 2 and 3, one for fitting to the top of the stove and the other to the top of the feeder, and so arranged that products of combustion can pass between them.

79,276.—Edward Sullivan, Pittsburg, Pa.—*Reamer.*—June 23, 1868; antedated June 6, 1868.—The cutters can be adjusted so as to bore holes of different diameters.

Claim.—The combination and arrangement of the cutters and blank head C, collar *e*, sleeve D, cone *f*, rod A, and the cutters and blanks, the whole being constructed, arranged, combined, and operating substantially as herein described, and for the purpose set forth.

79,277.—Michael Sweeney, Wheeling, W. Va.—*Lamp Chimney.*—June 23, 1868.—The lens-like portion of the chimney is designed to concentrate the rays of light, and produce a more complete illuminating effect.

Claim.—As an article of manufacture, a lamp-chimney, constructed with an oval bulge, regular in form, and with a uniform curvature, except as to the rounded lens-formed projection B on the sides, substantially as set forth.

79,278.—B. B. Taggart and C. W. Brown, Watertown, N. Y.—*Hat.*—June 23, 1868.—The paper is rendered soft and pliable by moistening, after which it is shaped upon a form or block and allowed to dry; it is then placed upon a block and pressed into the form which it ultimately preserves.

Claim.—As a new article of manufacture, a hat or bonnet-body, molded or pressed from a continuous sheet of formed paper, substantially as and for the purposes herein shown and specified.

79,279.—Hiram Taylor, Cincinnati, Ohio.—*Lubricator.*—June 23, 1868.—The cast-metal band or collar is designed to constitute an air-tight and strong attachment for the supporting stem. The rod is made somewhat smaller than the aperture in the stem, or is formed with a flat side to allow the oil to flow from the reservoir to the shaft to be lubricated.

Claim.—1. A metallic band or collar, I, cast around and within the neck of the reservoir G, for the purpose of attaching the supporting stem E thereto, as specified.

2. In combination with the band or collar I, of soft or fusible metal, applied as set forth, the threaded tube or bushing F, of harder metal, for the reception of a screw on the upper end of the stem E.

3. The rod D, formed with a projection or enlargement, *d*, on its upper end, to support it out of contact with the journal, substantially as described.

79,280.—L. D. Taylor, Granville Center, Pa.—*Combined Land Roller, Fertilizer, and Seed Sower.* June 23, 1868.—When the machine is in motion the two-part main roller serves to give motion to the friction or crank wheels which operate the elbow levers through the medium of pitman rods and thereby reciprocate the perforated plates of the hoppers.

Claim.—The combination of the front and rear hoppers I I, and their respective plates K K, pitmen P P, levers L L, rollers M M, and cylinders A A, all constructed and operating substantially as specified.

79,281.—Daniel G. Terrell, Wakefield, Pa.—*Brake for Horse-Power Machines.*—June 23, 1868.—A long lever carrying a brake is sustained while the machine is in operation by a latch attached to a pivoted arm carrying a tightening drum which rests upon the belt. Should the belt break or slip off a pulley or wheel, the tightening drum falls, liberates the brake lever from the latch, throws the upper end of the pivoted arm against the brake, and thereby applies the brake to the driving wheel with sufficient force to stop its revolution.

Claim.—The arrangement in horse-powers, of the mechanism herein described, whereby the brake will be self-acting when the belt breaks or flies off, and also serves the purpose of a hand brake to stop the machine when the belt is on in running order, substantially as and for the purposes herein set forth.

79,282.—Daniel J. Tittle, Albany, N. Y., assignor to Albi M. Tittle, same place.—*Horse-Power.*—June 23, 1868.—The outside rows of cogs work on the front and rear carrying wheels. A gear wheel on the front carrying wheel shaft works into a gear wheel fixed to the axle of the drive wheels, and is adjustable laterally so as to be thrown into and out of gear. The center cogs work directly on the drive wheels when held in gear therewith by a lever operating one or more rollers beneath the tread apron which press said cogs into the drive wheel gear. Holding clamps, having set bolts and nuts, retain the tread apron at the required degree of inclination. The pan receives the animal excrement.

Claim.—1. The endless tread, composed of the pieces *e e*, and furnished with the links *f f*, outer cogs *g*, and middle cogs *h h h*, and all in combination with the said tread pieces *e e*, substantially as and for the purpose set forth and described.

2. The gear wheel K, working on the shaft of the carrying wheels *c*, in combination with the levers *i* and *n*, and connecting bar *o*, or their equivalents, as and for the purpose set forth and described.

3. The gear wheel M, in combination with the drive wheel D, or its equivalent, and the gear wheel K, substantially as and for the purpose set forth and described.

4. The rollers *r r*, with their supporting bars *t t*, or their equivalents, in combination with the lever S and its link *w* and connecting ear *v*, or their equivalents, as and for the purpose set forth and described.

5. The holding clamps *x x'*, and binding bolt and nut *y*, or its equivalent, as and for the purpose set forth and described.

6. The pan Z, arranged as and for the purpose set forth and described.

79,283.—E. R. Whitney, Plattsburg, N. Y.—*Car Coupling.*—June 23, 1868.—When the coupler enters the chamber it strikes the lower vertical arm of the cross and moves it backward, the rear horizontal arm lifting the dog until it becomes the upper vertical arm, when the dog falls and locks the cross. By raising the handle and placing the pawl in the notch, the cross may be revolved freely in either direction.

Claim.—The arrangement of a four-armed cross or wheel B, dog or lever C, with spring D, pawl E, handle F, and notch *a*, all made and arranged in the coupling box A, and operating substantially as and for the purposes above set forth.

79,284.—Frank Wicks, Upper Sandusky, Ohio.—*Horse Rake.*—June 23, 1868.—In order to discharge the gathered hay from the rake, the operator, having hold of the upper round of the handles, slightly lifts the heel of the gatherer; this causes the points of the teeth to catch in the ground when the teeth and handles are turned over. The teeth and handles are restored to the former position by the catching of the handle dogs in the ground.

Claim.—1. The runners E E, constructed substantially as described, with the curved part extending from the front extremity to the rear of the line of the points of the teeth P P, for the purpose set forth.

2. Locating the post G, or its equivalent, back of the points of the teeth P P, substantially in the manner and for the purpose specified.

3. The construction and arrangement of the rods or braces N O, with the handles and cross bar I, and nuts *t t*, for the purpose of bracing the handles to the cross bar I, substantially in the manner described.

79,285.—Newiel J. Willis, Boston, Mass., assignor to the Boston Spring Bed Company, same place.—*Spring Bed Bottom.*—June 23, 1868.—Each of the slats has two transverse notches or grooves to receive the middle straight portion of the bent wire springs, across which are turned the fastening buttons.

Claim.—1. The improved spring bed bottom, as composed of the frame B, the two round bars A, the two series of springs C, (of the kind described,) and the series of slats D, arranged and applied together substantially as described.

2. The construction and arrangement of the two buttons with the grooved slats and their springs, arranged and applied to such slats and round bars in manner substantially as explained.

79,286.—Putnam Wilson, Newport, assignor to R. M. Mansur, Augusta, Me.—*Cheese Press.*—June 23, 1868.—The bed piece upon which the cheese rests is made to rise by the force exerted upon the levers by the wheel and axle, the force being communicated to the bed piece by the loose end bars. Under this arrangement there is an upward as well as a downward pressure.

Claim.—The construction and arrangement of the levers E E, uprights D D, movable bottom B, upright standard F, and follower G, all operated by the rope I, drum J, and lever K, substantially as herein set forth.

79,287.—George F. Wright and William Orr, Jr., Clinton, Mass.—*Tag.*—June 23, 1868; antedated June 5, 1868.—The thickness of the piece of pasteboard corresponds with the diameter of the string, so that when the string is looped around it and the two pasted between the tag and its heading piece a smooth external surface is presented.

Claim.—The use of a circular or otherwise-shaped piece of pasteboard, or its equivalent, when inserted between the two thicknesses of the tag or label, around which the string, or its equivalent, is looped, in the manner substantially as herein shown and described.

79,288.—John Hartzell Zinn, Harrisburg, assignor to himself and T. B. Weakley, Dauphin County, Pa.—*Line Holder.*—June 23, 1868.—The tops of the arms of the lever are grooved out so that when a rope is placed in the depressions and under the flange it can be stretched away at any desired angle without slipping off its holding points.

Claim.—The arrangement of the lever D, with central arm *a*, pivoted on the frame A, and arm C, in connection with the arch-shaped flange B, all made of iron, brass, or other suitable material, for the holding of rope or wire, substantially as herein set forth and described.

79,289.—S. G. Moncr, Marathon, Ohio.—*Apparatus for Motive Power.*—June 23, 1868.—The main spring, being wound up, impels a train of wheels, including the verge wheel, which, acting upon the verge, oscillates the lever which imparts motion to the shaft carrying the fly wheel.

Claim.—The combination of the verge *g*, arm or lever *i*, connecting rod *k*, and fly wheel *o*, all as shown and described.

79,290.—Charles Benjamin Willoughby, Uhricksville, Ohio, assignor to himself and W. A. Bovey, same place.—*Carburetter.*—June 23, 1868.—Gas is produced by forcing air into the oil in the oil tank, from which the gas passes to the gas chamber to be conducted thence through a pipe into the water in the tank. The gas rises through the water into the gasometer, the weight of which forces it into the pipe which supplies the burner.

Claim.—1. The combination of the oil tank B, gas chamber D, pipes and valves *d*, all as shown and described, and for the purpose specified.

2. The combination of the gas chamber D, gas pipe E, and valves *f*, substantially as shown and described, and for the purpose specified.

3. The combination of the oil chamber B, the air-supply pipe C, and valve *c*, substantially as shown and described, and for the purpose set forth.

79,291.—WILLIAM MORGENSTERN, Hartford, Conn., assignor to HERMAN FUNKE.—*Breech Loading Fire Arm.*—June 23, 1868.—The hammer and lock mechanism are contained in and move with the swinging breech piece. The cam at the under side of the breech, actuated by a spring, throws the cartridge case clear of the gun, by a sudden movement, after said case has been retracted by an ordinary extractor on the forward end of the breech piece.

Claim.—1. In combination with a hinged breech-block, the firing pin, main spring, and sere, arranged within said block, substantially as described, for the purpose set forth.

2. Making the firing pin and dog, or handle, all in one piece, substantially as described, for the purpose set forth.

3. In combination with a swinging breech and firing pin or hammer, the projecting portion E, the whole arranged to accomplish the locking down of the breech, substantially as described.

4. The employment, in combination with an extractor, of an ejector, composed of a spring cam or flipper, such as herein described.

79,292.—JAMES H. LAMENT and D. A. LAMENT, Troy, Pa.—*Fruit Picker.*—June 23, 1868.—The fruit is detached by the fingers and is caught by the receptacle below.

Claim.—The combination, in a fruit picker, of the vessel A and fingers *a a a a*, all substantially as shown and described.

79,293.—PATRICK ADIE, of the Strand, England.—*Machine for Clipping Horses' Hair.*—June 30, 1868.—A number of cutters are so arranged on a comb that the length of hair left, in clipping, may be regulated, and the cutters are guarded by said comb so that the skin of the animal cannot be injured.

Claim.—The combination of the teethed plates A and B, screws I and I, handle A H, with handle or lever L K D H, the whole constructed and operated in the manner and for the purpose above set forth and described.

79,294.—JAMES ALBEE, Boston, Mass., assignor to MOSES POND and Co., same place.—*Hot Air Furnace.*—June 30, 1868.—The air heating pipes are arranged in a nearly vertical series. Two pipes, leading downward into a flue resting upon the throat of the ash chamber, conduct the products of combustion to said flue, when the direct draught is closed, in order to heat the contents of a pan which rests upon said flue, the pan being introduced and withdrawn through a throat in the case between the two pipes. The draught through the two pipes to the escape flue is equalised by a damper or perforated partition.

Claim.—1. The arrangement and combination of the flue N with either or both the pipes M, the fire pot A, the drum F, the conduit *f*, the escape pipe O, or its branch pipe *h'*, provided with a damper, as described, the case I being furnished with a throat or opening for the passage of the evaporating pan P to and from the top of the flue N, as set forth.

2. The arrangement and combination of the deflector H with the case I, the fire pot A, the drum F, the series of pipes G, and their extensions G', arranged with the drum and the fire pot, as specified.

3. The combination of the damper, or the partition *n*, having a hole, *o*, as described, with the two pipes M M, and the flue N, arranged with the fire pot, the drum, and the case, and combined with the conduit *f* and the escape pipe O, as set forth.

4. The arrangement of the evaporating pan and its throat with the flue N and the fire pot.

79,295.—J. S. ALLEN and A. P. WILKINS, Allen's Grove, Wis.—*Key Board for Pianos, &c.*—June 30, 1868.—Two or more rows of short keys are placed immediately behind the longer, ordinary keys, in the same plane therewith. By means of said short keys a tone, an octave higher or lower than the key directly in front of it, may be sounded.

Claim.—A key board to a piano forte or other musical instrument, in which additional keys, whether one or more series, are employed and arranged for operation upon the ordinary keys of the key board, substantially as and for the purpose described.

79,296.—A. Q. ALLIS, Dayton, Ohio.—*Treadle for Sewing Machines.*—June 30, 1868.—A coil spring is applied to the sewing machine as the moving power, for ordinary domestic use. A friction roller and a brake, governed by a foot lever, are employed to adapt the motion of the machine to the work.

Claim.—The arrangement, upon the frame A, of the spring F on shaft *b*, the ratchet wheel *c*, pawl *d*, and gear wheels *e g*, e^1 g^1, e^2 g^2, driving shaft B, pulley E, fly wheel D, friction pulley *h'*, brake *h*, rod *k*, spring *m*, treadle *n*, and rack *p*, as herein described, for the purpose specified.

79,297.—ROBERT ATHERTON and GEORGE SINGLETON, Paterson, N. J.—*Spinning Machinery.*—June 30, 1868; antedated June 19, 1868.—The bobbin receives motion from an endless cord on the pulley, and as the silk is unwound from the bobbin it receives the proper degree of torsion from the retarding effect of the traveler of the thimble cap. The object in imparting motion to the bobbin alone is to enable the same to be run at a higher degree of speed than usual.

Claim.—In silk spinning machinery, the combination of the stationary pin B, stationary thimble cap K, and thread-guide traveler W, with the movable tube E, and bobbin H, constructed and arranged substantially in the manner described and for the purpose set forth.

79,298.—J. S. ATTERBURY and T. B. ATTERBURY, Pittsburg, Pa.—*Manufacture of Glass Ware with Handles.*—June 30, 1868.—By successive operations in the same mold the body of the article is blown and the handle produced and permanently attached thereto.

Claim.—A glass lamp, or other article in glass, having a molded or cast handle, and a blown body, produced substantially as described.

79,299.—DEXTER AVERY, Westfield, Mass.—*Whip.*—June 30, 1868.—The threads of the covering of the whip are interwoven like regular fabric, instead of being braided as usual.

Claim.—As a new article of manufacture, a whip having its covering woven with a weft and warp, as herein described, for the purpose specified.

79,300.—DARIUS BABCOCK, Warsaw, Ill.—*Harvester.*—June 30, 1868.—Motion from the carrying wheels of the machine is communicated through the gearing inclosed in the dome-like frame to the cutters in the flexible bar, which is raised by a lever and prevented from rolling over by a hook.

Claim.—1. The dome-shaped frame A', in combination with the dome A, and in combination with any mowing and reaping machinery, substantially as shown and described, and for the purposes set forth.

2. The annular frame P, in combination with the frame A' and the axle M, substantially as shown and described, and for the purposes set forth.

3. The combination of the axle M, gear wheel D, pinion C, shaft B, crown wheel *a*, pinion E, and shaft H, with the frame P, all constructed, arranged, and operating substantially as and for the purposes set forth.

4. The frame *f*, in combination with the lever L', and chain, and arm *i*, substantially as shown and described, and for the purposes set forth.

5. The hook *g*, in combination with the arm *i*, and any flexible bar R, substantially as shown and described, and for the purposes set forth.

79,301.—ALFRED B. BEAUMONT, Grand Rapids, Mich.—*Broadcast Sower.*—June 30, 1868.—The cone guides the seed to the openings of plates situated at the bottom of the hopper and made adjustable to regulate the flow of seed. Through these plates the grain is delivered to the interior of a rotating wheel, consisting of two disks, separated by ribs, and from which the grain is discharged at the rear of the machine by centrifugal action.

Claim.—1. The adjustable disks *k'' k'''*, for regulating the discharge of the grain, substantially as and for the purposes shown and described.

2. The stop S'', in combination with the disk k'', substantially as and for the purpose shown and described.

3. Arm m'', substantially as and for the purposes shown and described.

4. Arm m''', substantially as and for the purposes shown and described.

5. The slot v on the arm m''', substantially as and for the purposes shown and described.

6. The spring v' on the arm m''', substantially as and for the purposes shown and described.

7. Operating the disk k'' by means of a rod, M, spring S', lever P, and hook t, or other equivalent devices, substantially as and for the purposes shown and described.

8. The guiding cone K, substantially as and for the purposes hereinbefore shown and described.

9. The arms m and n of the cone and hopper, substantially as and for the purposes shown and described.

10. Constructing a scattering wheel, i, with a central opening, k, and channels o, whereby the grain can pass into a portion of its said channels, substantially as and for the purposes specified and shown.

11. The cylindrical slides p of the disk k'', for the purpose of retaining the latter in the throat of the hopper, whereby the said disk is permitted to partially rotate, substantially as and for the purposes hereinbefore described.

12. The bevel wheel F on the axle x, and connected with an independent ratchet disk f, substantially as and for the purposes hereinbefore shown and described.

13. The hollow pulley H, with its bevel wheel G within it, in combination with a grain sowing machine, substantially as and for the purpose shown and described.

14. The coupling devices f'' b', in combination with a grain sowing machine, substantially as and for the objects shown and described.

15. The disk k' attached to the cone K, and provided with openings for dropping the grain or plaster, substantially as and for the purposes shown and described.

79,302.—Henry Beyrodt, Louisville, Ky.—*Bed Spring.*—June 30, 1868.—The lower end of the cylinder containing the spring is pointed, so that it may be secured in position by pressure upon projections of the bedstead rails. A frame, traversed by strips of webbing, rests upon the "pressers," which project from either side of their respective cylinders, and move vertically in the slots, while they bear directly upon the springs. Each cylinder has at top a perforated ear, whereby it is secured to the rail.

Claim.—The combination and arrangement of the outer cylinder, No. 3, the spiral spring and its covering, No. 4, and the presser, No. 6, constructed and operated in the manner as shown and described, and for the purpose set forth.

79,303.—J. B. Blair, Philadelphia, Pa.—*Gilding and Ornamenting Glass Signs.*—June 30, 1868.—This invention consists in the adaptation of the process of chromo-gelatin photography to the execution of ornamental gilding and painting, especially as applied to the manufacture of glass signs which require a number of duplications.

Claim.—The production of duplicates in plain or ornamental gilding or painting, substantially as and for the purposes set forth.

79,304.—A. R. Blood, A. Hathaway, and V. R. Beach, Independence, Iowa.—*Cultivator.*—June 30, 1868.—Devices for elevating and depressing the teeth, and regulating the quantity of seed to be sown.

Claim.—1. The levers J J, strips a a, bar L, and pivoted frame I, when all are arranged and operating substantially in the manner and for the purpose set forth.

2. The set screw H, seed slide b', levers J J, strips a a, bar L H, pivoted frame I, all combined and arranged as and for the purpose described.

79,305.—A. E. Bowen, Baltimore, Md.—*Crutch.*—June 30, 1868.—The crutch can be adjusted to suit the height of the person using it. A piece of rubber, covered with cloth, is secured over the arm-piece by screwed metallic plates. The movement of the yielding plug at the lower end of the crutch is limited by a pin traversing a slot.

Claim.—1. An adjustable crutch, constructed in the manner and for the purpose herein set forth.

2. The combination of the legs A A and B B, the thumb screws i i, the elastic top or arm-rest, and the elastic bottom of the crutch.

79,306.—William Bradshaw and Charles Lyon, Delphi, Ind.—*Wrench.*—June 30, 1868.—The movable jaw does not encompass the shank, but is hinged by its arm to the sliding saddle and held against the shank by a spring. When the wrench is turned in the effective direction, the jaw takes a firm hold upon the nut, but when turned in the contrary direction, the jaw is thrust out, permitting the wrench to be turned on the nut, and obviating the necessity of removing the wrench at each turn.

Claim.—The open-backed jaw E, in combination with the links b and shanks C, substantially as described, for the purpose specified.

79,307.—J. B. Breathitt, Cooper County, Mo.—*Nail Extractor.*—June 30, 1868.

Claim.—The fulcrum, B, of the nail extractor A, when pointed at its lower end, and adapted to be adjusted longitudinally of the extractor A, to increase or decrease the leverage of the latter, as herein described, for the purpose specified.

79,308.—Asa T. Brooks, New Britain, Conn.—*Door Bell.*—June 30, 1868.—The object of this arrangement is to produce a double and accelerated action of the hammer at each pull or vibration of the spindle.

Claim.—1. An oscillating arm k' and vibratory cam u, secured and oscillating both upon the same stud-pin n, in combination with the arms d h, substantially as described.

2. In combination with the above, the angle-lever v, oscillating upon the pin v' all arranged and operating substantially as and for the purpose described.

79,309.—R. M. Brooks, Griffin, Ga.—*Railroad Rail.*—June 30, 1868.—The object is to add strength to the rail by corrugating the flanges of the hollow bar or cap, and adapting the same to similar notches or corrugations in the flanges of the bottom part.

Claim.—The combination of the railroad rails A and B, provided with corrugated flanges a a and b b, and fitting together, substantially as and for the purpose set forth.

79,310.—Steven Buynitzky, St. Petersburg, Russia.—*Wash Boiler.*—June 30, 1868.—As the clothes are raised by the accumulation of steam within their folds, the plate also rises and lifts the cover from the sides of the boiler, so as to admit cold air.

Claim.—A loose plate C, provided with the guides E, or their equivalents, substantially as described, to be placed on the top of the clothes in the wash boiler, for the purposes set forth.

79,311.—Matthew M. Carr, Ringwood, Ill., assignor to himself and Thomas S. Carr, same place.—*Wagon Body.*—June 30, 1868.—The hinged sections constituting the bottom may be swung down to dump the load.

Claim.—The combination of the hinged sections of the bottom C D E, the bars F, pivoted, as described, at H, the springs J, latches I, levers K, cords or chains G and N, and levers L and M, all arranged and operating in the manner set forth.

79,312.—Gardiner Chilson, Boston, Mass.—*Stove Grate.*—June 30, 1868.—The peculiar arching of the grate and the truss form of its side bars are designed to render it so strong as to prevent sagging in the middle when the grate is overheated. The elbow on the arm is to carry the latter out of the way of the drawer or ash pan.

Claim.—1. The square or rectangular grate as arched or curved, both longitudinally and laterally, and having its side bars trussed or made deeper at their middles than at their ends, as represented.

2. The combination and arrangement of the elbow of the grate arm, with such arm and the grate, constructed and disposed relatively to each other, substantially as specified.

79,313.—THOMAS J. CHUBB, Williamsburg, N. Y.—*Apparatus and Process for Making Steel.*—June 30, 1868; antedated December 30, 1867.

Claim.—1. The construction of a series of deoxidizing and carbonizing retorts or chambers, A A A, arranged so as to prevent the gases from the heat-producing fuel from coming in contact with the ore or the materials in the retort, in combination with a melting chamber, for the purposes set forth.

2. The arrangement of the melting chamber B B′ with openings and doors at both ends, in such a manner as to facilitate the manipulation of the ore or metal under treatment from both ends, substantially as described.

3. Making provision for feeding loose ore and metallic and other substances in at one end of the melting chamber or furnace B′, and tapping the molten metal at the other end, substantially as described.

4. Making provision for conducting heated air and gases over the ore or molten metal, said air and gases entering at one side or end of the said melting chamber or furnace, and passing out at the sides or other end thereof, for the purpose of reducing said ore, metal, or metallic substances therein into a liquid or molten mass, substantially as described.

5. Making provision for shielding the ore, metal, and other substances from the direct action of the gases of the fuel by arches T.

6. Making provision for shielding and protecting the molten metal in a melting chamber from the direct action of the air, flame, and gases of the fuel by floating shields, or an equivalent refractory substance or substances floating on the top of the metal, as described.

7. Making provision for skimming off the surface of molten metal by floating scrapers, or their equivalent, substantially as described.

8. Effecting a separation of the cinder or upper layer of substances floating on molten metal, by the means herein specified and described.

9. The construction of a vessel or melting chamber of a furnace, so arranged as it may be sufficiently heated solely from above, by which means the metal therein becomes fully melted into a liquid state previous to skimming, tapping, and drawing off the same, substantially as herein described.

10. Making provisions for and effecting the melting of metals by heat applied solely from above the metal, when said heat is derived from a gas-regenerative apparatus or furnace.

11. The arrangement of a furnace or of a vessel or vessels in a furnace for melting metals therein, in combination with and heated by the flame produced by the mingling together of the air and gas rising from and having passed through an air-heating and gas-heating or reheating furnace, chamber, or apparatus, in separate currents.

12. Providing for keeping the under side of the melting chamber, or chambers in which the melting chamber or vessel is placed, cool, or from melting or leaking, by the arrangement of a cold-air chamber or space below the same, C.

13. The employment of slabs or arch pieces T T, for the purpose set forth.

14. The employment of scrapers or skimmers S S, or their equivalent, for the purpose set forth.

15. The employment of floating fire shields and heat conductors S S, for the purpose set forth.

16. Constructing slabs, arches, and shields with an uneven or irregular surface on one or both sides thereof, for the purpose set forth.

17. The method or process of refining metals and separating the dross and other extraneous matter from the surface of melted metal by mechanical power and appliances, or of inserting of refractive or infusible colder substances than the dross and scum, cooling and congealing them, that they may be skimmed or removed from off the surface of the molten metal, substantially as set forth.

18. Making provisions in the construction of a melting chamber of a furnace for reducing iron into such a liquid state by igneous fusion that highly-carbonized iron ore or pig iron, cast iron, or steel, and natured iron ore, or wrought iron, may fuse and mix with each other, and that impurities and surplus carbon, silicon, and other matter that is not essential to the production of good cast steel, may be flooded and removed from the surface of the molten steel, refining and running the same into vessels or molds, substantially as described.

19. Obtaining cast steel or products of any degree of malleability or ductility by melting together in a vessel or chamber in a furnace, combinations of pig iron and wrought iron, or of natured or partly natured iron and cast iron, and fusing, mixing, refining, and running the same into molds, substantially as described.

20. The production of cast steel by melting together, in a fixed or stationary melting vessel, chamber, or furnace, cast iron and iron ore, when such iron ore has been previously reduced, or natured, or partly natured, or carbonized in a separate vessel, retort, or furnace, and when mixed with manganese or titanium, or the ores or compounds thereof, and fusing, mixing, and running the same into molds.

21. The production of cast steel by first melting the iron or metal containing the most carbon in a stationary vessel, and adding the metal or ore containing the least carbon to the molten metal, and, when the whole is reduced to the proper consistency of cast steel, running the same into molds.

22. Effecting a continuous process of reducing or melting and refining ores and metals by mechanical appliances, and at one heating, and in one furnace chamber, substantially as described.

23. Effecting a continuous process of making cast steel from iron ore by submerging it into a bath of molten cast iron or highly-carbonized iron, whereby the whole will be liquefied and brought to the consistency of cast steel, and refined and run into molds.

79,314.—THOMAS J. CHUBB, Williamsburg, N. Y.—*Making Steel Direct from the Ore.*—June 30, 1868; antedated January 15, 1868.

Claim.—1. The arrangement and employment of fuel supporters *a a* and *d d′ a*, for the purpose set forth.

2. The arrangement and employment of stirrers and conveyors *b b b*, for the purpose set forth.

3. The process of decomposing mineral substances by currents of heated gas or gases passing through and among finely-divided particles of the same, substantially as described and herein shown, and for the purpose set forth.

4. The carbonization of iron or iron sponge, or the metallic particles therein, by a current or currents of heated gas or gases, as herein described, passing through and among finely-divided particles of the same, substantially as described.

5. The steel-melting chamber C, in combination with a heat-reclaiming apparatus, or a gas-regenerative, or an air and gas-heating apparatus or furnace.

6. The process of making cast steel, in combination with a heat-reclaiming and regenerative apparatus or furnace.

7. The employment of aluminous substances, such as fire-clay crucibles, as a substitute for plumbago crucibles, for making or melting steel therein, in combination with a gas-generative furnace and a heat-reclaiming apparatus.

8. The employment of a stationary melting chamber, vessel, or furnace, in combination with the appurtenances employed in the process of decomposing or deoxidizing iron ore, and carbonizing the metallic particles thereof.

9. The employment of a stationary melting chamber, vessel, or furnace, in combination with the process or processes of decomposing or deoxidizing iron ore, and carbonizing the metallic particles thereof.

10. The process, herein described, of decomposing or deoxidizing iron ore and carbonizing the metallic particles thereof.

11. The process, herein described, of making cast steel direct from the ore.

12. The employment of coal tar, rosin, petroleum oil, or the gas or gases thereof, for the purpose set forth.

13. The employment, in the deoxidizing chamber, in

combination with carbon, of ammonia or some ammoniacal compound, or of fusible compounds of cyanogen, or the gas or gases therefrom, to facilitate the conversion of iron ore, or iron or steel sponges, into molten or cast steel, substantially as described.

14. The employment of the chamber A A′ in the manner described, and the appurtenances and process employed therewith, for the purpose set forth.

15. Deoxidizing and carbonizing iron ores in a chamber separate from and previous to melting the same in a cupola or a blast furnace, substantially as described.

16. The combination of the process or processes of deoxidizing and carbonizing iron ores with the process of reducing and melting the metallic particles thereof, in a cupola or a blast furnace.

17. The arrangement of a melting or remelting and refining chamber, as described, in combination with a cupola or a blast furnace, (Figs. 3 and 4.)

18. The combination of the process of reducing iron ores, and melting the metallic particles thereof in a cupola or a blast furnace, with the process of melting or remelting and refining, substantially such as herein described.

19. Producing refined iron or steel by the process of deoxidizing and carbonizing the ore in a separate chamber, and melting the metallic particles thereof in a cupola or a blast furnace, substantially as described and shown, (Figs. 4 and 6.)

20. Producing refined iron or steel by the process of reducing the ore, and melting the metallic particles thereof in a cupola or a blast furnace, and reheating and refining the same in a melting or remelting and refining chamber, substantially such as is herein described.

21. The arrangement or employment of an air-heating and gas-heating or reheating apparatus, in combination with a cupola or blast furnace, for the purpose set forth.

22. The arrangement or employment of an air-heating and a gas-heating or reheating apparatus, in the process or processes of deoxidizing and carbonizing iron ore, substantially as described.

23. The employment of the chamber C, in the manner described, and the appurtenances and process employed therewith, for the purpose set forth.

79,315.—Robert Clarke, Mount Vernon, Ohio. *Car Standard.*—June 30, 1868.—The slot, through which the attaching bolt passes, adapts the standard to be raised out of its box or socket in order that it may be turned to a horizontal position so as to be out of the way in unloading.

Claim.—The box A, provided with the side supports G G, and confined to the car by means of the stirrup B and the pin E, when used in combination with the standard D, which is provided with a slot, *a*, through which the pin E passes, as and for the purpose set forth.

79,316.—Henry M. Close, Chariton, Iowa.—*Implement for Sharpening the Calks of Horse Shoes.*—June 30, 1868.—By this instrument the calks may be sharpened without detaching them.

Claim.—1. The jaw D, with the block E and the upright F substantially as specified.

2. The combination of the cutter H, block or rest E, and set screw G, substantially as and for the purpose described.

78,317.—L. O. Colvin, New York, N. Y.—*Cow-Milking Machine.*—June 30, 1868.—The part of the apparatus (not here shown) to be applied to the teats is connected to the pipes leading from the cylinder, which has a variable oscillating motion in order that the udder may be affected vigorously when required. The invention provides means to facilitate the placing of the cows in position, and prevent the apparatus from being injured or detached from the teats by the motions of the animal.

Claim.—1. A pump cylinder, for actuating a cow-milking apparatus, having a variable oscillating movement imparted to it, substantially as and for the purpose described.

2. The combination, with a pump having a variable oscillating movement, substantially as and for the purpose described, of the tubes E and E^1, for supporting the milker, and communicating the various motions to the same, as herein described and for the purpose set forth.

3. The combination of the tubes E and E^1 of the caps *d* and d^3, bracket a^1, set screw d^4, and pin nut, when constructed and arranged substantially as and for the purpose described.

4. The combination, with a pump piston-rod, of the bent arm *c*, pivoted to the end of a bent hand lever, D, and oscillating joint *a*, substantially as and for the purpose described.

5. The stall, constructed as described, in combination with the cow-milking device, as herein set forth and for the purpose specified.

6. The combination, with the oscillating cylinder A, of the pipe E, when jointed to the same in the manner described, as and for the purpose described.

7. A pump cylinder for cow-milking apparatus, to which the same is connected, as described, provided with a swivel joint, *d*, whereby the cylinder may be susceptible of oscillation on its axis, substantially as and for the purpose described.

79,318.—George Conron, New York, N. Y.—*Water Closet Automatic Supply Regulator.*—June 30, 1868.—A float ball is placed within a water chamber which communicates with the discharge pipe of the water closet bowl, the float ball being connected with the supply-pipe valve by means of a lever, and so arranged that when the water from the bowl is drawn off by lifting its proper valve, the water in the chamber will, in subsiding, lower the float ball, and bring its weight upon the lever, thereby relieving the supply valve, permitting it to rise and admit a quantity of water for cleansing the bowl and its connections.

Claim.—The combination and arrangement, with relation to the bowl A and discharge pipes B L, of the chambers E, C, *h*, valve G, float D, lever *a*, rod *b c*, valve *d*, and box I, having the shoulder *j* and openings *e f* adapted to communicate with the supply pipes J K, substantially as herein shown and described, for the purposes specified.

79,319.—Richard Crocker, Marshalltown, Iowa.—*Horse Shoe Calk Sharpener.*—June 30, 1868.—A device for sharpening the calks of iron-shod animals while the shoe remains secured upon the hoof. By moving the lever up and down a thin shaving is cut from the calk.

Claim.—The device consisting of the lever B, provided with the cutting edge *a*, the lever D, provided with the abutment *c* and face *b*, said lever B, with cutting edge *a*, lever D, with abutment *c* and face *b*, being combined, operating as described, and for the purpose set forth.

79,320.—Stephen H. Cummings, Norway, Me.—*Sad Iron Handle.*—June 30, 1868.—The object is to have such a length of rod or wire that the heat cannot be conducted through it to the hand piece.

Claim.—As a new article of manufacture, the handle B, formed of a single piece of wire, which is bent and coiled to form vertical columns, the horizontal central portion being left plain, for the application of the part C, said handle being also provided with the shield D, all as herein shown and described for the purpose set forth.

79,321.—C. N. Cutter, Worcester, Mass., assignor to Davis, Hill & Company, same place.—*Metallic Reed for Musical Instruments.*—June 30, 1868.—An elastic packing is inserted between the attached part of the tongue and the frame, for the purpose of obviating the imperfect sound commonly incident to such reeds as have the tongue attached directly to the frame, owing to the escape of air between said parts.

Claim.—A metallic reed for musical instruments, in which the tongue of the reed and frame, or part to which the same is attached, are combined with an interposed rubber or other elastic packing, substantially as and for the purposes shown and set forth.

79,322.—C. N. Cutter, Worcester, Mass., assignor to Davis, Hill & Company, same place.—*Metallic Reed for Musical Instruments.*—June 30, 1868.—The projections of the clasp are passed through holes in the frame of the reed and are clinched at the lower side. The clasp holds the base of the tongue to the bridge of the frame, and forms a box or cover, preventing dust and air from passing between the contiguous parts at the point of attachment.

Claim.—1. The combination, with the base *a*, of the tongue B and the main or frame part A, of a holding staple, clasp, or loop, substantially as and for the purposes set forth.

2. The combination, with the tongue B and frame or base A, of the clasp C, having projections *b b* and shoulders *d d*, substantially as and for the purposes set forth.

79,323.—John Henry Dallmeyer, Middlesex County, England.—*Compound Lens for Photographic Use.*—June 30, 1868; patented in England, September 27, 1868.—The denser or higher refractory medium, *i. e.*, the flint-glass lens, occupies the exterior position in both combinations, that is to say, the convex surface of the flint part of the front combination is exposed to the view or landscape, and that of the back or posterior combination to the screen of the camera. The posterior combination is also of smaller diameter than the anterior.

Claim.—1. The double combination lens, composed of two positive achromatic or actinic combinations, each having the higher refracting denser material at the exterior.

2. The construction of the double combination lens, with the denser higher refracting material at the exterior, and with the posterior achromatic combination of smaller diameter than the anterior combination.

79,324.—P. Davis, Newport News, Va.—*Letter Pouch.*—June 30, 1868.—An oblong paper bag, closed at the end by a flap, and having its exterior surface ruled off for addresses and numbers. The letters placed in the pouch correspond with the addresses, and as the letters of each address are taken from the pouch the corresponding address on the pouch is obliterated.

Claim.—A letter pouch, having its exterior lined or ruled off, with addresses printed or written thereon, substantially as shown and described.

79,325.—Rees Davis, Utica, N. Y.—*Car Replacer.*—June 30, 1868.—Wood is combined with iron in order to associate lightness with strength; the difference in the length of the frogs is designed to insure the replacement of the cars by preventing them from running to the opposite side of the track in the act of replacing, and a toe or projection on the forward end of each frog is pressed into the tie by the weight of the car, the frogs being thereby held in place.

Claim.—A railroad car replacer, constructed of wood and iron, with the frogs of different lengths, arranged and adapted to the rails, substantially as described, and for the uses and purposes mentioned.

79,326.—Lucius A Dodge, Keeseville, N. Y.—*Lubricator for Nail Machines.*—June 30, 1868.—A means for lubricating a forging roller, which is arranged to move rapidly around an axial support, and which, when in contact with the iron to be wrought, is also caused to rotate rapidly upon its own axis. The centrifugal action tends to create an undue flow of oil through the wicking of the lubricator, but set screws are forced against the wicking to limit the flow.

Claim.—The stock A, provided with the chamber C, the wick chambers C′ and C′, passages *d d*, and the set screws *a a*, substantially as and for the purpose described.

79,327.—N. B. Douglass, Cornwall, Vt.—*Hay Loader.*—June 30, 1868.—The discharger consists of a series of inclined plates with intermediate spaces to admit of the passage of the teeth. The hay, being disengaged from the teeth, falls into the wagon. On freeing the springs from the stops, the rake may be turned backward and upward, out of the way.

Claim.—1. The removable frame G, attached to a frame, F, hung on the rear axle of the wagon, in combination with the toothed belts *o*, and the discharger A^x, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The rake head *s*, hung to the frame G in such a manner that by freeing the springs *u* upon the head, from the stops *w* upon the frame, the rake J can be turned up and rendered inoperative, as herein shown and described.

79,328.—James Drinkwater, Adams, Ohio.—*Horse Hay Fork.*—June 30, 1868.—The elevating teeth, when inserted into the hay, are turned to a horizontal position by raising the handle and thereby the sliding frame and rods to which said teeth are attached. By pulling the trigger the latch is pressed from a notch, whereupon the sliding frame falls and the teeth close so as to drop the hay.

Claim.—The combination of the handle G, latch H, spring I, notch L, and trigger K, with the hay fork, as herein described, for operating substantially as set forth.

79,329.—Stafford A. Du Bois, Chicago, Ill.—*Skate.*—June 30, 1868.—The two-part skate is screwed to the boot in the manner shown, the larger diagram being an under side view of a boot with the skate applied.

Claim.—1. A skate, made in two separate and distinct parts, one to be attached to the heel of the boot, and one to the sole thereof, substantially as herein set forth.

2. In combination with the plates H and F of the skate, the flanges M and I, and the thumb screws L, when constructed and operating substantially as described.

79,330.—Charles Durant, Jersey City, N. J., assignor to George F. Durant, same place.—*Relay Magnet.*—June 30, 1868.—The machine rests upon elastic supports, which prevent the jarring and vibration of the table or desk, due to the operation of the sounder, from being communicated to the relay magnet. The shield is merely intended to cover and protect the conducting wire.

Claim.—1. The application of a spring or springs, a cushion or cushions, or other elastic substance, to the electro-magnetic relay machine, substantially as and for the purpose herein shown and described.

2. The shield or protector S, for the conducting wire I, substantially as and for the purpose herein shown and described.

79,331.—Charles Durant, Jersey City, N. J., assignor to George F. Durant, same place.—*Relay Magnet.*—June 30, 1868.—The fork of the armature serves to move the shifting bolt through the bent post for the purpose of opening and closing the local circuit. The jaw of the post insures steadiness by affording wide bearings for the bolt in its movements. The weight applies friction to the sliding post in order to secure firm writing.

Claim.—1. The jaws or fork in the armature or armature lever of an electro-magnetic relay machine, substantially as and for the purpose herein shown and described.

2. The jaws or fork in the post B, substantially as and for the purpose herein shown and described.

3. The weight T, applied substantially as and for the purpose herein shown and described.

79,332.—George Esterly, Whitewater, Wis.—*Broadcast Seeder and Cultivator.*—June 30, 1868.—A shaft, carrying the seed cylinder, derives motion from the axle, through gearing which may be thrown into and out of gear by means of a clutch lever; and said shaft is also provided with a lever whereby it may be moved longitudinally for the purpose of regulating or stopping the flow of seed.

Claim.—1. The construction of the cap F, with an upwardly-flaring throat, *d*, with a hollow projection, d^2, for receiving a packing, *f*, and also with a discharge passage, f^1, substantially as described.

2. The construction of the bearing G with discharge openings *h* and f^2 through its bottom, and with a recess on one side of it, over opening *h*, for receiving the circular flange S, said bearing being applied to the cap F, and adapted to serve, in conjunction therewith, as a receptacle for the rotary

distributor J and cylindrical cut-off J′, substantially as described.

3. The flange S, with segmental projections S′, in combination with the distributor J and cut-off J′, arranged to operate substantially as and for the purpose described.

4. Applying the distributor J and cut-off J′ loosely upon its shaft K, in combination with the cap F and bearing G, substantially as described, and for the purposes set forth.

5. Constructing conical scatterers I for seed-discharging tubes, with circular ribs or corrugations upon their surfaces, substantially as described.

6. The combination of the driving wheel N, pinion K^5, clutch $n\ n'$, and lever P, with the device K^2 K^3, for regulating the discharge of seed, substantially as described.

7. The construction of the plate E, with the lateral offset c, serving as an end-bearing for the rod D^2, for carrying drag-bars D, substantially as and for the purposes described.

8. The adjustable clamp stops, pivoted to hoe standards D^1, when such stops are so constructed as to resist ordinary backward pressure against the hoes, and also to allow the standards to slip backward when subjected to an extraordinary pressure, substantially as described.

79,333.—MANDANA D. FENNER, Rochester, N. Y.—*Pump for Oil Wells.*—June 30, 1868.—The downward pressure of the liquid in the auxiliary tube assists in raising that within the main tube. An agitation is produced in the bottom of the well by the working of the plunger, and the crevices are thereby kept clear.

Claim.—An apparatus for washing or producing an agitation in a well, consisting of a tube opening directly into the liquid of the well, and having a solid plunger, in combination with an elevating tube, having a valvular piston, when the plunger and piston have an inequality of leverage, substantially as described.

79,334.—E. R. FERRY, New Haven, Conn.—*Bridle.*—June 30, 1868.—On drawing the reins gently, the check strap is pressed against the jaw by the action of the levers. The springs and stops prevent sudden action upon the check strap, and cause the latter to quickly relieve the jaw when the reins are slackened. The pulley arrangement enables the bit to be actuated with great power.

Claim.—1. The levers $f\,f$, fitted loosely on or permanently attached to the bar e of the bit, and having a curb strap or chain, j, attached to their upper ends, in connection with the reins D D, passing through the outer ends of the levers f, and passing over pulleys c at the upper part of the bridle, and down to the bit, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The springs E E and stops k, applied to the reins D D, in connection with the levers $f\,f$ and pulleys $c\,c$ on the bridle, all arranged substantially as and for the purpose specified.

3. The application of the pulleys c, with or without the pulleys h, in connection with the reins D D, arranged substantially as and for the purpose set forth.

79,335.—CHARLES C. FOOTE, West Meriden, Conn., assignor to MERIDEN BRITANNIA COMPANY, same place.—*Enameled Metallic Ice Pitcher.*—June 30, 1868.—The enamel, being very hard, prevents the ice from injuring the metal of the pitcher, and obviates corrosion.

Claim.—Coating the inside of metallic ice pitchers with enamel, by applying the enamel in a liquid state to the metallic inner surfaces, substantially as herein shown and described.

79,336.—HENRY FORNCROOK, F. J. SHEPPERD, and ANDREW GARTON, Watertown, Wis.—*Hop Picker.*—June 30, 1868.—The branches are stripped from the vines and passed into the machine between the feed rollers, when they encounter the teeth of the picker, which detach the hops from the vines and pass both through the trough into the screen, wherefrom the hops drop into the shaker, whence they are conveyed by the elevator to sacks.

Claim.—1. The manner of adjusting the incline of the bolt F, by means of the movable strip a^2, in combination with the jack g^2, suspended to the frame by one screw upon each side, substantially as herein shown and described.

2. The combination and arrangement of the picker B, cleaner D, bolt F, shaker H, and feed rollers O O and P, in the manner and for the purpose substantially as herein set forth.

3. In combination with the above, the elevator M, arranged substantially as herein specified.

79,337.—N. A. FRANK, Chicago, Ill.—*Composition for Calcimining Walls, &c.*—June 30, 1868.—In addition to the materials ordinarily used in the preparation of calcimine, this composition embodies tallow, lye, whiting, plaster of Paris, and glycerine.

Claim.—A calcimine, composed of the ingredients herein named, and compounded substantially as specified.

79,338.—WILLIAM E. GORGE, Wrentham, Mass.—*Machine for Pressing Hats.*—June 30, 1868.—Under this invention a variety of hats may be produced by the use of one steam chest and pressing mechanism and a plurality of molds; the effect being to avoid the expense involved in providing pressing machinery for each form of hat.

Claim.—1. The combination and arrangement of the socket piece m, the head G, the diaphragm k, the elastic covering l, and flanged ring q of the die, the said socket piece m and flanged ring q being connected, substantially as described.

2. And for use with the steam chest C, when combined with a mold and die, and mechanism for forcing the die into the mold for the purpose of pressing a hat, I claim the combination, substantially as described, for fastening a mold, B, to the mouth of the steam chest, the same consisting of the flange a, the annulus F, the clamp ring E, the screws g, the projections e, (of the flange d,) and notches f of the said ring, the whole being arranged in manner and to operate substantially as described.

3. The combination of the presser or elastic die with the head G, by the tenons s, their pins and holes, the same being so arranged as to enable the said presser or die to be readily removed from the head G, without disturbing the connection of the diaphragm and the elastic covering of the presser.

79,339.—P. S. GERHART, Philadelphia, Pa.—*Register for Railroad Cars.*—June 30, 1868.—The arms of the turnstile are attached to its head by horizontal hinges or pivots, a circular rib on the turnstile always causing one or another of said arms to extend across the entrance horizontally, while the other or others hang down.

Claim.—The combination of a turnstile, with pending arms, with any car or other vehicle, the whole constructed, arranged, and operated in the manner as and for the purpose above set forth and described.

79,340.—EDMUND W. GILLMAN, Hunter's Point, N. Y.—*Mode of Repairing Barrels.*—June 30, 1868.—Device for binding and preserving the integrity of the barrel when the hoops are removed, in order to replace a broken or decayed stave, without removing the contents.

Claim.—The hoop B, slotted to receive the adjustable gripes C D, and provided with lugs adapted to be drawn together by means of the screw E, substantially as and for the purpose set forth.

79,341.—ANTON HAEUPEL and JOHN REINHARDT, Philadelphia, Pa.—*Locomotive Steam Engine.*—June 30, 1868.—The stroke of the valve is made variable by means of a wheel which is mounted upon the driving shaft, actuates the connections through which motion is imparted to the valve rods, and may be turned to any degree of obliquity in relation to said shaft; it being locked, released, and adjusted by a lever and trigger operated by the engineer.

Claim.—1. A valve-regulating wheel or disk, M, in combination with the shaft D, having notches d', movable collars P Q, key S, and bar T, all arranged and operating substantially as herein set forth.

2. The combination, with the movable collars P Q,

of the releasing trigger O, lever N, and forks *n o*, with their described connections, substantially as herein set forth.

3. The slides L L, friction rollers L^1 L^2, and vibrating levers K K, in combination with the wheel M, for communicating motion to the valves, substantially as described.

79,342.—WILLIAM S. HAIGHT, Waterford, N. Y.—*Apparatus for Hopping Beer.*—June 30, 1868.—The hops to be treated are placed upon the false bottom, and the liquor is then introduced, and steam let into the lower compartment. Pipes are provided for drawing off the liquid, preventing its overflow, and conducting the aroma. The stirring device is removable to allow the false bottom to be taken out.

Claim.—1. Arranging a rotary stirrer, F *f*, in a hopping apparatus, between two perforated shelves D and E, substantially as herein shown and described.

2. The arrangement, in a beer-hopping apparatus, of the discharge pipe H and overflow pipe L, both arranged substantially in the manner herein shown and described, the overflow pipe entering the discharge beyond the tap *g* in the latter, as set forth.

3. A beer-hopping apparatus, consisting of the box A, air-tight cover B, perforated false bottom D, and perforated false cover E of the stirrer F *f*, discharge pipe H, overflow pipe I, and aroma conductor J, all made and operating substantially as herein shown and described.

4. Making the stirrer shaft F removable, by suspending one end upon the pin or arbor *e* of the driving crank or pulley, substantially as herein shown and described.

5. The application of the plug L, or its equivalent, through the real and false bottoms of the box A, for the purpose of facilitating the discharge of the spent hops, as set forth.

79,343.—WILLIAM HAMILTON, Chicopee, Mass.—*Hose Coupling.*—June 30, 1868.—When the parts are put together the lip of each fits over the rim of the other, and thus a locking is effected, which prevents the parts being forced asunder in the same line. The parts are clamped in this position by the slotted pins, so as to secure the joint.

Claim.—The combination of the two parts of the coupling, each having a lip B, and rim A, with the fastening pin D, with spiral slot H and eccentric face J, the parts being constructed and arranged together substantially as herein given.

79,344.—Major E. HANOVER and DAVID D. BAILEY, Lamoille, Ill.—*Cultivator.*—June 30, 1868.—The middle part of the axle is elevated and the frame so constructed that the machine may pass over the plants without injuring the same. The relative positions of the forward part of the frame and the hounds may be changed to regulate the working depth of the plows. Provision is made for equalizing the draught and removing the downward pressure from the necks of the horses.

Claim.—1. The frame C, constructed and arranged substantially as herein shown and described, in combination with the axle B, as and for the purpose set forth.

2. The combination and arrangement of the pivoted oblique beams P, connecting bars U, levers V, and connecting rods W, with each other, and with the frame C and hounds D, substantially as herein shown and described, and for the purpose set forth.

3. The combination and arrangement of the hounds D, frame C, lever hooks or catches E, coiled or equivalent spring F, and operating rod G, with each other, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the angular or bent brace bars T with the pivoted plow beam P, axle B, and frame C, substantially as herein shown and described, and for the purpose set forth.

5. The bent levers A′, pivoted at their angle points to the axle B, in combination with the connecting rod B′ in rear of the axle B, draught rods C′, horizontal bar E′, hounds D, and slotted vertical arms D′, all operating as described for the purpose specified.

79,345.—ALFRED HATHAWAY, Charlestown, Mass.—*Paper Shears.*—June 30, 1868.—The function of this device is to prepare sheets of blank checks for being torn on straight lines between the checks, by means of rows of perforations.

Claim.—1. The mechanism for securing the cutting action of the blade E, by means of wrist pins, acting in slots F and G, shaped as set forth, and located in arms attached to the lever D, substantially as described.

2. Shear blades, when one or both are denticulated upon the edge, and they are united by self-adjusting fulcra, substantially in the manner and for the purpose set forth.

3. The combination of the stationary block B and lever D, with adjustable blocks C C′, and levers *d d*, the latter being so connected with the lever D, by intermediate levers and rods, that they may be operated simultaneously with the latter by a single movement, substantially as and for the purpose set forth.

4. The combination of the lever D and denticulated shearing blade E, substantially as and for the purpose set forth.

79,346.—PETER C. HAVELY and WILLIAM W. COGGSHALL, Rensselaerville, N. Y.—*Hammer.*—June 30, 1868.—The nail-holder is a recess in which a nail may be placed, in order to be started in by a slight tap of the hammer, after which it is driven home in the usual way. By means of the notches and the set screw the jaw may be retained at any desired point, said jaw in conjunction with the hammer-head constituting a wrench.

Claim.—The implement herein described, consisting of the hammer B, adze E, nail-holder *a*, claw F, movable jaw G, notched socket C, graduated handle A, and removable screw-driver D, all constructed and arranged to operate in the manner as herein set forth.

79,347.—DANIEL HAYES, Cambridge, Mass.—*Clasp Hook.*—June 30, 1868.—The clasp or bar is passed over the point or nose of the hook, and there secured by the spring catch.

Claim.—The application to iron hooks of a clasp or bar, attached to said hook as aforesaid, and a spring attached to the outside of aforesaid hook, in the manner above set forth.

79,348.—HARVEY HERRICK, Dixon, Ill.—*Combined Stove Pipe, Oven, and Water Heater.*—June 30, 1868.—This device is connected with a stove pipe, and may be used as an oven or a warming closet, or, under a simple change, as a boiler or water heater, the oven or boiler, as the case may be, forming a part of the heat-flue.

Claim.—1. Constructing a heater, C, without an inner wall, so that the oven or boiler forming the inner wall thereof may be exposed to the direct action of the heat in the flue, substantially in the manner and for the purposes herein specified and shown.

2. In combination with a heater, constructed substantially as described, an oven, D, arranged to operate as and for the purposes set forth.

3. In combination with a heater, constructed as described, a boiler, F, constructed so as to form the inner wall of the heater, substantially as and for the purposes specified.

79,349.—CHARLES HIGLEY, Port Byron, N. Y.—*Churn and Ice Cream Freezer.*—June 30, 1868.—The curved spout is suspended in such a position as to take the cream as it rises along the sides of the receptacle, and discharge it upon the bottom thereof. The apparatus has a rapid rotary motion.

Claim.—The receptacle F, constructed as described, with double walls and bottom, forming a water or ice chamber, H, having no communication with the interior of the receptacle, and closed at the top by means of the annular flange I, beneath which, within the receptacle, upon one side, the curved spout L is suspended, as herein described, for the purpose specified.

79,350.—THEODORE HIMES, New Albany, Ind.—*Dress Protector.*—June 30, 1868.—A water-proof covering or dress for ladies, in which the lower portion of the ordinary dress and skirts may be inclosed and protected against mud and water.

Claim.—The dress protector, consisting of the drawers D, leggings E, double covering, A B, attached to the drawers, and skirt I, all held up and suspended by straps from waistbands *f g*, substantially as and for the purposes set forth.

79,351. — MILLER J. HINE, Equality, Ill.—*Shingle Machine.*—June 30, 1868.—The circular carriage runs upon a track on the circular bed-plate. A cogged rim fixed to the under side of the carriage is acted upon by a pinion deriving motion, through a pawl, ratchet, and shaft, from the main driving shaft. The curved saws are attached to the arms of a rock shaft, and act upon the bolt as it is fed to their action by a screw, turned by a winch or handle.

Claim.—1. The combination of the circular toothed wheel F, pinion wheel G, vertical shaft H, ratchet wheel P, pawl O, arm N, rock shaft M, arm L, connecting bar K, and crank wheel J, with each other, and with the carriage D and driving shaft I, all constructed and arranged to operate substantially as herein shown and described, and for the purpose set forth.

2. The combination of the swiveled screwB′, and sliding bed-plate C′, with the carriage D and blocks A′ substantially as herein shown and described, and for the purpose set forth.

79,352.—A. J. HOBBS, Van Wirt, Ga.—*Medical Compound.*—June 30, 1868.—A remedy for venereal and other disorders. A strong decoction of the following roots and barks is obtained by boiling equal weight quantities, and adding thereto rum or whisky in the proportion of one part of the latter to three parts of the decoction; the roots are white ash, thorn ash, red shank, sumach, sarsaparilla, silk weed, blackberry briar, shoe string, sassafras, may apple, sweet shrub; and the barks are cherry tree, dogwood, and butterfly.

Claim.—The medicinal compound, substantially as above set forth.

79,353.—ALFRED HOYT, New York, N. Y.—*Match Safe.*—June 30, 1868.—As the top of the box is drawn forward or opened, as shown, the pawl is drawn back over one or more teeth of the ratchet; and when the box is returned to its case the ratchet and cylinder are turned by the pawl, and thus a new surface on the cylinder is presented, on which to rub a match every time the box is opened.

Claim.—A match safe, formed of the parts A, B, and C, constructed, arranged, and operating substantially as herein shown and described.

79,354.—JOSEPH G. HUMES, Gravios Mills, Mo.—*Flour Bolt.*—June 30, 1868.—The function of this device is to stretch the bolting cloth uniformly at the inner sides of the ribs of the reel, and the effect of the arrangement is that the interior of the bolting cloth presents an unobstructed surface, so that the meal is sifted through, but not lifted and dropped by the ribs.

Claim.—The construction and arrangement of the radial arms *b*, affixed to the bosses *a*, the adjustable screw bolts B, and adjustable eye bolts *c*, whereby the bolting cloth is strained radially and longitudinally, as herein described, for the purpose specified.

79,355.—D. P. JORDAN, Chicago, Ill.—*Letter Box.*—June 30, 1868.—The letter box is situated inside of the main box, which is a receptacle for newspapers, the latter being introduced over the letter box, and removable without disturbing the letters. The letter box is hinged to the bottom of the main box, and provided with a lock.

Claim.—The letter box C, in combination with the box A, when constructed and operating substantially as shown and described for the purposes set forth.

79,356. — JOHN B. JORDON, Aurora, Wis. — *Cleaning and Boring Device*—June 30, 1868.—An apparatus for boring and cleaning out wells, consisting of an iron cylinder placed upon a shaft which is provided with contrivances for boring and loosening the earth, and allowing the same to enter the cylinder, so that it may be readily removed from the well.

Claim.—1. An apparatus for boring and cleaning wells, consisting of the metallic cylinder A, shaft D, with auger-lips E, provided with flanges F and valves *c*, constructed and arranged to operate substantially as herein described.

2. In combination with the cylinder A, shaft D, with the auger-lips E, provided with flanges F and valves *c*, the scraper G, with its adjustable wings or curved arms *e*, when constructed and arranged to operate substantially as herein described.

73,357.—F. L. KATHAN and E. D. RUMMER, Roscoe, Ill.—*Boot Crimp.*—June 30, 1868.—The gripers hold the leather in place upon the crimper, while drying. The crimper is composed of three sections, the front and back being united by a hinge at top. By turning the screw so as to retract the tapering griper through which it passes, the sections are forced apart and the leather drawn tightly to the crimper.

Claim.—The combination of the hinged crimp A A A, block and screw D, with the gripes C C C, when arranged, constructed, and operating as herein described, and for the purposes as set forth, as an article of manufacture.

79,358.—JOHN LAWRENCE KLEIN, New York, N. Y.—*Making Soap.*—June 30, 1868.—This process involves the use of three different kinds of lye, together with tallow, grease, palm oil, potash, salt, rosin, and cocoa oil. In lixiviating the water employed in making the lye, the materials for producing the several kinds are, respectively, barilla, with unslacked lime; caustic soda; and sal soda, with unslacked lime.

Claim.—A new and improved process for making soap, as herein described, using for that purpose the aforesaid ingredients or compositions of matter, or any other substantially the same, and which will produce the intended effect.

79,359.—AZEL LANE, Addison, N. Y.—*Machine for Dressing Millstones.*—June 30, 1868.—The pick handle is arranged to slide loosely on the shaft upon which it vibrates, and is operated by the hand of the operator applied to the shank of the pick. While one hand is employed to vibrate the pick and move it laterally, the other hand rotates the shaft to draw the pick over the face of the stone in the opposite direction.

Claim.—The combination, with the platform A, provided with the rack bars B, of the shaft C′, provided with the sliding blocks C C and pinions F, substantially as and for the purpose set forth.

79,360.—WILLIAM H. LEACH, Uxbridge, Mass., assignor to BRADFORD STETSON, same place.—*Machine for Rolling Leather.*—June 30, 1868.—The journals of the lower or pressure roller are mounted in a movable lever frame, which is provided on the under side of either end with projections resting upon joints which are supported upon the central portion of a cross-piece in the main frame, in such manner as to operate, with the lever frame like a toggle joint, in addition to the usual compound lever employed for moving the pressure roller.

Claim.—1. The arrangement of the lever frame C, provided with the projections *c*, and the compound lever C′, D, T, when the parts are constructed and made to operate the roller B′, as and for the purpose set forth.

2. The flanges *d d* on the bearings *b* of the lever frame C, as and for the purpose set forth.

79,361.—ROBERT H. LECKY, Allegheny City, Pa.—*Pipe Wrench.*—June 30, 1868; antedated June 13, 1868.—The instrument is converted from a pipe wrench into a pipe cutter by detaching the tongue or clamp and substituting the cutter therefor. The diagram shows the instrument as adapted for cutting, with the serrated clamp detached.

Claim.—A pipe wrench and cutter combined in one instrument, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

79,362.—William O. Leslie, Philadelphia, Pa.—*Brick Machine.*—June 30, 1868.—The brick molds are in a horizontally rotating wheel, and the novel devices employed are for feeding the prepared clay from the hopper to the molds, and for pressing the clay into the molds.

Claim.—1. The combination of the hopper having the inclined bottom, with the screw E located therein, with the spout F and box I, all constructed and arranged to operate substantially as shown and described.

2. In combination with the box I, the plunger R and shaft J, having the cam K and wheel P mounted thereon, for rotating the mold wheel continuously, and operating the plunger intermittently, substantially as herein described.

79,363.—Homer Lewis, Bennington, Vt.—*Spirit Level.*—June 30, 1868.—A spirit level and plumb level are combined in one instrument, both being readily readjusted when deranged by shrinkage or other cause.

Claim.—1. Making a level vial adjustable in its block by securing one end of the box C, in which the vial is held, to a spring, D, and the other end, by means of a screw, *b*, to a plate, E, or its equivalent, substantially as herein shown and described.

2. An adjustable plumb vial, F, when secured in a box, G, which is by means of screws *c c* connected with a plate, H, or its equivalent, all being arranged within a slot, cut through the block A, the ends of the slot being covered by means of plates *d d*, as set forth.

79,364.—H. L. Lowman, New York, N. Y.—*Machine for Forming Eyes of Pickaxes.*—June 30, 1868.—Improvement on the dies described in United States letters patent granted same party November 27, 1866. Under the mode of operation here claimed, the blank when delivered from the first pair of dies is but partially formed, the principal object of this part of the operation being to give the required projection to the eye of the tool. The function of the second pair of dies, in combination with the internal swage with its cutting edge, is to complete the form of the die, both inside and outside.

Claim.—1. The second set of dies and inside swage, in combination with the first set of dies and inside swage, substantially as and for the purpose specified.

2. Forming the second pair of dies with that part of the cavity toward the inside swage with an outward bevel or curve, substantially as herein described, in combination with the inside swage, the forward end of which is wedge-shaped, and with a cutting edge, substantially as and for the purpose specified.

79,365.—James Macadam, Little Falls, N. Y.—*Curd Mill.*—June 30, 1868; antedated February 28, 1868.—Portions of curd being placed in the hopper and the crank turned, the teeth on the revolving cylinder tear off pieces of the same, carrying them down through the grate beneath, the bars of which aid in breaking up the curd and comminuting it to the degree required.

Claim.—The combination and arrangement of the hopper, provided with a grate of straight bars beneath, and the toothed cylinder turning in said hopper, and having its teeth to pass down between said bars, substantially as described, and for the purposes set forth.

79,366.—O. C. Machlett, St. Paul, Minn.—*Lathing Machine.*—June 30, 1868.—An instrument to facilitate and expedite the attachment of laths to the studs or joists.

Claim.—1. The combination of the frame A, cross head or hook pins B, short levers C, and vertical bars D, with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the adjustable sliding blocks F and pivoted dogs G with each other, and with the top bar of the frame A, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the frame H and adjustable sliding gauge I with the frame A, substantially as herein shown and described, and for the purpose set forth.

79,367.—R. M. Mansur, Augusta, Me.—*Washboard.*—June 30, 1868.—The projections and cam fasten the washboard to the tub, and the prop supports the lower end thereof.

Claim.—The combination, with the washboard B, constructed as described, of the pivoted props I, the projections O and cam H, arranged and adapted to operate as herein represented and described, and for the purpose specified.

79,368.—Eli J. Manville, Waterbury, Conn., assignor to Blake & Johnson, same place.—*Stop-Motion for Revolving Shafts.*—June 30, 1868.—A latch stop is fitted so as to be slidden laterally and parallel with the revolving shaft, and employed in connection with a clutch-key passing crosswise of the shaft, and connecting the same with the pulley or other motor, so that when the latch stop is moved, its end operates upon the key to disconnect the same from the pulley, and the latch becomes a stop to prevent the turning of the shaft by momentum after the power is disconnected.

Claim.—1. The key *d*, sliding across the shaft to be moved, to couple or uncouple the same, with the motor, substantially as set forth, in combination with a latch stop, moved laterally, substantially as specified, to operate upon said key and stop the revolution of the shaft, as set forth.

2. The latch stop *g*, mounted upon a hollow axis, in combination with the cam lever *n* and key *d*, substantially as and for the purposes set forth.

79,369.—George A. Mason, Chelsea, Mass.—*Lamp Burner.*—June 30, 1868.—The object of the arrangement of the spring-carrying ring is to prevent it from becoming heated suddenly. The guide piece and socket enable the wick tube to be readily inserted without bringing the wick in contact with any part of the burner.

Claim.—1. The arrangement of a chimney sustaining spring intermediately between the deflector or cone C and the base, A, of the lamp top, substantially as and for the purpose set forth.

2. In a burner having an elevated deflector, the guide piece G and socket D, in combination with the base plate A, and wick tube B, when said guide piece and socket are constructed as and for the purpose herein specified.

79,370.—Samuel Mason, Beaver Falls, Pa., assignor to the Beaver Falls Cutlery Company, same place.—*Cutlery.*—June 30, 1868.—Each of the bolster pieces is attached to the tine by its own pin, and for each pin a hole is made in the tine. The pin is a projection from and forms part of the bolster piece.

Claim.—Attaching each bolster piece to the tine of knives and other articles of cutlery by means of a pin or pins on the bolster piece, upset into the countersink of the pin hole in the tine, in the manner hereinbefore described, and for the purpose set forth.

79,371.—William Charles Mason, Beaver Falls, Pa.—*Cutlery.*—June 30, 1868.—The scales are attached to the handle by means of the bolster pieces, no rivets, pins, or other fastenings being passed through the scales.

Claim.—Securing the scale to knives, forks, and other articles of cutlery, by beveling and indenting the edges of the bolster pieces, and fitting the edges of the scale into such bevels and indentations, the bolsters being attached to the handles by rivets in the ordinary manner, substantially as described.

79,372.—Thomas C. Mathews, Yates City, Ill.—*Hedge Trimmer.*—June 30, 1868.—The bent finger bar is designed for cutting one side and half the top of a hedge at the same time, and any inclination of the sickle bar may be obtained by sliding the boot or sleeve in or out on the axle, by means of a lever attached to the cross-beam, and securing the boot in any position by a stop.

Claim.—1. The curved arm *d*, to support finger bar and carry crank pinion, substantially as shown, as and for the uses and purposes herein set forth.

The sleeve *l*, connected so as to support the finger bar, the stop *n*, the mortise to admit stop, the grooves in axles *b*, and the levers *m* and *o*, all arranged and in combination substantially as shown, as and for the uses and purposes herein set forth.

3. The attachment straps *r r*, fastened to finger bar, and pivoted to arm *d*, near crank pinion.

4. The arrangement of the crank-connecting rods *j* and *k*, the sickles and bent finger bar, substantially as shown and described.

5. The construction of a finger bar, bent in or near the middle, at any desired angle, and carrying a short sickle bar in each end, substantially as shown.

79,373.—JOHN G. MATTINGLY and BENJAMIN F. MATTINGLY, Louisville, Ky.—*Whisky Still.*—June 23, 1868.

Claim.—The water jacket, and the use of water around the boiler, in order to prevent the beer from burning or incrusting on the bottom of the boiler, when used for distilling purposes, when arranged, constructed, and operating as set forth.

79,374.—D. C. McNEIL, Osceola, Mo.—*Sympathetic Ink.*—June 30, 1868.—Sulphuric acid, water, and sugar.

Claim.—An ink composed of the ingredients and in about the proportions, substantially as herein named and described.

79,375.—JAMES McPHERSON, Brooklyn, N. Y.—*Steam Engine Cut-off.*—June 30, 1868.—Devices for connecting the variable cut-off of steam engines with the governor, whereby an automatic adjustment of the cut-off is effected whenever the pressure of steam goes above or below the desired degree.

Claim.—1. The arrangement and combination, with each other, of the rotating wheels F, (fitted around the tubes or loose axles *e*,) and of the spindles *j*, connected eccentrically with the axles *e*, and also with the wheels F, and with the cut-off slides D and E, substantially as herein shown and described.

2. The movable sleeve I of the governor, levers *i h*, and rack *g*, with the tubes or axles *e e*, arranged substantially as herein shown and described, whereby to vary the cut-off with the motion of the engine, as set forth.

3. The construction and arrangement of the eccentric spindle *j*, whereby to convert the rotary motion of the wheel F into the reciprocating motion of the cut-off, and which is adjustable in and by the axle *e* of the wheel F, that turns loose in the wheel, as set forth.

79,376.—EDMUND H. MEIGS, East Berlin, Conn., assignor to ROYS AND WILCOX COMPANY.—*Tinsmiths' Stake.*—June 30, 1868.—The use or purpose of this stake is similar to that of an anvil, sheet metal being formed or worked upon it. The invention consists in casting the stake hollow, so as to render the instrument light and convenient to handle.

Claim.—As a new, improved article of manufacture, a tinsmith's stake, constructed substantially as and for the purpose described.

79,377.—JOHN D. MURPHY, Baltimore, Md., assignor to JULIUS S. BOHRER & CO., same place.—*Reversible Ordnance.*—June 30, 1868.—An additional chamber or bore is situated in the rear of the main bore, and communicates with it by a vent, said bores being mutually capable of use as the recipient of the charge, and the one not thus employed serving to contain a body of air, which, on being expanded by the explosion of the charge, is made to fill the bore, and thus prevent the occurrence of a vacuum, and the consequent recoil of the gun.

Claim.—A gun, having two communicating bores, B C, of different calibers, arranged as represented and described, and adapted to be mutually employed as the charge and air chamber, by removable plugs or tompions D E, substantially as set forth.

79,378.—C. E. MURRAY, Sugar Valley, Pa.—*Horse Rake.*—June 30, 1868.—Contrivances for holding the rake and revolving the same at proper intervals, to discharge the load; also a provision for vertical play of the teeth, to permit them to conform to irregularities in the surface over which they pass.

Claim.—1. The rake, provided with two sets of teeth, E E', and hung at the rear of the axle A, as shown, in combination with the ratchet F, pawl G, rod H, arm I on shaft J, spring *h*, and the rod N, and slotted plate M, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The resting of the front end of the foot board K on spiral springs *f*, which rest on the thills L L, substantially in the manner as and for the purpose set forth.

79,379.—DAVID MYERS, Chicago, Ill.—*Car Brake.*—June 30, 1868.—The power which operates the brakes is a spring inclosed in a drum, the invention having reference to the class of brakes known as safety brakes, and the devices being attached to each car in such a manner that while the brakes may be applied in the usual way they can all be operated to apply the brakes simultaneously.

Claim.—1. The combined lever and pawl V, and pawl and pawls *g* and T, in combination with the drum H and spring F, when constructed and operated substantially as set forth.

2. The shafts D and J, and tumbling rod *o*, when arranged and operating substantially as and for the purposes above described.

3. The lever P and bevel wheel I, in combination with the pawl N and ratchet wheel L, when arranged and operating substantially as herein set forth and described.

4. The bar Z, in combination with the lever P, provided with the pointed arm S, for the purpose of releasing the dog T, when constructed and operated substantially as and for the purposes herein described and specified.

79,380.—BARNUM B. NEWELL, Centerville, Mich.—*Capstan for Grubbing Machines.*—June 30, 1868.—The intention is to stake the machine in a given spot and cause the capstan rope to operate upon small stumps, &c., within a radius of several hundred feet. The diameter of the cylinder may be increased by setting a series of staves in its grooved bottom flange and securing them at top by a band or strap.

Claim.—The construction of a capstan, combining the frame A, center plate B, cross tie C, shaft D, sweep E, cylinder F, loosely sleeved upon the shaft D, flange and groove C, lever and clutch H, ratchet clutch I, ratchet teeth J, upon the top of the cylinder F, when arranged, constructed, and operating substantially as herein described.

79,381.—CYRUS NEWHALL, Hinsdale, N. H.—*Tool Rest for Engine Lathes.*—June 30, 1868.—The object is to easily adjust the cutting tool of an engine lathe to the work, and to compensate for the wear of the working parts of the tool rest.

Claim.—1. The combination, substantially as set forth, of the slide plate E with the rocking block F, rocking on a central hinge directly underneath and parallel with the slot in which the tool post traverses, for the purposes specified.

2. The combination, substantially as set forth, of the slide plate E and rocking block, with the adjusting screw J and its pivoted sockets *i i'*.

3. The combination, as set forth, of the slide plate E, the rocking block, the bearing *e*, the hinge *e'*, the eye bolts, and the jam nuts, whereby the wear of the joints is compensated.

4. The combination, with the brackets F' E', of the tapering spindles I I', constructed, arranged, and operating as described.

5. The combination of the adjusting screw J with the swivelling spindles I I', wedge blocks *k* and pinch screws *k'*, all constructed and arranged for joint operation, as described.

79,382.—JOSEPH NIXON, Altoona, Pa.—*Flanging Forge and Furnace for Boiler Heads.*—June 30, 1868.—A forge for flanging metallic sheets, and which may be used also for blacksmith's work. The tubular hearth is filled with water, and for the passage of the blast there are numerous openings which can be closed by plugs so that the blast may be distributed over the whole or any desired portion of the sheet to be flanged.

Claim.—The tubular and chambered hearth A, in combination with air chamber C and water and air orifices, all constructed and arranged substantially in the manner and for the purpose set forth.

79,383.—Enos Page, Streetsboro, Ohio.—*Sheep Table, &c.*—June 30, 1868.—A shearing table in which the legs are adapted to be folded up to afford convenience in transportation and storage.

Claim.—Hinging the legs B and E to the table or top A, in the manner as and for the purpose set forth.

79,384.—Samuel Page, McAllisterville, Pa.—*Horse Hay Fork.*—June 30, 1868.—The cross bar falls with the tines and assists in detaching the hay from the fork; it also serves as a brace for the two outer or side tines.

Claim.—The arrangement of the cross bar J with the tines F F and D, the clip A, and the bar B, provided with teeth *c c*, constructed and used as and for the purpose herein set forth.

79,385.—Horatio O. Perry, Buffalo, N. Y.—*Feed Water Heater for Boilers.*—June 30, 1868; antedated June 16, 1868.—The heater is an upright vessel, having a vertical axial flue. Cold water is introduced into the annular water space of the heater, near the bottom, and the water, after it is heated, is forced by the feed pump into the boiler. A pipe conveys to the steam dome the steam generated in the heater.

Claim.—The heater C, constructed and arranged within the smoke box and chimney, substantially as shown and described.

79,386.—J. B. Peterson, Brooklyn, N. Y.—*Machine for Mixing Flour, &c.*—June 30, 1868.—The flour, or other material to be mixed, is fed to the hopper and falls upon the grate whereon it is stirred by the arms and whence it passes to the rotating disk, from which it is thrown off in minute quantities by centrifugal force.

Claim.—A mixing machine, consisting of the rotary shaft B′, on which the arms *e* and the disk *g* are mounted, the arms working over a perforated stationary plate, *f*, or its equivalent, and the disk throwing the particles to be mixed off, substantially as described, all working in a case or box, A, in the manner specified.

79,387.—Edward Phifer, Trenton, N. J.—*Cultivator.*—June 30, 1868; antedated June 16, 1868.—The devices here claimed are concerned in varying the distance between the wheels as well as the width of the space cultivated, and in regulating the draught of, and turning and guiding, the machine.

Claim.—1. The skeleton frame E G, constructed as described.

2. The combination, substantially as described, with a tongue pivoted by a king bolt to the axle of a rock shaft, arranged parallel with the axle, to which it is connected by sectors.

3. The combination, substantially as described, with the tongue pivoted to the main axle by a king bolt, of a transversely-slotted plate bolted to the skeleton frame, whereby the tongue can turn laterally without moving the frame.

4. The combination, substantially as described, with a tongue pivoted to the main axle, of the rock shaft or skeleton frame, the treadles J, and the driver's seat, for the purpose of steering the machine, as set forth.

5. The combination, substantially as described, of the tongue and driver's seat with the detent lever C′ and the slotted plate *e*, whereby the driver can release the tongue or hold it rigidly as required.

6. The crank arms G, constructed and arranged for joint operation, as described.

7. The combination, with the crank arms, of the drag bars and removable sleeves *h* h^1, for the purpose set forth.

8. The combination, with the crank arms and sleeves, of the adjustable coupling arms G′, for the purpose set forth.

9. The combination, with the sleeves *h* h^1, of the looped drag bars H, and adjusting clamps I, for the purpose set forth.

10. The combination, with the skeleton frame E G and adjustable drag bars H, of the adjustable link bars L and slotted cross bars M on the lifting levers, for the purpose set forth.

11. The combination, with the tongue of the whiffle-trees, connected directly with the cranks G, as and for the purposes set forth.

12. The combination, with a tongue pivoted to the axle by a king bolt, of a skeleton frame carrying plows adjustable in pairs, with the wheels also adjustable on the axle, substantially as described.

79,388.—Oliver E. Pillard, New Britain, Conn., assignor to Frederic H. North, same place.—*Permutation Lock.*—June 30, 1868.—The object is to prevent any indication of the position of the interior parts by a movement of the knob or spindle in any direction, and thus render it impossible to tell, by feeling, when the relative positions of the parts are such as to admit of the opening of the lock.

Claim.—1. The incline *n* at the inner end of the spindle, with an irregular surface, in combination with the dog *f*, and series of tumblers *e*, as and for the purposes set forth.

2. The ring *n* fitted loosely upon the inner end of the spindle, so that it may be stopped by contact with the dog *f*, as and for the purposes set forth.

3. The disk *x*, with an irregular periphery, in combination with the spindle *c* and incline *n*, substantially as and for the purposes specified.

79,389.—Z. V. Purdy, Washington, D. C.—*Horse Shoe.*—June 30, 1868.—The beveling of the calk and shoe is designed to give the shoe a tendency to expand, and spread the hoof, in order to prevent such hoof diseases as result from contraction. The position of the calks throws a preponderance of the horse's weight upon the center and forward part of the hoof.

Claim.—1. Beveling the inner side of the calks B B and the upper side of the heel of the shoe A, as and for the purposes herein set forth.

2. Placing the calks B B upon the shoe at a point beneath the forward portion of the quarter of the foot, for relieving and protecting the same, substantially as herein specified.

79,390.—Alonzo C. Rand, New York, N. Y.—*Coal Stove.*—June 30, 1868.—This invention is especially applicable to stoves and furnaces wherein bituminous fuel is used, its effect being to check or retard combustion, and maintain only sufficient heat in the fire box to produce decomposition of the fuel, thereby liberating the gases, which, before being ignited, are united with air in order to make the combustion perfect.

Claim.—1. In stoves, grates, or furnaces, the cone A, when used alone, or in combination with the air passages D D, or an equivalent device or means of retaining, supplying, or mixing air with the inflammable gases before final combustion of the fuel takes place in such stoves, grates, or furnaces, substantially as herein described and for the purposes herein set forth.

2. In combination with the cone A and passages D D, the slide or slides B and E, for regulating the admission of air, the decomposition of the fuel, and consequent production of gas according to the amount of heat required, substantially as herein described.

79,391.—Charles S. Rankin, Cincinnati, Ohio.—*Fireplace Grate.*—June 30, 1868.—The purpose of the arrangement of the grate bars is to more effectually support the fuel, and, at the same time, increase the radiation of heat by presenting a larger incandescent surface. The summer front and blower, when not desired for use in either of its capacities, may be folded up and laid aside.

Claim.—1. A grate, constructed with two series of "front" bars, one arranged alternately with and in the rear of the other, substantially as described.

2. The hinged and perforated summer front and blower, substantially as set forth.

79,392.—William Resor, Cincinnati, Ohio.—*Stove Door.*—June 30, 1868.—The enamel protects the metallic surface from dirt and oxidation, and is a comparatively poor conducting substance, permitting the knob to be handled.

Claim.—A stove door having an enameled iron knob or handle, for the purpose set forth.

79,393.—HENRY REYNOLDS, Bristol, R. I.—*Sewing Machine for Button Holes.*—June 30, 1868.—In this machine an upper and a lower needle are employed; both have slotted or open eyes, and the upper needle only goes through the cloth. The thread employed is of the length required for the button hole, not being fed from a spool as usual. The function of the devices is to work a button hole similar to that ordinarily produced by hand. The several operations cannot be briefly explained.

Claim.—1. The adjustable frame L, carrying the reciprocating needle bars, in combination with the lever P, and cam upon the shaft A, substantially as described for the purpose specified.

2. The combination of the lower needle bar with the right angular spring arm a and cam C, substantially as described for the purpose specified.

3. The combination of the lower needle bar, arm a, pinion b, rack D, spring arm E, and cam F, substantially as described for the purpose specified.

4. The combination of the cam G, rod H, arm J, upper needle bar, having the curved slot, and pin o', substantially as described for the purpose specified.

5. The cam wheel S and hook t', in combination with the spring slide v, spring hook t, and upper and lower rotating needles, substantially as described for the purpose specified.

6. The slide v, adapted to raise and hold the thread in a button-hole sewing machine during the formation of the stitch, substantially as described for the purpose specified.

7. The method herein described of threading the needle, by means of the spring hook and the movement of the cloth.

79,394.—ALBERT W. ROBERTS, Hartford, Conn.—*Device for Securing Eye Glasses.*—June 30, 1868.—When the glasses are not in use the tape or cord is taken up, to prevent the glasses from dangling about the person.

Claim.—The combination of the case and pin B B', spring and ratchet wheel L F, pawl and tape M H, or their mechanical equivalents, for fastening eye glasses to a garment, substantially as described.

79,395.—E. L. ROBERTS, New York, N. Y.—*Ventilator.*—June 30, 1868.—Whatever may be the condition of the atmosphere without, the forced exhaust secures a copious flow of fresh air throughout the room. The fresh air is admitted at the upper part of the room, and the vitiated air is allowed to pass off through the floor, or its discharge in a downward direction from the apartment is induced or accelerated by a heater in the exhaust flue.

Claim.—1. In combination with means for effecting a distributed exhaust, as above described, means for effecting a forced exhaust, substantially as and for the purpose described.

2. Mixing heated air, for heating rooms, with the inflowing distributed supply of fresh air, at or near the top of the room, by means substantially as and for the purpose described.

3. The combination with the supply passages F or F', at or near the top of the room, of the vertical tube D, substantially as and for the purpose described.

4. The combination with the tube D, of the tube E, substantially as and for the purpose described.

5. The combination, with the supply passages through the ceiling, or near the same, and the vertical supply tube D, of the exhaust passages through the floor, substantially as and for the purpose described.

6. The combination, with a floor arranged as described, for effecting a distributed exhaust, of the flue H, provided with a heater, substantially as and for the purpose specified.

79,396.—EDWARD T. ROBINSON, Nashua, N. H.—*Valve Gear.*—June 30, 1868.—For reversing steam-engines and regulating the cut-off of steam from the cylinder with great accuracy, and providing a means by which the steam is entirely shut off from the cylinder and the engine stopped by the reversing lever, in case the throttle valve should become inoperative.

Claim.—Connecting both the valve rod a and the lifting rod d to the sliding block c, and the arrangement of the rock shaft D, arm j, and eccentric k, for giving an equalized motion to the link C, when said parts are combined with the tumble shaft G, rod F, and lever E, substantially as and for the purposes herein set forth.

79,397.—JUNIUS ROGERS, Sterling, Ill., assignor to himself and FREDERICK W. PRATT, Chicago, Ill.—*Lock Nut.*—June 30, 1868.—One side of the face of the nut has a projection, or one side or corner is made thicker than the other portions, so that when the nut is turned up against the surface which it is to hold, the thicker part or projection binds against said surface and warps the nut upon the bolt, preventing loosening or accidental detachment.

Claim.—A self-locking nut, constructed and operating substantially in the manner and for the purposes specified.

79,398.—GUSTAVE H. ROTH, Boston, Mass.—*Hand Coal Sifter.*—June 30, 1868.—In using this invention, a pair of the sifters are employed, one for each hand, the hand being passed through the loop, with the fingers and palm resting against the guard. By scooping up the ashes with both sifters, and giving them quick lateral reciprocating motions, the finer parts of the mass are sifted through the spaces between the teeth.

Claim.—The arrangement and combination of the hand loop B, the guard C, and the scoop A, made and provided with teeth, the whole being substantially as and for the purpose described.

79,399.—ROBERT ROWAN, Parnassus, Pa.—*Scaffold and Ladder.*—June 30, 1868.—The ladder may be moved laterally, either way, from the middle of the bar, the apparatus being employed to facilitate the painting of buildings and other similar operations.

Claim.—The bar A and the traversing frame D, in combination with a ladder or scaffold, when arranged and operated substantially as and for the purposes herein shown and described.

79,400.—A. J. SALISBURY, San Buenaventura, Cal., assignor to himself and THOMAS R. BARD, same place.—*Reamer for Wells.*—The branches of the well reamer are expanded by a positive downward thrust of the superincumbent shafting by which the reamer is actuated in the operation of reaming.

Claim.—The combination of the branches A, cross bar B, toggle bars D, shank C, and spring S, substantially as and for the purpose set forth.

79,401.—THOMAS H. B. SANDERS, Philadelphia, Pa.—*Rocking Swing.*—June 30, 1868.—The uprights afford a means of suspending a swing when the device is not used as a rocker. One of the seats is removed from its usual position to the upper ends of the uprights, and from this seat depends the rope, while the other seat is used as a swing seat. The seat-backs of the rocker are hinged, so that they may be folded down out of the way of the feet of the swinger.

Claim.—The arrangement of the uprights z and z', their stays T and T' and X and X', movable seats S and S', their swinging backs S B and S' B', rope w, with a rocker, A A', of any size or shape, the whole constructed and operated in the manner and for the purpose above set forth and described.

79,402.—HORACE SARGENT, Chelsea, Mass.—*Machine for Cutting Soap.*—June 30, 1868,—Forming soap into bars after it has been run into boxes. The carriage is advanced by a feed screw or other device, and the cutter plates are driven through the block of soap, the strippers serving to retain the soap as the blades are withdrawn.

Claim.—1. The combination, with a box supporting frame, of a cutter carriage, provided with a series of parallel cutting blades, to operate substantially as described.

2. Combining with the blades i the plates g h, for

supporting the blades and cutting the soap at the side surfaces of the box, substantially as described.

3. In combination with the blades *i*, the stationary strippers *n*, substantially as set forth.

4. Cutting soap in boxes by sliding a cutter carriage successively into the box, the box being changed in position relatively to the carriage after the first operation of the cutters, the operation first cutting the soap into slabs and from two sides of the box, and then subdividing the slabs and cutting the soap from the adjacent sides of the box, substantially as described.

79,403.—ANDREW H. SMITH, Charlton, N. Y.—*Compensating Fly-Wheel.*—June 30, 1868.—The object is to employ the surplus power of a reciprocating engine, when the crank is in a position at right angles to the center, to elevate a weight, which descends as the crank approaches the centers and thus aids it to pass those points.

Claim.—1. The compensating weight P, arranged to make two revolutions to every revolution of the crank F, substantially as and for the purpose set forth.

2. The pivoted or swinging arm L, in combination with the compensating weight P, for reversing it from side to side.

3, Providing the compensating weight P with radial adjustment, to vary its effect as required, substantially as herein described.

79,404.—WILLARD H. SMITH, New York, N. Y.—*Vapor Burner.*—June 30, 1868.—The receptacle below the junction of the oil pipe with the burner, arrests impurities and solid matter, and prevents them from clogging the passages. The small passages in the air tube emit gas jets, which, being ignited, supply extra heat, which is conducted downward by the flanges, and causes a more thorough evaporation of oil.

Claim.—1. In burners for light oil, the receptacle C, connected with the feed-pipe and burner, substantially as and for the purposes set forth.

2. Providing the air tube E, between the air-passages F F and the base of the flame, with heaters consisting of the passages *x x*, on a heat-conducting flange or flanges K K, substantially as and for the purpose herein stated.

79,405.—ALFRED W. STEPHENSON, Kensington, Conn.—*Balancing Polishing Wheels.*—June 30, 1868.—The plate has pins which protrude through openings in the cap, and enable the plate to be adjusted in such a manner as to readily balance the wheel.

Claim.—The adjustable balance-plate *i*, or its mechanical equivalent, in combination with the cap *h*, and flange hub *b*, and nut *d*, constructed and operating substantially as and for the purpose described.

79,406.—W. W. STEVENS and JOHN PATCHEN, Jr., Fontogany, Ohio.—*Horse Hay Fork.*—June 30, 1868.—The rod being drawn up, the point of the fork is thrust into the hay, which movement depresses the rod and extends the tines, and enables the bent end of the spring to catch the top of the rod; the tines are thus held until the load is raised, when, by drawing on the cord, the spring is pressed back by the bell crank, and the load discharged.

Claim.—The combination and arrangement of the stem A, rod B, tines C, spring D, bell crank E, and cord F, substantially as and for the purpose set forth.

79,407.—ALFRED A. STIMSON, Boston, Mass.—*Bung for Casks.*—June 30, 1868.—The tube and its appendages allow the gases to escape when the contents of the barrel are in a state of fermentation, and prevent insects and dirt from entering the barrel.

Claim.—The bung A, constructed with tube D, cup C, reservoir B, for holding water, all constructed to operate substantially in the manner described, and for the purposes set forth.

79,408.—M. W. ST. JOHN, Leonardsville, N. Y.—*Ball and Socket Joint.*—June 30, 1868; antedated June 18, 1868.—The cap is secured on to the top of the socket, and presses down the elastic piece, which keeps the joint tight and clean, and adapts the parts to work freely and noiselessly.

Claim.—The combination of the socket *a*, ball E, concave plate *b*, rubber *d*, and cap F, when connected to the parts, substantially in the manner and for the purposes specified.

79,409.—SAMUEL S. STOKES.—Westboro, Ohio.—*Churn.*—June 30, 1868.—The two distinct series of triangular slats, with their accompanying arms and shafts, are rotated by the gearing in opposite directions.

Claim.—1. The outer dasher, consisting of blades N N, annulus *n*, and shafts M, connected at the bottom to the central shaft J, in combination with the inner dasher, consisting of blades P P mounted upon arms O O, deriving rotation from the hollow shaft L and sleeve I, all substantially as herein described,

2. In combination with the described elements of the preceding clause, the detachable tripod frame C C′ D, *c c′ d*, and screw E, for the object explained.

3. The triangular construction of the dashers N and P, when said dashers are applied and employed substantially as and for the purposes specified.

79,410.—THOMAS STONE, Plainfield, Ind., assignor to himself and VIRGIL H. LYON, same place.—*Cars, Wagons, and other Vehicles.*—June 30, 1868.—The object is to facilitate the dumping of sand, coal, &c. The bottom of the box is formed of transverse shuters or leaves, journaled in the sides of the wagon box, and connected together, and with the leaves that actuate them, by a rod and staples and rings, the mode of operation being similar to that of window blinds.

Claim.—1. A wagon box, A, having the pivoted leaves *a a a*, &c., in combination with the rods *e e*, and rod *b*, cleats *p p p*, and lever devices for operating the said rods and leaves, all substantially as shown and described, and for the purpose set forth.

2. The levers *j c c*, rods *e e*, links *k k*, substantially as shown and described, in combination with the leaves *a a a*, and box A, all substantially as and for the purpose shown and described.

3. The levers *j j*, in combination with the rod *b*, leaves *a a a*, and box A, substantially as and for the purpose shown and described.

79,411.—COE SWARTHWOUT, Joliet, Ill.—*Salve.*—June 30, 1868.—Extract of bittersweet, turpentine, salt butter, beeswax, and balsam of fir.

Claim.—1. The use of the ingredients, in the proportions and manner described, as and for the uses and purposesset forth.

2. The said salve, as a new article of manufacture.

79,412.—OLIVER C. SWEET, Albany, N. Y.—*Machine for Drying Tubular Fabrics.*—June 30, 1868; antedated June 19, 1868.—Machine for drying, stretching, brushing, heating, and calendering knitted or other tubular fabric. The fabric is completely finished and wound upon a roller, after having passed through the machine, provision being made for retaining the meshes in straight lines, and preventing the fabric from being twisted spirally.

Claim.—1. The heating devices, consisting of the chambers *c d*, and spiral chamber *e*, passage *p*, and tube F, in combination with the brushing and pressing apparatus, substantially as herein shown and described.

2. The spreader G, when consisting of the parts *s, t, u, v*, and *w*, all made and operating substantially as herein shown and described.

3. The vertical tube F and adjustable cap *l*, as described, in combination with the spreader G, made as set forth.

4. The arrangement of the revolving platform B, hinged arms C, annular cloth support S, and tube F, as herein described for the purpose specified.

5. The heating cylinders D and E, constructed and arranged as described, the spiral chambers *e*, cloth support S, tube F, spreader G, heating and ironing rollers *q* and *r*, and brushes L, all made and operating substantially as and for the purpose herein shown and described.

79,413.—HENRY TAYLOR, Middletown, Wis.—*Hop Press.*—June 30, 1868.—The posts are provided with removable side planks, and are jointed to the bed plate or beam in such a manner as to allow them to be spread out after the bale has been formed, to facilitate the removal of the same.

Claim.—The press, consisting of the posts B B′, bed plate A, upper cross-beam A′, screws F, follower, G, keys I, side rails C, and side planking *b*, all constructed and arranged to operate substantially as herein shown and described, for the purpose specified.

79,414.—Edward Truslow, New York, N. Y.—*Bag Tie.*—June 30, 1868.—A tie or fastening for bales, &c., consisting of a rectangular plate with its corners bent toward the center, so as to form points of attachment for the band or rope.

Claim.—The lock or bale tie, formed by bending the corners of the plate A over, as shown at a a^1 a^2 a^3, substantially as and for the purpose set forth.

79,415.—Peter B. Turner, Quincy, Mass.—*Bracket for Shingle Roofs.*—June 30, 1868.—The sharp end of the wedge block is pushed underneath the shingles which have been fastened to the roof, and the wedge-like head of the bar is then driven against the upper surface of the shingle, so as to clamp about a third of the length of the shingle between the bar and the wedge block. Spurs are then forced into the shingle for further protection against slipping.

Claim.—1. The block E, constructed as described, in combination with the adjustable bar A, as set forth.

2. The combination of the block E, adjustable bar A, bar B, standards C C′, and movable bar D, substantially as and for the purpose set forth.

79,416.—Thomas Edward Vickers, Sheffield, England,—*Machine for Rolling Tires.*—June 30, 1868.—The hoop to be rolled or the work to be acted upon may be placed and confined between collars or flanches, of which only one is upon each roll, and which flanch, from its position, may pass, if required, up to or beyond the center of the other roll.

Claim.—So arranging a rolling mill that the parts of the rolls between which the work is performed shall overhang their bearing, and the remaining parts of the rolls be extended in opposite directions, as described, when the rolls are provided with flanches, the whole constructed to operate as and for the purposes set forth.

79,417.—George D. Walcott, Jackson, Mich.—*Machine for Making Horse-Shoe Nails.*—June 30, 1868.—The machine forms the nails complete from rods, the introduction of which constitutes the only handwork involved in the operation. The heater or furnace is simply a metallic box provided with a fire grate, and having apertures in it, through which the nail rod passes into the machine. The furnace admits of the nail rod being kept in a properly heated state during the whole of the operation.

Claim.—1. The combination of the tongs P and supplemental gripers *r t* with the furnace, all constructed and arranged substantially as shown and described.

2. The tongs P, constructed and arranged as shown, when said tongs are placed in such a relation with a heater or furnace, C^x, that they will grasp the nail rod between the fire and the working parts of the machine.

3. The supplemental gripers or jaws *r t*, in combination with the gripers *n n* of the tongs P, all constructed and arranged substantially as described.

4. The plate *l*, to which the tongs P are attached, when said plate is operated in a vertical and longitudinal direction, for the purpose of actuating or moving the nail rod during the formation of the nails, in the manner and by means substantially as shown and described.

5. The cam ring Q on wheel E, roller *p*, and spring *q*, in combination with plate *l* and lever V, spring a^x, arm W on shaft *w*, and the arm T on shaft B, all arranged as shown, for the purpose of operating the plate *l*, as set forth.

6. The pendent anvil D, fitted in an overhanging block, C, and the devices for lifting and holding the nail blank thereto, in combination with the adjustable rollers *f*, so arranged that the nail rod will be operated upon at the under side of the anvil, as shown and described.

7. The rollers *f*, fitted in adjustable arms F applied to the wheel E, substantially as shown, in combination with the anvil D, all arranged substantially as and for the purpose specified.

8. The edgers G G, fitted in pendent, oscillating bars H, hung on the anvil block C, combined and arranged to operate in connection with the rollers *f* and anvil D, substantially as and for the purpose set forth.

9. The edgers G G each provided with two dies, h^x h^{xx}, constructed and arranged substantially as shown and described, so that the upper dies h^x will serve as working dies, and the lower ones, h^{xx}, as bumpers, to prevent the upper dies coming in contact.

10. The cam wheels K K′, in combination with the bell-crank lever, rollers, arms, and other devices for giving motion to the edges, substantially as shown and described.

11. The two cutters c^x f^x, applied respectively to a swinging bar, V′, and a vertically-sliding bar, W′, connected with the bars X Y, the former of which is on the rock shaft J, and all arranged so that the two cutters will be operated by a single cam or arm, U, on driving shaft B, and the finished nail cut off at the spot where it was made, substantially as shown and described.

12. The combination of the cam Z, lever V, and plate *l*, arranged and operating substantially as described.

13. The spreader S, in combination with the wheel E, tongs P, and gripers *n n*, all arranged in the manner substantially as and for the purpose specified.

14. The combination of the wheel E, provided with the rollers *f*, the anvil D, plate *l*, with tongs P attached, and the edgers G, all arranged and operated in the manner substantially as and for the purpose set forth.

15. The combination of the two cam wheels with varying radii, one the counterpart of the other, with the bell-crank lever, the rollers attached thereto, and other devices, or their equivalents, as shown and described.

16. The cam Z, lever A^x, and graduated bar B^x, in combination with the lever V, and the other parts necessary for adjusting the feed of the nail rod, substantially as herein shown and described.

17. The lever R, having jaw *r*, the fixed jaw *t* in the bearing *s*, and the pin *u* upon the wheel E, in combination with the gripers *n n*, all arranged substantially as described.

18. The combination of the cutters c^x f^x with the cam wheels K K′ and edgers G G, with their intermediate mechanism, whereby the force of the blows of the edgers is increased for the first blow upon the nail, and the time required for such increase of force made available for the operation of the cutters, substantially as herein shown and described.

79,418.—Francis H. Walker, Boston, Mass.—*Button-Hole Cutter.*—June 30, 1868.—The anvil is constructed with a number of steps, beyond the edges of which the knife cannot cut the fabric. The object is to so construct the anvil that it shall present surfaces of different lengths on both sides upon which to cut. The anvil is held in place upon one of the jaws of the jointed levers, by means of a thumb screw and a fixed center pin, about which latter the anvil can be adjusted when released from the set screw.

Claim.—1. A stepped anvil or cutter bed G, adapted for use in conjunction with a knife, E, for cutting button holes, substantially as described.

2. A reversible stepped anvil or cutting bed, G, combined with retaining pivot pin *c*, set screw *h*, and cutter E, substantially as described.

3. A reversible stepped anvil or cutting bed, G, substantially as and for the purpose described.

79,419.—C. T. Warren, Linden, N. J.—*Mosquito Bar for Windows.*—June 30, 1868.—The cords are attached to screws fixed to the casing, and are passed once around the pulleys, so that the act of raising or lowering the sash revolves the roller and rolls up or unrolls the bar or netting.

Claim.—1. Rolling and unrolling the mosquito netting by the movement of the sash carrying the roller *d* upon the cord *i*, substantially as described, for the purpose specified.

2. The mosquito bar or netting, operated as described, by means of the rollers attached to the sashes, the pulleys *g*, cords *i*, and screws *j*, substantially as described, for the purpose specified.

79,420.—NEHEMIAH WATERMAN and ALFRED T. PERKINS, Toledo, Ohio.—*Paper Cap.*—June 30, 1868.—This cap is made of paper, paper parchment, or paper and cloth combined, and may have a lining of oil skin and be rendered impervious to water by a coating of water-proof varnish. It has also a strengthening band of stiff paper.

Claim.—As a new article of manufacture, the paper cap or hat herein described, formed of paper or analogous material, with a number of sectors, *a a a*, secured at the center by a seal, B.

79,421.—ELISHA WATERS and GEORGE A. WATERS, Troy, N. Y.—*Boat.*—June 30, 1868.

Claim.—The building of the entire shell or skin, and the decks, (where used,) of paper, as hereinbefore set forth, and thus forming a new article of manufacture.

79,422.—JEREMIAH M. WATSON, Sharon, Mass., assignor to himself and WILLIAM B. WICKES, same place.—*Plant Protector.*—June 30, 1868.—The stake is driven into the ground, close to the plant, deep enough to admit of the hoop being pressed to nearly its depth into the earth, about the plant. The gauze prevents access of bugs, insects, birds, and worms, to the plants or planted seed.

Claim.—A plant protector, in which a screen, of gauze, netting, or equivalent, woven and pliable fabric, is combined with the hoop or ring A and the supporting stake D, in the manner and for the purposes shown and set forth.

79,423.—ARNEL WEEKS, Syracuse, N. Y.—*Machine for Making Cigars.*—June 30, 1868.—A filling long enough to form two cigars is placed between the fixed rollers, and the compressing roller is lowered upon it, the edge of the binder is then placed between the front and upper roller, and the machine is started. The binder being applied, the operator inserts the edge of the wrapper, which is, like the binder, applied by the continued rotation of the rollers, after which the compressing roller is raised and the cigar removed. The operator presents first one end and then the other of the double cigar to the heading dies which finish the ends.

Claim.—1. The combination, in a cigar machine, of the three peculiarly formed elastic rollers C E F, mounted in rigid bearings, and driven by a band, with the similarly formed elastic compressing roller G, mounted in the vertically vibrating frame H, and rotated by frictional contact merely with the other rollers, whereby I am enabled to apply both the binders and wrappers to two cigars simultaneously by one continuous operation of the same machine, as set forth.

2. The combination, substantially as set forth, with the driving roller C, of the heading dies D, arranged at a distance apart greater than the length of the two finished cigars, whereby one end of each cigar may be finished by its respective die.

3. The combination of the peculiarly shaped rollers, the flanges *f*, and the interposed fixed head blocks J, these parts being arranged, as set forth, for joint operation.

79,424.—WILLIAM S. WILDER, New York, N. Y.—*Paper-Ruling Machine.*—June 30, 1868.—By the conjoint operation of the cylinder, rollers, endless apron, and guide bands, the paper is conducted over the cylinder, whereon it is ruled by the pens. In feeding the paper to the machine, it is pushed forward against a stop, but the rear edge of the feed plate being raised, the forward edge of the paper is lifted above the stop and grasped between the feed rollers.

Claim.—1. The wheel N, having the adjustable and removable cam P, for operating the pivoted feed plate Z through the medium of the pivoted lever V, carrying the friction roll W, the connecting-rod X, and pivoted lever V, all constructed and arranged to operate substantially as herein shown and described.

2. The combination of the wheel N, having one or more adjustable and removable cams or lifters, O P, attached to it, and projecting from each side, the friction wheel T and lever R with each other and with the cylinder B and pen beam S, whether said lever R is connected with the front or rear edge of the said pen beam S, substantially as herein shown and described, and for the purpose set forth.

3. The extension belt D′, adapted for the application to it of the lifters O P, in combination with the adjustable roller E and levers V R, by means of which a sheet may be ruled with lines which are not continuous, substantially as herein shown and described.

79,425.—ASHBEL B. WINEGAR, San Francisco, Cal.—*Machine for Kiln Drying.*—June 30, 1868.—Over the furnace is placed a drying bed or disk, surrounded by a rim with the necessary discharge opening. A vertical driving shaft, having its step in the center of the disk, is suspended by framework above the furnace, and serves to rotate a series of radial arms and stirring hoes. A feeding hopper is attached to the frame above the disk.

Claim.—1. A machine for drying salt and other substances, composed of the furnace A, pan or disk B, the radial arms G G, spindles H H, with the hoes or stirrers I I I attached to them, with the movable bar J, for turning them in different directions, so as to continually stir and turn the salt in the pan or discharge it at will from the periphery, the whole constructed and arranged to operate substantially as herein described.

2. The sliding board or plate O, at the bottom of the hopper, operated by the spring P, cords S, lever T, and beveled pinion U, substantially as and for the purpose specified.

79,426.—HENRY M. WOODFORD, Kensington, Conn.—*Match Safe.*—June 30, 1868.—This article is composed of three pieces or castings of metal adapted to each other by lid hinge pins and bearing depressions, and .secured together by heading down the fastening rivet. It has a match receptacle, a waste box, and a roughened match-igniting surface.

Claim.—A match safe, constructed substantially as shown and described, as an article of manufacture.

79,427.—HOWELL W. WRIGHT, Taunton, Mass. —*Electro-plating and Plated Ware.*—June 30, 1868. —Based upon the discovery that white metal (commonly called Britannia) may be easily polished before electro-plating, and that the silver deposited on the surface so polished is in a very fine state of division, so that when the ware is taken out of the plating bath, it retains its original brilliant surface, and may be finished on a cotton buff, the use of a burnisher being obviated. The article thus finished is improved by a second plating of pure silver.

Claim.—1. The art of electro-plating polish-ware at once, without dipping in acids or other dips that affect the polished surface.

2. As my invention, the process of electro-silver-plating the previously polished electro-plated article, with a protective transparent layer of pure silver, all substantially as and for the purposes set forth.

79,428.—JOHN A. WRIGHT, Keene, N. H.—*Combined Mop and Wringer.*—June 30, 1868.—The handle is revolved so as to liberate its locking pin from the lower jaw, when the handle is allowed to slide down until its lugs are brought against the bight of the cloth; then, by applying slight pressure and revolving the handle, the cloth is twisted and the water expelled therefrom.

Claim.—The sliding and revolving handle A, with the device for locking it in place, and the device for catching the mop cloth, in combination with the jaws B C, substantially as and for the purpose described.

79,429.—ELIPHALET H. ADAMS, Detroit, assignor to himself and CHARLES F. GARDNER, Pipestown, Mich.—*Fifth Wheel for Carriages.*—June 30, 1868.—The renewable filling, in the channels in which the V-shaped flange of the fifth wheel works, is designed to reduce friction, render oiling unnecessary, and adapt the main parts to remain intact under constant use.

Claim.—The construction of a circle or "fifth wheel" for land carriages, as above described, with the ring C working in Babbit metal, or other suitable material, confined in the circular channeled disk A, when arranged and operating substantially as and for the purposes herein set forth.

79,430.—Francis Arnold, Haddam Neck, Conn.—*Wagon Jack.*—June 30, 1868.—The collar is fixed to the post by a set-screw or otherwise, and its movable tongue and lever are employed to raise wagon axles.

Claim.—1. The adjustable collar B, with hole to fit post A, and provided with journals *a a* and lugs *b b*, arranged substantially as and for the purposes herein set forth.

2. The movable tongue C, with corrugations on its upper side, and the rims *d d* on its lower side, substantially as and for the purposes herein set forth.

3. The combination of the adjustable collar B, movable tongue C, and movable lever D, arranged and operating substantially as and for the purposes herein set forth.

79,431.—Jearum Atkins, Washington, D. C.—*Low Water Alarm for Boilers.*—June 30, 1868.—In this apparatus the limited power of a float, dependent for its operation upon the quantity of water in the boiler, is employed merely to unlock, as it were, the mechanism which is afterward put in motion by steam at boiler pressure, to turn a cock and thereby cause the steam whistle to sound an alarm.

Claim.—1. The combination of the following devices in a low water alarm for steam generators, viz, the box H, passages I and V, each with a cock, float K, valve S, port R, cylinder G, piston F, connected to the lever of the alarm cock, a discharge port from cylinder G, closed or opened by cock U, discharge port L, and detachable cover *a*, or the equivalents of these parts.

2. The construction of the cock J, with the ports I and L, as described, in combination with the box H, substantially as set forth.

3. The tubular piston rod T with the cock U, substantially as set forth.

79,432.—Frands T. Bakker, Chicago, Ill.—*Fluid for Exciting Galvanic Chains.*—June 30, 1868.—The fluid includes water, sulphuric acid, vinegar, and salt; and is employed to saturate the flannel of the links of a portable galvanic chain, wherewith to produce physical reaction.

Claim.—The fluid, consisting of herein stated ingredients, mixed in proportions as described, to be used, in combination with galvanic chains, in treating diseases by galvanism.

79,433.—Edwin L. Barnett, El Dorado, Ark.—*Cotton Planter.*—June 30, 1868.—While the plow breaks the ground, the forward wheel makes a furrow, into which the seed drops through the shield or funnel, from the hopper, in quantities regulated by the cogged wheel. The furrow is covered with loose ground by the teeth at the rear.

Claim.—The cotton planter, consisting of the main frame A, standards D, handles E, breaking plow B, furrowing wheel K, cogged wheel I, hopper G, provided with a shield, *g*, and teeth *b*, all arranged, combined, and constructed substantially as described.

79,434.—Thomas Barrett, Charlestown, Mass.—*Machine for Forming Rings on Carboys and Bottles.*—June 30, 1868.—The bottle or carboy is placed over the plug or center and held in contact with the face of the frame. The expanding fingers fill the opening, and retain the bottle in its concentric position. The bottle is rotated on the plug while melted glass is placed thereon, and when sufficient has been applied, the rolls are brought into contact with the bottle and so held until the proper form is imparted.

Claim.—1. The rolls, of any desired shape, having a simultaneous motion toward a central plug, whether operated by the mechanism herein described, or any other substantially the same, for shaping or forming the rings of carboys or bottles.

2. The expansive plug C, constructed and operating substantially in the manner and for the purpose herein specified.

79,435.—George F. Beardsley, Ithaca, N. Y.—*Curtain Fixture.*—June 30, 1868.—The cord or tape is attached to the cylinder within the case, and extends thence to a spool on the end of the curtain roller. The knob on the operating crank, aided by the friction on the cylinder bearings, sustains the curtain at any degree of elevation.

Claim.—The construction and arrangement of the described parts, viz, the winding cylinder F, crank D, weighted knob E, and case or frame B, supporting and holding the same, so as to make a fastening or fixture for the cord or tape of curtains, substantially as set forth.

79,436.—W. H. Bechtel, Philadelphia, Pa.—*Steam Safety Valve.*—June 30, 1868.—This valve is constructed with a view of dispensing with the usual weighted lever, and employing a weight bearing directly upon the valve; the said valve and weight being so effectively guided that they can be used on locomotive and marine boilers without liability of derangement and injury in consequence of agitation and jarring. The spindle enables the engineer to raise the tube at pleasure.

Claim.—1. The weighted tube D, with its two valves, *e* and *h*, in combination with the base A, its chamber *a*, hollow cross-piece *d*, the within described valve seats *f*, and the casing B, the whole being constructed and arranged as and for the purpose herein set forth.

2. The webs or ribs on the tube D, adapted to the opening *b* of the casing B, as and for the purpose herein set forth.

3. In combination with the tubular valve D, the spindle G, rod I, and the arms H and K, for the purpose specified.

79,437.—Samuel S. Bent, Port Chester, N. Y.—*Apparatus to Prevent Horses Cribbing.*—June 30, 1868.—This device is designed to frustrate attempts at cribbing by preventing the horse from obtaining a satisfactory hold with his teeth, or repulsing him by the effect of a ribbed surface upon the mouth.

Claim.—The metallic roll for the edges of feeding troughs or mangers, formed substantially as specified, for preventing horses biting or cribbing, as set forth.

79,438.—M. L. Best, Canton, Ohio, assignor to himself and J. F. Hess and Brother, Massillon, Ohio.—*Machine for Forming Bread Pans.*—June 30, 1868.—The forming plates are hung on suitable axes, and so combined with each other that the turning up of the principal plate causes a simultaneous turning up of all the other plates, these plates turning up the several sides of the pan at the same time, while the sheet metal of which the pan is formed is held in position by clamps.

Claim.—1. The plate A, with cam face *n* and connections *m o*, when constructed and used in connection with the plate C, substantially in the manner and for the purpose herein specified.

2. The peculiar arrangement and combination of the principal plate B with cam faces *k k* and working lever L, the plates A A, with cam faces *n*, the plate C, the block D, and die clamp E, the several parts being constructed and arranged substantially in the manner and for the purpose herein specified.

3. The peculiar arrangement and combination of the frame K with block D and arms *a* and *c*, the die clamp E, with arms F and G, and the clamp lever H, with slot I, the several parts being arranged in the manner and for the purpose herein specified.

79,439.—John W. Blodgett, Three Rivers, Mich.—*Potato Digger.*—June 30, 1868.—The engraving is an underside view. The potatoes are taken from the hill by the shovel and pass thence on to the endless belt, whereby they are transferred to the vibrating sieve. The earth being separated from the potatoes, the latter are deposited upon the ground at the rear end of the machine.

Claim.—1. The endless belt G, constructed as shown and described.

2. The sieve M, in combination with the disk *a*, shown and described, arm O, elbow lever P, standard S, and connecting rods R and L, all constructed, arranged, and operating substantially as specified.

79,440.—Edmund Blunt, Jr., Bay Ridge, N. Y. —*Electro-Magnetic Burglar and Fire Alarm.*—June 30, 1868.—In carrying out this invention, if an attempt be made to open the door or window of the building in which the apparatus is employed, a connection is made between a battery, an alarm, and an annunciator. In case of fire breaking out in the room in which the fire alarm is placed, the air contained in the hollow drum expands and moves the corrugated surface of the drum into contact with the spindle of the disk; a circuit is thus established between the alarm battery and fire indicator, and an alarm is sounded. The annunciator is also employed in connection with the fire alarm, its function being to indicate the point of danger.

Claim.—1. Combining with the armature F the springs G, substantially as and for the purpose specified.

2. The circuit breakers J, formed of one or more strips of metal, secured substantially as described.

3. Combining with the slab, provided with the openings and screw cups 6 and 7, the arms 11, armatures 10, coils 8, switch 12, and buttons 13 and 14, when the same shall be combined and operate substantially as shown, for the purposes indicated.

4. Combining with the door the spring 2, plate of metal 3, and regulating screw 4, connected and operating substantially as described.

5. Combining with the drum 15 the disk 18, when the same shall be combined, constructed, and operate substantially as described.

6. In combination with the subject-matter of the third claim, the door and alarm, when the same shall be combined and operate substantially as and for the purpose specified.

7. In combination with the subject-matter of the third clause of claim, the window and alarm, when the same shall be combined and operate substantially as and for the purpose specified.

8. In combination with the subject-matter of the third clause of claim, the drum 15 and disk 18, when the same shall be combined and operate substantially as described.

79,441.—John W. Boughton, New York, N. Y. —*Paper File.*—June 30, 1868.—Incisions extending from the edge to the elongated holes which receive the bands, enable the latter to be readily applied and detached by bending the portions between the holes and the edge. The small elastic bands shown are employed to separate different papers in the same file.

Claim.—A paper file, consisting of one or more pieces of pasteboard or other suitable material, having notches or recesses cut in its edge for the reception of ordinary elastic bands, with the bands applied thereto, all substantially as described.

79,442.—James D. Bryson and Alonzo Potter, New Castle, Pa.—*Spike Machine.*—June 30, 1868.—In this machine a peculiar device is employed for cutting off the rod before the point of the spike is formed, and an attachment is used to automatically guide and carry the end of the rod to the die.

Claim.—1. The sliding plate K, when provided with the arms *m* and *n*, or their equivalents, in combination with cutter F and guide O, all arranged and operating in the manner and for the purpose set forth.

2. A slide or sliding arm *n*, arranged on the bed of the machine, as described, in combination with its operative mechanism, for the purpose of moving the rod to position, substantially as described.

79,443.—Erastus Buck, Vincennes, Ind.—*Belt Shipper.*—June 30, 1868.—The shipper has inclined arms with friction rollers, together with a projection which actuates a lever whereby the loose pulley is pressed against the fixed one, while the belt is being shifted.

Claim.—The combination of the shipper H, pivoted lever G, and pulleys D' E, when arranged and operating substantially as described.

79,444.—C. Thurston Chase, Albany, N. Y.—*Inkstand.*—June 30, 1868.—A small opening only is exposed for dipping, and this is covered by a pivoted cap when not in use; but the cover closing the large opening may be readily removed for the purpose of filling or cleaning the reservoir.

Claim.—In combination with an ink well, having a rim D, and catch *d*, the pivoted cover E, when constructed, attached, and operated substantially in the manner and for the purposes specified.

79,445.—William Chisholm, Cleveland, Ohio. —*Dumping Car.*—June 30, 1868.—The car is secured to the tilting track by chains, and by turning a windlass the car and track are turned as upon a horizontal, longitudinal axis so as to dump the car load *en masse.* When the apparatus is at the end of a side track, the tilting track can be turned around by means of the turn table so as to bring the side of the car transversely to the track and thus discharge at the end of the road. The platform on which the turn table stands being provided with rollers, the whole apparatus may be transferred from one side track to another.

Claim.—1. The construction and arrangement of a section of a railroad track by means of trunnions or bearings to support the track, and thereby allow a longitudinal and transverse tilting and vibrating of the same, substantially as and for the purpose set forth.

2. The segments J K, in combination with the section of a track A and trunnions or bearings, as described.

3. The combination of the sectional tilting track A with the turn table L, for the purposes set forth.

4. The combination of the sectional tilting track A, turn table L, with a transfer table M, in the manner as and for the purpose described.

79,446.—John B. Christian, Mount Carroll, Ill.—*Fish Hook.*—June 30, 1868.—The ends of the grooved plate are bent in opposite directions so that the plate, together with the hooks, shall revolve as it is drawn through the water.

Claim.—The revolving grooved plate B, the artificial worm A, the hooks *c c c*, and the wire D, as arranged in relation to each other, substantially as herein described.

79,447.—William H. Cole, Quincy, Mich.—*Tucking Device for Sewing Machine.*—June 30, 1868. —An adjustable device attached to the sewing machine foot for folding the goods in form for tucking before being sewn.

Claim.—The combination, with the foot A, of plates C, E, and G, the latter provided with stop F, slotted arm B, screw 2, indicator D, and screw H, all constructed, arranged, and operating as herein described and shown.

79,448.—Dewitt C. Cregier, Chicago, Ill.—*Dredging Machine.*—June 30, 1868.—This apparatus is especially adapted for dredging in contracted spaces and to definite points, as in preparing the foundations for piers for bridges, sinking shafts in a soft or diversified bottom, dredging in angles of docks, and the like.

Claim.—1. The guides *d* and screws *f* with the shaft K and beveled pinion *k* and their connections, in combination with the vertical frame work E and its connections, adapted to transmit the power at any elevation, as and for the purposes herein set forth.

2. The inclined frame work E′, mounted on the upright frame E, as represented, and adapted to be adjusted in the several directions, and operating the dredging mechanism H *h* in an inclined position, while the rising and lowering motion may be vertical, as and for the purposes herein specified.

3. The guides *m*, formed and arranged as represented on the revolving parts G^1, G^2, and adapted to guide the pitch chains H, and consequently to con-

trol very exactly the working paths of the buckets h, or their equivalents, as and for the purposes herein specified.

79,449.—Samuel Darling, Bangor, Me.—*Railroad Car Heating and Ventilating Apparatus.*—June 30, 1868.—A positive motion is imparted to the fan wheel, as, for instance, by a gear connection with the car axle; the function of the fan being to impel the hot air forward and insure a steady circulation. The construction of the heating apparatus is such that the fire is extinguished and the smoke pipe closed in the event of the upsetting of the cars.

Claim.—1. In combination with an endless pipe for conveying a heated fluid, a blower, operated substantially as described, to cause a continuous circulation of the fluid in the pipe.

2. The combination, in a stove or furnace, and beneath the fire chamber, of a water vessel, and an intermediate non-conducting chamber, having a ball valve, or its equivalent, substantially as and for the purpose described.

3. The combination, with the smoke pipe, of a conical chamber and a ball valve, or its equivalent, substantially as and for the purpose described.

79,450.—John H. Davey, Rockford, Ill.—*Cultivator.*—June 30, 1868.—The frame carrying the cultivator teeth is connected to the axle by a chain, and adjustably attached to the rear end of the main frame by pins passing through holes in the standards. The tooth-bearing frame may also be raised and lowered by a lever and chain.

Claim.—The frames B and C, the standards D D, pins E, the chains F F, the lever K, the chain K′, all constructed, combined, and operating substantially in the manner and for the purposes set forth.

79,451.—Daniel Dean, Brighton, Mich.—*Cultivator Tooth.*—June 30, 1868.—By loosening the screw bolt which attaches the tooth to the standard the tooth may be reversed in position, it having two points and a broad and a narrow side, either of which may be presented to the corn, according as it is young, requiring the formation of small hills, or old, requiring large hills to be upturned.

Claim.—The reversible cultivator tooth A, when constructed substantially as shown and for the purposes described.

79,452.—Charles Denton, Decatur, Ill., assignor to "Ames Plow Company," Boston, Mass. —*Harvester.*—June 30, 1868.—Relates to reaping machines of the class known as headers, in which the tops only of the grain stalks are cut with the grain heads, leaving the remainder of the stalks standing, to be plowed in. The improvements have reference principally to the construction of the inclined spout, through which the conveyor travels to discharge the cut grain into a wagon running with the header; also to the arrangement of the mechanism for driving the sickle bar.

Claim.—1. Fulcruming the lever which actuates the sickle bar at or near its center, by means of a movable lever, and driving it by a link, connected at the rear of the frame with the driving mechanism, which is located outside of the frame.

2. Pivoting the sickle-bar lever to a laterally-movable or vibrating lever, substantially as and for the purpose set forth.

3. The combination of the floored offset k^1 and its side board i^1, with the auxiliary belt and main belt of the spout.

4. Combining with the conveyor rolls a^1 the clearers s^1, substantially as set forth.

5. Combining with the reel i the truss wires attached to a central ring, and to disks or hubs at the opposite ends of the axle, substantially as set forth.

6. Combining with the frame or carriage lever k^2, and with the post l^2, the box m^2, with its spring bolt o^2, springing into the holes n^2 of the post l^2, and withdrawn therefrom, substantially as described.

79,453.—Thomas W. Dresser, San José, Cal. —*Furnace and Condenser for Reducing Quicksilver and other Ores.*—June 30, 1868.—A furnace for treating ores containing volatile substances. The upright furnace has a vapor-tight hopper and a continuous-discharging opening, with a suction pump or pumps leading from it for drawing the vapor from the heated ore, and forcing or drawing it under water, where it may be condensed and saved.

Claim.—1. The vapor-tight hopper J and siphons U U, in combination with this or other smelting furnaces, substantially as described.

2. The division plate H H, and the endless carriage F, constructed and arranged to operate substantially as and for the purpose described.

3. In combination with a vapor-tight furnace, A, provided with a hopper, J, either of the pumps Q R S, substantially as and for the purpose specified.

79,454.—William J. Elvin, North Madison, Ind.—*Bee Hive.*—June 30, 1868.—The brood boxes of the hive may be lifted out at the top when the cover of the hive is taken off, and the base of the hive is constructed in the form of a trough, with an opening at the bottom throughout its length, for the purpose of allowing dead bees or refuse to fall out.

Claim.—The bee hive herein described, when its several parts are constructed, combined, and arranged as set forth.

79,455.—Ralph Evans, Brant, N. Y.—*Fruit Picker.*—June 30, 1868.—The edges of the flange around the notch are sharpened, the better to cut the stem and detach the fruit; and the band or casting has a stem or projection, by which it is attached at an angle to the handle.

Claim.—The metallic casting B, having a flange on its under side, and slotted so as to form a knife, and provided with an angular stem, as and for the purposes set forth.

79,456.—A. L. Chubb, Grand Rapids, Mich.—*Field Roller.*—June 30, 1868.—The feet of the weight box, one in front and the other in rear, are confined to the yoke by means of the straps, which are fastened to the legs of the weight box, and embrace projections on the yokes.

Claim.—The yokes B B, cast with projections for sustaining the weight box or driver's seat, in combination with straps e e, all arranged as herein described.

79,457.—Austin E. Clement, Wapakonetta, Ohio.—*Chimney Cowl.*—June 30, 1868.—When the wind blows against one of the wings, it forces the lower portion thereof against the end of the cylinder, preventing the wind from entering, and the smoke escapes from the opposite end of the cylinder, as well as at the top of the wing against which the wind acts. The spring restores the wing to its perpendicular position when the wind ceases. The bolts determine the degree of motion of the wings.

Claim.—Hanging the wings C C′ by the bent springs D D′, in the manner and for the purpose set forth, in combination with the cylinder B, bolts E E′, and pipe A, substantially as described.

79,458.—Canceled.

79,459.—Charles L. Dayton, North Buffalo, N. Y.—*Row Lock.*—June 30, 1868.—The oar is provided with a pivoted block or eye, mounted in a yoke. The eye fits over a pin in the gunwale of the boat, and is supported by a shoulder on said pin. The oar turns on the pivots of the eye in dipping and rising, and around the pin in making the strokes.

Claim.—The combination of the yoke A, bed-plate C, pivoted eye D, and pin E, all employed and operating in the manner described, for the purpose specified.

79,460.—C. H. Denison, Springfield, Mass., assignor to himself, J. W. Ray, and V. N. Taylor, same place.—*Machine for Applying Cloth Patches to Paper Collars.*—June 30, 1868.—A machine for applying cloth patches to the button holes of paper collars. Cloth, such as is commonly used, is prepared by applying an adhesive coating to one side, and then drying it. The prepared cloth is cut into long strips of suitable width, to be made into patches as it passes through the machine. A resumé of the main operation is given in the last clause of the claim.

Claim.—1. The combination of the plunger or plate

D^6, with the bar F^1 attached thereto, the stamps e, and sponge tubes d^5, all constructed and operating substantially as herein described and for the purposes set forth.

2. The combination of the plunger or plate D^6 with the bar F^1 attached thereto, the stamps e, the sponge tubes d^5, and the water-pipe g^1, and box g, when constructed and operating substantially as described and for the purposes specified.

3. The stamps e, having the dies e^4, counter-dies x^3, and passage x therein, all constructed substantially as herein described and specified.

4. The combination of the stamps e, having the dies e^4, counter-dies x^3, and the passage x therein, with the platen x^1, when constructed and operating substantially as described and in the manner set forth.

5. The combination of the wheel a^1 with the projection i thereon, vibrating arm a^2, rock shaft a^3, lever a^6, rod a^8, arm a^9, ratchet wheel and pawl c^3, i^6, and rolls h^8 h^9, for the purpose of moving the strips under the dies e^4, substantially as described.

6. The bar F^3, having the slot F^4 therein, in combination with the stamps e, having the projection e^5, thereon, all constructed and arranged substantially as herein described and set forth.

7. The sponge tubes d^5, in combination with the water pipe g^1, having outlets g^3 therein, all constructed and operating substantially as herein described, and in the manner specified.

8. The combination of the sponge tubes d^5, adjustable rod o^8, and valve and valve arm m^4, when constructed substantially as described, and operating in the manner set forth.

9. The sponge tubes d^5, having the side pans d^7 thereon, and the adjusting projection o^5 and its nut o^6, all constructed and operating substantially as described and in the manner set forth.

10. Applying cloth patches to paper or paper collars, as herein described, that is to say, by first dampening the paper or collar at the places where the patches are to be applied, and then pressing said patches thereon by means of a punch or die, which, in its descent, cuts the patch from the cloth which has been previously made adhesive upon one side by a suitable preparation, and then dried, said prepared cloth being fed or moved automatically to or under the dies, all substantially as described.

79,461.—MAJOR H. FISHER, Bridgeport, Conn.—*Machine for Making Rasps.*—June 30, 1868.—The cutter is so applied to the holder that while it is held firmly it is allowed to turn up at its point as it enters the steel, so as to throw up the tooth of the rasp. The arrangement is such that the cutter is nearer the supporting shaft of the holder at the terminus of its movement than at the time or starting, but as it is desirable that the line of teeth be at right angles to the edge of the rasp, provision is made for giving the blank such a movement relatively to that of the cutter as will secure the object stated.

Claim.—1. Attaching the cutter D to the holder B, by means of the stirrup E and spring f, when the said stirrup is arranged to support the cutter, and at the same time to allow the point to turn up, substantially in the manner and for the purpose set forth.

2. In combination with the holder B, arranged and operated as above, the blank holder G, and mechanism, substantially as described, for imparting to the said holder a movement relatively to the movement of the cutter across the blank, so that the teeth cut in each row shall be at right angles to the edge of the rasp, substantially as herein set forth.

79,462.—J. L. FOUNTAIN, New Milford, Ill.—*Hoe.*—June 30, 1868.—The shank is made sharp-edged, to prevent the dirt from collecting on and about the same.

Claim.—1. Forming the curved shank B, on its inner side or curve V-shaped or sharp-edged, as and for the purpose set forth.

2. The forward projecting curved shank B, having an acute angle on its inner side C, in combination with the blade, substantially as and for the purpose specified.

79,463.—JOSEPH FOWLER, Allegan, Mich.—*Three-Horse Clevis.*—June 30. 1868.—Under this arrangement, should the two horses attached to the lever draw more than their proportion, the lever would elevate the outer end of the parallel bars, by acting on the friction wheel and thereby compel the one horse attached to the bars to perform his share of the work.

Claim.—1. The bars D and friction wheel F, or its equivalent, in connection with any suitable clevis A, when attached and operating substantially as and for the purpose sspecified.

2. The bar or lever E, when attached to the upper end of the clevis A, and provided with any suitable device G, to which to attach a team, when constructed and operating substantially as and for the purposes set forth.

3. The combination and arrangement of the clevis A, the bars D D, the lever E, the friction roller F, hook H, and ring G, or their equivalent, when constructed and operating substantially as and for the purposes herein described.

79,464.—HORACE P. GALE, Washington, Vt.—*Manufacture of Sugar.*—June 30, 1868.—A longitudinal partition divides the main flue, so as to cause the products of combustion to traverse in opposite directions beneath the evaporating pan before passing off at the front smoke stack. The evaporating pan has a series of short pipes and a series of long pipes, which are also traversed by the products of combustion. The saccharine liquid is drawn from the evaporating pan into a graining pan, and the arrangement of dampers is such that the heat may be diverted from the main flue and made to pass directly through the flue of the grainer and out at the smoke stack at the rear.

Claim.—The peculiar construction of the inside of my arch, arrangement of smoke stacks, the application of flues in my pan, and the combination of dampers and stop cocks, to produce the advantages herein set forth.

79,465.—C. L. GILPATRICK, Boston, Mass.—*Meat Chopper.*—June 30, 1868.—The hollow shaft attached to the top of the supporting standard extends to a point above the center of the rotary tray which contains the meat, and is there provided with arms, having guide-ways for the vertically reciprocating frame which carries the cutter.

Claim.—The arrangement of the cutting or chopping knife K in the frame I, and working in the arms H H, by means of wheels G, E, and D, and a shaft through a hollow shaft F, substantially as and for the purposes herein set forth.

79,466.—FRANCIS GREENE, Troy, Pa.—*Door Key.*—June 30, 1868.—When the key is introduced into the key hole, with the guard, it will turn freely therein, while the guard remains stationary. Hence if the key be turned so as to place its wing out of coincidence with the guard, it cannot be forced out of the lock and no picking instrument can be introduced.

Claim.—The guard C, in combination with the arm f, for closing the key hole, constructed and attached to the key, substantially as shown and described, and for the purpose specified.

79,467.—GEORGE W. GREER and FRANK F. LANDIS, Lancaster, Pa.—*Grain Thresher and Separator.*—June 30, 1868.—This arrangement is designed to not only free the grain from chaff, &c., but prevent the unthreshed heads or portions of the same from falling down with the grain and lodging in the meshes of the sieve. The rakes in conveying the straw from the machine thoroughly agitate it so as to shake out the grain.

Claim.—1. The double-chambered fan casing or flues f^1 and f^2, made substantially in the manner and for the purpose specified.

2. The arrangement of the double shoe s^1 s^2, in combination with the regulating board R, made substantially in the manner and for the purpose set forth.

3. In combination with the regulating board R and inclined board r, the appendage of the wire rack r r to the same, made substantially in the manner and for the purpose described.

4. The raking device, when constructed with parallel beams m and toothed slats or rakes n, revolving

over each other in the manner and for the purpose specified.

79,468.—Charles F. Harlow, Boston, Mass., assignor to himself and Dexter S. King.—*Machine for Cutting and Trimming Bristles, Felt, Fur, Wool, &c.*—June 30, 1868.—The untrimmed brush is adjusted between the jaws or curved bars, with the back of the brush between said jaws and the feed shaft. The machine being put in motion, the action of the teeth or projections upon the back of the brush moves the latter along in line with the curved bars or jaws, and thereby feeds the bristles up to the vertically reciprocating cutters.

Claim.—1. The combination of the stationary toothed knife *g* and movable toothed knife *g*, with the guide S and slide E, when constructed to operate as set forth.

2. The combination of the sliding table R, guide S, slide and cutters *g g*, with the slotted arm of the beam D and table A, for the purpose of adjusting the cutters *g g* at any desired distance from the jaws or bars X X, as specified.

3. The feed shaft *p*, adjusted in the slotted bars, and held by the springs *q*, in combination with the cutters *g g*, arranged upon the sliding table R, to operate substantially as set forth.

4. The curved or bent horizontal bars X X, when made adjustable on the posts C C, and arranged as and for the purpose specified.

79,469.—Theodore Heermans, Pleasant Hill, Mo.—*Coffee Roaster.*—June 30, 1868.—The outer cylinder is provided with a window, through which the progress of the roasting may be witnessed from without.

Claim.—The wire cloth or perforated cylinder E, when arranged eccentrically within the outer cylinder D, as described and for the purpose set forth.

79,470.—Warren Hill, Springfield, Mass.—*Ticket Punch.*—June 30, 1868; antedated May 5, 1868.—The spiral spring, which is placed under the projection of the die spindle, forces said spindle out of the female die, and said spring may be of sufficient strength to force the levers apart.

Claim.—The construction and arrangement of the spindle C, projection *e*, and the spiral spring *f*, in combination with the lever A, recessed at *c'*, and the slotted lever B, substantially as described.

79,471.—James S. Hooton, New Carlisle, Ind.—*Bee Hive.*—June 30, 1868.—The objects are to render all parts of the hive easily accessible, effectually regulate ventilation during warm and cold seasons, prevent molestation of bees or honey by the miller or vermin, and enable persons to remove honey from any part of the hive, in small quantities, without interfering with other portions of the hive.

Claim.—1. The device for entrapping the worms, as specified.

2. Supporting the racks by the metal staples S, as shown and specified.

3. Supporting and holding to their places the racks by means of the metal pins X'', as specified.

4. Supporting the racks solely upon metal bearings, by means of the pins X and staples S, as set forth.

5. The hive R, when its several parts are constructed, combined, and arranged as set forth.

6. Board B, when constructed as specified.

7. The combination of the metal strip I'', the screw Z, the aperture V, openings P and T through the board B, with the wire cloth, as set forth, and for the purposes specified.

79,472.—Carleton B. Hutchins, Ann Arbor, Mich.—*Compound for Covering Roofs and other Structures.*—June 30, 1868.—Rosin, leached ashes, whiting, salt, red lead, and linseed oil.

Claim.—The compounding of ingredients, as herein described, to make a composition for roofing, and for various other purposes, as before described.

79,473.—Moses Johnson, Three Rivers, Mich.—*Potato Digger.*—June 30, 1868.—The tops or vines of the potatoes are removed by a device which operates in advance of the shovel. The shovel scoops up the potatoes and causes them to fall upon the endless apron which sifts the earth from the potatoes and deposits them into a box at the rear. The box has a hinged bottom which may be opened by a lever to permit the potatoes to fall in a heap.

Claim.—A potato digger having wheel A, grooved wheel B, roller D, arms C, shovel E, arms F, belt G, box H, lever K, bar M, spring O, and pulley S, constructed, combined, arranged, and operating substantially as set forth.

79,474.—William Johnson, Appleton, Wis.—*Clothes Drier.*—June 30, 1868.—The pivoted arms being of different length, suitable spaces are left between the clothes-suspending bars when dropped forward to a horizontal position to receive the clothes to be dried.

Claim.—1. The movable metallic arms H, folding into each other and oscillating upon a common fulcrum, operating in the manner described and for the purposes set forth.

2. The combination and arrangement of the bracket, sides A A, and the frame rod B C, with the fulcrum rod F, the metallic movable arms H, and the bars E E E E, with the slot I and rivet J, when operating in the manner specified and for the purposes set forth.

79,475.—Horace K. Jones, Kensington, Conn.—*Balancing Polishing Wheels.*—June 30, 1868.—When, from any cause, the wheel becomes heavier upon one side of its axis than upon the other, the weights are moved toward the light side until the wheel is balanced.

Claim.—1. The use, for the purpose of balancing wheels, of two or more weights, swinging upon pivots located between the axis and periphery, and capable of being fixed at any point upon the side of the wheels, within the limit of their motion, by a screw or other suitable means.

2. The combination of the movable weights B B with the fixed weights D, for the purpose specified.

79,476.—Isaac Keller, Randolph, Ohio.—*Horse Power.*—June 30, 1868.—All of the multiplying gear is placed in a solid metallic box, which protects the gear from dirt when the power is placed upon the ground. The gears are prevented from binding during any rocking of the frame, by being mounted upon the two axles which run in boxes on the sides of the solid box. The lipped iron maintains the engagement of the master wheel and the first wheel.

Claim.—1. The solid metallic box G, with hole *g* therein, when used to contain the speeding gear P J K of a horse-power, substantially in the manner and for the purpose set forth.

2. The iron, N, with lip *n*, when used in combination with the box G, with its gear P J K, and the master wheel A B B, substantially as and for the purpose herein specified.

3. The peculiar arrangement and combination of the box G, axles H and I, with gear wheels P, J, and K thereon, iron N, with lip *n*, and master wheel A B, the several parts being arranged in the manner and for the purpose herein specified.

79,477.—G. H. Kidney, Cleveland, Ohio.—*Washing Machine.*—June 30, 1868.—The clothes are placed in the open or grated cylinder which rotates within the boiler. Perforated tubes traverse the cylinder longitudinally, and are supplied with water by the cups which dip it from the boiler. As the cylinder rotates, streams of hot water from the tubes fall upon the agitated clothes.

Claim.—1. The cups H, perforated tubes G, cylinder C, and boiler arranged and operating in the manner and for the purpose substantially as described.

2. The rotary cylinder C, provided with interior perforated tubes G, in combination with the cups, substantially as and for the purpose specified.

79,478.—William N. Kington, Bowensburg, Ill.—*Saw Clamp.*—June 30, 1868.—The hooks are attached to a bench or other stationary object, and the saw being placed in the clamp, the operator stands on the platform or sits on the scaffold to perform the necessary manipulation. The weight of the operator is thus made to hold the saw firmly in position.

Claim.—A saw clamp, having clamps A, jaws B, scaffold C, upright bars D, platform J, plank H, and hooks G, constructed, combined, and arranged substantially as specified.

79,479.—Canceled.

79,480.—JAMES KNIGHT, Philadelphia, Pa.—*Indicator for Street Railway Cars.*—June 30, 1868.—An indicator operated partly by clock work and partly by the revolving wheel or axle of the street railway car, to which it is applied. The said indicator determines at the end of a trip whether the car has been running regularly, and, if not, at what points on the road improper stoppages have been made, or where the speed of the car has been increased or retarded.

Claim.—1. The minute hand G and its pin, j, turned by clock work, as described, and moved toward or from the dial plate by a cam wheel H, in combination with loose indicating hands h, which are turned by the minute hand, and released at certain determined points on the dial plate, all substantially in the manner and for the purpose specified.

2. The wheel J, having adjustable blocks r', and being operated through the medium of the gearing described by a wire t, connected with the wheel or axle of the street railway car.

3. The above, in combination with the arms r', t, and u of a spindle K, and with the arm w of a spindle, L, for starting and arresting the motion of the cam wheel H, as described.

4. The cam wheel H, operated by a coiled spring g, or its equivalent, for imparting a longitudinal sliding motion to the portion c of the spindle F, for the purpose specified.

5. The manner, substantially as herein described, of securing the indicating hands h to the stem b, so that they may be turned either separately or together upon the said stem.

79,481.—PH. KNOBLOCK, Wyandott, Kansas.—*Car Coupling.*—June 30, 1868.—The levers are pivoted to the movable jaw and serve to raise the same when turned so as to act at their lower ends upon inclines on the sides of the draw head. The slotted frame is raised with the upper jaw in order to release the coupling pin from the shoulder of the stationary jaw.

Claim.—A car coupler, having jaws A and B, slotted frame K, cross bar H, with cord attached as described, levers G, and hook M, constructed, combined, and arranged substantially as specified.

79,482.—A. KOMP, New York, N. Y.—*Eyeletting Machine.*—June 30, 1868.—The guide pin within the punch takes the eyelets from the mouth of the feeding chute, said pin being subjected to the action of a spring having a tendency to force it out of the punch. When pushed in, the guide pin is retained by a spring catch which is automatically released as often as the punch reaches its highest position. The friction spring retains the eyelets on the guide pin till the punch forces them off. The anvil has a projecting point and is surrounded by an elastic tubular bed, so that the material to be eyeleted, on being forced over the point, is pierced, and then supported by the elastic bed, which offers sufficient resistance to permit the eyelet to be forced through the hole.

Claim.—1. The friction spring n, on the guide pin e in the punch D, substantially as and for the purpose described.

2. The self-acting dog h and cam k, in combination with the guide pin e and punch D, substantially as and for the purpose set forth.

3. The yielding rest J, in combination with the anvil I and punch D, substantially as and for the purpose set forth.

79,483.—PERLEY LAFLIN, Warren, Mass., assignor to himself and JOHN J. SPRAGUE.—*Shuttle.*—June 30, 1868.—The projecting lip facilitates the threading of the shuttle, and prevents the thread from flying out during the operation of weaving.

Claim.—The combination, with the shuttle, of a threading and guide piece or lip, constructed as described and for the purposes set forth.

79,484.—DENNIS LANE, Montpelier, Vt.—*Head Block for Saw Mills.*—June 30, 1868.—The wheels or rollers can be raised from or lowered onto the carriage, according as the head block is to remain stationary or be run from one position to another. The head blocks are automatically moved back upon the carriage during the gig-back motion of the latter.

Claim.—1. The rollers or wheels C, supporting the head block, and mounted on shafts eccentric to them, by which the wheels are forced upon the carriage or released from bearing thereon, constructed and operated as described.

2. The scrapers H, hinged to the head block, for the purpose of clearing the face of the carriage side from saw dust, constructed and operated substantially as described.

3. The chain connection E^3, attached to the upright supports, and operated by means of a friction pulley, G^3, upon a bar, I^4, through a treadle, M^4, by which, as the carriage is gigged back, the supports will be drawn back on the carriage, constructed and operating substantially as described.

79,485.—C. B. LOVELESS, Syracuse, N. Y.—*Vapor Burner.*—June 30, 1868.—The cup below the burner holds alcohol or other fluid, which is burned in order to initiate the formation of gas from the oil. The retort receives oil from a supply pipe, and converts it into vapor, which is conveyed through a pipe to the argand burner, whose flame heats said retort. The jacket and deflector concentrate the heat upon the retort and hold in position the upper part of the chimney.

Claim.—The pipe a, retort m, cap j, jacket k, gas pipe c, burner g, and chimney h, constructed and arranged substantially in the manner and for the purposes set forth.

79,486.—HAMMOND MARSHALL, Atlanta, Ga., assignor to himself and T. W. CHANDLER, Fulton County, Ga.—*Plow.*—June 30, 1868.—The wings, shovels, and mold boards may be of any desired style, but are all adapted to fit the same shank, so that they may be easily substituted for each other.

Claim.—1. The shank A, constructed as described, with a sharp cutting edge, d d, at the top, curved at the bottom, and provided with slotted projections B B, substantially as and for the purposes herein set forth.

2. The slotted and flanged projections B B on the shank A, in combination with the lugs i i and grooves h h on the wings, for the purpose of fastening the same together, substantially as and for the purposes herein set forth.

3. The pin b, on the point C, in combination with the hole c, on the shank A, for the purpose of fastening the same together, substantially as and for the purposes herein set forth.

79,487.—PATRICK MCELROY, Cambridge, Mass.—*Medicine Dropper.*—June 30, 1868.—The tube is to be attached to the bottle cork or stopper; it is closed at top and contracted at bottom, and has a minute air hole through its side near the top. The tube being withdrawn from the bottle and held over a spoon or cup, the liquid escapes from its lower orifice in drops.

Claim.—A tube, for dropping medicine or other liquid, constructed substantially as and for the purpose described.

79,488.—RUFUS S. MERRILL, Boston, Mass., assignor to himself and WILLIAM CARLETON, same place.—*Lamp Burner.*—June 30, 1868.—To the air-distributing plate of the upper section is secured a sleeve, of such shape and form as to fit loosely around the bearing of the lower section; upon the sleeve are formed guides, corresponding in position to the guides on the bearing, so that when the sleeve is pressed down over the cap, the sections will be adjusted and maintained in their proper relation to each other.

Claim.—1. In a burner, in which the upper section, consisting of the deflector, air-distributing plate, and chimney holder, with its chimney, is removable from the lower section, composed of the base and wick tube, a sleeve united with the air-distributing plate, and shaped in the manner herein described, so that, while entirely removed from contact with the wick tube, it shall fit the cap of the lower section and maintain the upper or removable section in position, substantially as and for the purpose specified.

2. In combination with the parts arranged as claimed in the preceding clause, guides, or their mechanical equivalents, formed upon the cap and the sleeve, as described, so that the upper section of the burner may be readily adjusted upon the lower section, as set forth.

79,489.—ELISHA METS, Rochester, N. Y., assignor to himself and A. CRAM.—*Wood Bending Machine.*—June 30, 1868.—The wood to be bent into a table rim is forced between the concave and inner circle by rollers, and the follower liberates and expels the bent rim.

Claim.—1. The combination of the annular rolled concave B with the inner circle D, and the feed rollers R and R', for the purposes herein shown and described.

2. The arrangement of the follower G, with the inner and outer circles B and D, constructed and operating substantially in the manner and for the purposes set forth.

79,490.—JAMES A. METCALF, Lawrence, Mass.—*Shuttle.*—June 30, 1868.—The upright guide wire placed within the cavity at the delivery end of the shuttle is so shaped as to enable the operator to readily guide the thread to a narrow slit in the side of the shuttle, and thence to the eye.

Claim.—1. A threading guide or guide wire, constructed and disposed relatively to the walls of the shuttle, so as to guide the thread directly to the slit, substantially as set forth.

2. The combination of the threading guide, constructed substantially as shown and described, with a shuttle having a slotted eye.

3. A thread guide, substantially as described, which performs the double duty of guiding the thread to the eye when "threading" the shuttle, and also of insuring the proper line of draught from the bobbin.

79,491.—DAVID S. MILLER, West Alexandria, Ohio.—*Churn Dasher.*—June 30, 1868.—The dasher is reversible upon its handle, so that the external inclined surfaces may be presented either downward or upward.

Claim.—The reversible dasher, *a b c d*, in combination with the deflector board *g*, when the parts are constructed, arranged, and operated in the manner and for the purposes described.

79,492.—SIMON MINGES, Rochester, N. Y.—*Wear Plate for Boots and Shoes.*—June 30, 1868.—The cross-connections and dovetailed bearing are fitted between the soles, and secured there to hold the wear plate in place. The wear plate has a downward projecting rim for covering and inclosing the sole, and an upward projecting shield for protecting the upper leather at the toe.

Claim.—1. The combination, in the wear plate B, of the rim *a*, covering or inclosing the sole, and the shield *x* protecting the upper, as herein set forth.

2. The combination, with the wear plate B, of the curved cross-connections b' b', for expanding the rim, and the dovetailed bearing or bearings *b*, for shielding the toe, as herein set forth.

79,493.—HIRAM B. MORRISON, Le Roy, N. Y.—*Revolving Hose Nozzle.*—June 30, 1868.—The rotary motion of the nozzle adapts it to more effectually deluge a room when inserted through an opening in the wall. The tightening nut, in connection with the adjusting ring, holds the wings in position against the varying pressure of the water.

Claim.—1. The arrangement, inside the bent nozzle D, of the spiral wings F F, adjustable to different positions across the water-way, and capable of being fixed in place, and operating to impart a rotary motion to the nozzle by the current passing through, in the manner and for the purpose specified.

2. The arrangement, in connection with the spiral wings F, of the elbow-arms *d i*, resting in the turning ring *l*, which is tightened in position by nut *n*, the whole as herein set forth.

79,494.—T. B. MORSE, New Haven, Conn.—*Carriage Shackle.*—June 30, 1868.—This invention is designed to admit of the employment of a rubber block packing of greater thickness than usual, the object being to obviate the cracking of said block. The web in the angles serves to hold the block in place, so that it is not liable to drop out when the shafts are removed.

Claim.—1. A shackle, constructed with the recesses *a a* in each of the internal angles, so as to receive the block H, substantially as and for the purpose specified.

2. The block H, formed from India rubber, and with projections *d* upon each angle, corresponding to the recesses *a a* in the shackle, substantially as and for the purpose specified.

79,495.—JAMES NEVISON and THOMAS NEVISON, Jr., Morgan, Ohio.—*Carriage Wheel.*—June 30, 1868.—The spokes are double, each extending from the hub to the felloe, and thence back to the hub; and their ends are bent, so as to form a hook or lip which adapts them to be secured in the mortises of the hubs by keys. The spring leaf, placed upon the spoke at its junction with the felloe, is designed to impart strength and elasticity.

Claim.—1. The return or hook *b*, and spring spokes B, in combination with the key F, and hub C, substantially as set forth.

2. Spring leaves E, bolted to and in combination with the spring spoke, substantially as set forth.

79,496.—JOHN OLIPHANT, Springhill Furnace, Pa.—*Metallic Hub.*—June 30, 1868.—The object is to so construct metallic hubs that one or more spokes may be removed from the wheel and replaced without removing the tire or felloe, or displacing any of the other spokes. The boxes may be driven from the hub, and their places supplied with new ones when desired.

Claim.—1. The combination of the disk I, divided into the sectors or caps J J J', the annular groove L, the projections M M M^2, and the recesses N N^1 N^2, as and for the purpose set forth.

2. The bevels H H and T T, as and for the purpose set forth.

3. The combination of the boxes B B, tube A, mudbands C C, and screws D D, substantially as and for the purpose specified.

79,497.—ELIAS C. PATTERSON, Rochester, N.Y.—*Grain Separator.*—June 30, 1868.—The positions of the pivots and eccentric, relative to the extremities of the arms, effects the desired inequality as to the extent of the motion of the two sieves. The wedge on each side of the lower sieve gives the latter a side motion, in addition to its longitudinal movement.

Claim.—1. The arms E, upon pivots F, operated by eccentric G, and operating upper and lower sieves, substantially as described,

2. The wedge H on the lower sieve, for the purpose set forth.

79,498.—WILLIAM J. PHELPS, Springfield, Mass.—*Ticket Punch.*—June 30, 1868.—The punch, in general construction, is similar to that for which letters patent were granted to same party September 17, 1867. The die here claimed is designed to cancel tickets or paper, without cutting out or destroying the legibility of the letters, characters, or figures.

Claim.—In a ticket punch, a die and counter-die, consisting of a group or series of projections *o o*, and corresponding perforations o' o', said group or series of projections and perforations being formed into any desired letter, figure, or character, all constructed and operating substantially as described, and for the purposes herein specified.

79,499.—JULIUS POLLOCK, Morrisania, N. Y.—*Purifying Wood Spirits.*—June 30, 1868.—The crude spirit is diluted with water and agitated so as to disengage the fixed oils, which rise to the surface and may be removed by skimming. The spirit is then filtered through charcoal and concentrated by distillation.

Claim.—The process of purifying pyroxylic spirit, substantially as herein described.

79,500.—AMOS RANK, Salem, Ohio.—*Harvester.*—June 30, 1868.—A method of combining with a harvester a cut-off rod for separating the cut and falling grain from the gavel being discharged from the platform.

Claim.—1. A vertically adjustable separating rod or cut-off, vibrating in a circular horizontal path, substantially as set forth.

2. A separating rod or cut-off vibrating horizontally in a curved path, and adjustable horizontally relatively to the finger beam, substantially as set forth.

3. A separating rod or cut-off, vibrating horizontally, and capable of adjustment at an angle to the finger beam, substantially as set forth.

4. The combination, substantially as set forth, of a reel with a separating rod, vibrating horizontally over the platform.

5. The combination, substantially as set forth, of a dropping platform with a separating rod, vibrating horizontally over the platform.

6. The combination, substantially as set forth, of an overhung reel, a dropping slatted platform, and a horizontally vibrating separating rod.

7. The combination of a horizontally vibrating separating rod, supported at one end only with a finger beam hinged to the main frame.

8. The combination, in a harvester, of a laterally projecting hinged finger beam, a reel, a platform, and a horizontally vibrating cut-off, when the three latter are mounted on the finger beam and shoe only.

9. The combination of a dropping platform with a horizontally vibrating cut-off, when so arranged that the dropping of the platform interposes the cut-off, and the raising of the platform withdraws it.

79,501.—JAMES RICHEY, Cincinnati, Ohio.—*Lubricator.*—June 30, 1868; antedated April 10, 1868.—A device for lubricating journal bearings. The glass windows enable the amount of oil in the reservoir to be ascertained at a glance.

Claim.—A lubricator, with its oil reservoir A cast in one piece with the stem B, and furnished with windows C C′, all substantially in the manner herein described and for the purposes specified.

79,502.—JOHN G. ROTH, New York, N. Y.—*Clothes Pin.*—June 30, 1868.—The quadrangular form of the rubber spring block serves the purpose of maintaining the two levers parallel with each other, both when the spring is compressed in action and when at rest. The recesses in the jaws diminish from the diameter of a large clothes-line to that of the smallest line which may be employed, the shoulders enabling the clothing to be held upon a small line, and preventing the line from slipping between the jaws of the clamp.

Claim.—1. In a clothes-line clamp formed of two jointed levers, provided with parallel or nearly parallel contiguous bearing planes, the quadrangular self-retaining rubber spring block, arranged and operating substantially as and for the purposes set forth.

2. In a clothes-line clamp formed of two jointed levers A A, the abruptly terminating jaw recesses a^2 a^2, arranged and operating substantially in the manner and for the purposes set forth.

79,503.—JAMES SEE, Mitchell, Ind.—*Mechanical Movement.*—June 30, 1868.—The power, applied to the main shaft, is transmitted through the associated gearing to operative machinery, the object of this interposed movement being to readily control and regulate, and largely augment the power before its ultimate application.

Claim.—The apparatus above described, consisting essentially of the shaft C, wheel E, shaft F, wheels *f* G, shaft H, wheels *h* I I, cord or chain J, pulleys K M, levers L N, weights W W′, dogs Q Q′, ratchet wheels O P, and shaft D, when the several parts are constructed and combined as above described, and for the purpose set forth.

79,504.—JOHN CARRINGTON SELLARS, Birkinhead, England.—*Metal-Founders' Blacking.*—June 30, 1868.—In preparing the residue or coke for the intended use it is reduced to a finely divided state. It is designed as a substitute for the powdery substance known as blacking, and used for coating the inner surfaces of molds to contain liquid iron.

Claim.—Utilizing the residue or coke left from mineral oils and other like substances in stills, after the distillatory process, by employing it for metal-founders' blacking, substantially in the manner hereinbefore described.

79,505.—S. B. SEXTON, Baltimore, Md.—*Base Burning Stove.*—June 30, 1868.—The coal magazine is exposed, or not inclosed by a casing or jacket; heat is consequently radiated therefrom.

Claim.—1. The exposed cylindrical coal magazine D, sustained upon the jacket A by means of an illuminating ring, C, in combination with a fire pot which is inclosed within the jacket, so as to leave a space around it for the descent of the products of combustion on their way to the escape flue, substantially as described.

2. An exposed coal magazine, D, an illuminating ring, C, an annular flue chamber, A′, and a hollow base, B, arranged and combined substantially as described.

3. The combination of a cylindro-conic coal-supply magazine, the cylindric portion being exposed, an inclined illumination ring, C, furnished with mica or other transparent windows or doors, and a fire pot, all in the manner and for the purpose described.

4. An escape pipe, leading into the flue K from an exposed magazine, D, when this magazine is arranged over a fire pot surrounded by a descending flue, and supported upon a hollow base, B, substantially as described.

79,506.—E. B. SMITH, Marietta, Ohio.—*Animal Trap.*—June 30, 1868.—The box-like platform is raised by a weight to prevent the escape of the animal by the way of entrance, and again depressed by the animal in making its way to the final imprisoning receptacle.

Claim.—The box A A′, with platforms B C, constructed as described, spring catches D E, flat spring *e′*, passage *f*, and trap door *f′*, the whole being combined and arranged substantially as described.

79,507.—EDGAR M. SMITH, New York, N. Y., assignor to Mitchell, Vance and Company, same place.—*Harvester Rake.*—June 30, 1868.—These improvements relate to the method of adapting the rake to sweep a platform that is not merely an arc of a circle but much longer than such, so that the grain is delivered behind the machine; also to the manner in which the rakes are caused to roll in their bearings to pass the ground wheel and put themselves in position to act as beaters, or to roll back and become rakes to clear the platform.

Claim.—1. In revolving, rising, falling, and rolling rakes, the elongating and shortening of said rakes by sliding them in their bearings, so that they will sweep an irregular-shaped platform, substantially as described.

2. Locking and unlocking and moving of the rakes out and in by devices, substantially as herein described, that are self-acting and require no attention on the part of the operator, substantially as described.

3. The combination of the trigger *i* and sliding lever *k*. for moving the rake out, so that it can roll in its bearings and thus become a rake instead of a beater at the will of the operator, substantially as described.

79,508.—EDWIN C. SMITH, Brandon, Vt.—*Stove Polish.*—June 30, 1868.—Roasted and ground wheat, dissolved glue, gum tragacanth, finely-sifted iron filings, roasted and ground coffee, and alcohol.

Claim.—A stove polish, composed of the ingredients set forth substantially as described.

79,509.—NORMAN SMITH, Hartford, Conn.—*Guide for Screws.*—June 30, 1868.—The short tube has interior side springs which clasp the shank of the screw and hold it in place while the tube is supported by the screw driver, the whole being thus held together with sufficient firmness to admit of the screw being turned into the wood without other support.

Claim.—The combination of the tube A B and two or more springs E, for the purpose of a guide for starting screws, substantially as herein specified.

79,510.—James Spear, Philadelphia, Pa.—*Cooking Stove and Range.*—June 30, 1868.—The inner doors above the grate may be withdrawn and the fire thus supplied with a greater quantity of air for the purpose of consuming the gasses. In handling or shipping, the stove rests upon the knobs which thus protect the edges of the top and bottom plate.

Claim.—1. The application of double doors to a cooking stove or range, above the fire grate, constructed in the manner and for the purpose substantially as herein described.

2. The application of raised or ornamental knobs on the back plate of a cooking stove, for the purpose substantially as herein described.

79,511.—A. C. Spencer, Bridgeport, Conn., assignor to himself, E. B. Jones, and William H. French, same place,—*Combination of Wood and Paper for Cabinet Purposes.*—June 30, 1868.—Several sheets or layers of paper or pasteboard are glued, gummed, or otherwise secured together and covered with wood veneer. The invention is particularly applicable in the manufacture of sewing machine table tops, which are finished by gluing wood moldings to the edges.

Claim.—The herein described process for combining wood and paper for cabinet and other purposes.

79,512.—George H. Strough, Watertown, N. Y.—*Horse Hay Fork.*—June 30, 1868.—The mode of locking the tines in position for supporting the load is designed to relieve the actuating rod of undue upward pressure. The springs within the point retract the tines and at the same time force upward the actuating rod, so as to release the load from the fork. The latch and releasing devices are protected and guided in such manner that they are not liable to become casually disengaged while the load is being elevated.

Claim.—1. The tines G G', constructed substantially as described, arranged to work in a recess, V, constructed as described, within the sheath or case constituting the body of a pointed fork, and attached to the central rod F by means of pivoted links *t t'*, all substantially as herein described.

2. The manner of locking the shanks of the tines G G' between lips *v v* and shoulders *u*, substantially as described.

3. Effecting the retraction of the tines by means of a spring or springs, applied within the pointed portion D of the fork, substantially as described.

4. The arrangement of the pivoted spring catch *c*, nose *e*, tripping latch *b*, and cross head E, substantially in the manner and for the purpose described.

79,513.—D. Sturgis, Byron, Mich., assignor to himself and M. Thatcher, Shiawassee, Mich.—*Straw Cutter.*—June 30, 1868.—The cutters extend diagonally along the cylinder, being secured at their ends to the rims of the cylinder heads. A sheet iron band forms the periphery of the cylinder.

Claim.—The arrangement of the cylinder, as constructed with the frame A, box J, and feed rollers K and N, connected together and operating as and for the purpose set forth.

79,514.—Frederick Sulter, St. Paul, Minn.—*Steam Boiler Furnace.*—June 30, 1868.—The contracted passage conducts the products of combustion along the under side of the boiler and discharges the same into a chamber at the rear, whence they pass into the boiler flues, and in which the sparks and cinders are deposited. The openings in the side of the passage admit air to effect the consumption of the gases.

Claim.—The construction of the inclined and horizontal surfaces of the semicircular hearth D, with its side air passages C C, and spark and draught chamber E, when arranged and combined as herein described, and for the purposes set forth.

79,515.—James H. Swett, Birmingham, Pa.—*Railway Joint.*—June 30, 1868.

Claim.—In combination with the abutting ends of two railroad rails, the divided jaws B, and the divided clamp C C; said clamp being drawn up tight against the jaws, and the jaws against the rails, by a through-bolt and nut, for the purpose of strengthening the joint, substantially as described.

79,516.—James H. Swett, Birmingham, Pa.—*Machine for Making Rivets.*—June 30, 1868.—The plunger, after shearing the blank from the rod, follows it to the bottom of the box and holds it firmly while the advancing rod pushes it from under the plunger into the die in the die wheel. The blank is thus fed to the die in a direct line.

Claim.—1. The combination of the header, die, and rod *c*, all arranged and operated substantially as described.

2. In combination with the header, die, and rod *c*, the holder T, for keeping the blank straight while being pushed up to the header, substantially as described.

79,517.—Robert Symes, St. Charles, Mo.—*Device for Ventilating Millstones.*—June 30, 1868.—The mill being put in motion, the natural suction of the runner is assisted by the blower, which sends a blast of cold air through the dress of the runner, and out into the "meal-hoop," whence it passes up a pipe into the condenser, taking with it the hot air and dust, which last is deposited in the condenser and removed therefrom through hand holes.

Claim.—The blower M, cold blast tube *h*, fans *e e' e'' e'''*, tube D, and condenser E, all arranged substantially as shown and specified.

79,518.—C. R. Taber and J. Oscar Taber, Salem, Ohio.—*Harvester.*—June 30, 1868.—These devices are concerned in changing the vertical position of the cutting apparatus and drag plate, in order that the machine may be adapted for cutting either grain or grass; also in raising the drag bar to avoid obstacles.

Claim.—1. The arrangement of the lever D', shaft E', and arm F'', in combination with the stay J and drag plate I, for the purpose set forth.

2. The lever I', check lever L', and jointed arm C', all constructed and arranged to operate as and for the purpose specified.

79,519.—Spencer P. Taylor, Oxford, Ohio.—*Harness Buckle.*—June 30, 1868; antedated June 24, 1868.—The object is to equally divide the strain of the strap between the tongue and spur.

Claim.—The buckle E, constructed with bridge A and spur *d*, in combination with tongue C, when said tongue is formed in the manner specified.

79,520.—Carl C. T. Thomas and Frederick A. S. Raymond, Beverly, Mass.—*Ladder.*—June 30, 1868.—The foot enables the limb of the ladder to be lengthened, thereby adapting the ladder to uneven or sloping ground.

Claim.—The movable foot B, constructed and attached to the side of the ladder, substantially as and for the purposes herein set forth.

79,521.—Samuel B. H. Vance and Edgar M. Smith, New York, N. Y., assignors to Mitchell, Vance and Company, same place.—*Composition Clock Case.*—June 30, 1868.—The composition may be made in imitation of marble of various colors; it consists of sulphate of lime, alumina, carbon, potassa, and silicic acid, hygroscopic water and water in chemical combination.

Claim,—1. A clock frame, made of the composition herein described, made plastic by diluted alum, and colored and molded into shape or form, as herein described and represented.

2. In combination with a composition clock case, made in imitation of marble, a metallic ring, embedded or cemented thereto, which ring serves as a seat for the clock gear and other attachable or removable parts, as described and represented.

79,522.—Ethan P. Vaux, Washington City, D. C.—*Metallic Roofing.*—June 30, 1868.

Claim.—A corrugated metal roof that will allow of expansion and contraction in all directions, when the same is constructed and arranged substantially as herein described.

79,523.—A. H. Walker, Oswego, N. Y.—*Water Heater for Steam Boilers.*—June 30, 1868.—The internal water space of the drum is connected by pipes with the steam boiler, and also with the reservoir, so that the water from the reservoir can be repeatedly passed through the water chamber, which is heated by exhaust steam from the boiler.

Claim.—The arrangement of the pipes C, C, and C′, chambers *h h*, partitions *a*, annular chamber *b*, drum A, and pipes E and D, substantially as herein set forth.

79,524.—J. R. Watkins, Maine Prairie, Minn.—*Clothes Drier.*—June 30, 1868.—The plate is screwed to a wall, and the rod supports the radiating arms upon which the clothes are hung.

Claim.—1. The plate A, having the concave rear side, and provided with the cruciform slot C, screw holes D D, and the lug B, substantially as and for the purpose set forth.

2. In combination with the above, the screw rod G, nut H, and lug F, having the head *m* and shank *n*, substantially as described.

79,525.—John N. Watrous, West Meriden, Conn.—*Sash Supporter.*—June 30, 1868.—By turning the armed hub in one direction, the spring of the lower sash will be drawn in, and made to relieve said sash, and by turning the hub in the opposite direction the spring of the upper sash will be drawn in, in like manner.

Claim.—The two spring frames A and B, combined in a single case, provided respectively with springs A^1 and B^1, and bolts A^2 and B^2, the yoke of each bolt extending back to the follower or armed hub D, which has its bearings in the side projections C and C′, and operating by the rotation of the spindle H, so as to withdraw either of the bolts, substantially in the manner herein set forth.

79,526.—Gustav Wedekind, Philadelphia, Pa.—*Lamp Shade.*—June 30, 1868.

Claim.—A lamp shade clasp, stamped out in a disk form, in one piece, and with radial arms, which are bent into position to hold the shade to itself, and itself to the glass chimney, substantially as herein described and represented.

79,527.—James Wilson, Chester, Pa., assignor to A. H. Simon, Philadelphia, Pa.—*Check Valve.*—June 30, 1868.—The valve has a projecting arm, terminating in a sphere, which rests in a socket formed by two projections cast in and constituting a part of the casing.

Claim.—The valve B, hung to projections *h*, in the casing, confined thereto by the screw cap *d*, and arranged for introduction into and withdrawal from the said casing, all substantially as and for the purpose herein set forth.

79,528.—Samuel Benson, Centralia, Ill., assignor to himself, James Benson, and John F. Benson, same place.—*Regulating Device of Millstones.*—June 30, 1868.—The springs are contracted by the action of the motive power when it exerts its greatest force in the more rapid revolutions of the driving shaft, and are expanded while the engine is passing the dead centers, thus applying the accumulated force to the propulsion of the spindle, when the speed of the driving shaft is slacked.

Claim.—The combination of the springs E E, the disk sections D D′, the pinion C, and the spindle A, arranged and operating substantially as and for the purpose herein described.

79,529.—Ira N. Bevans, Thomaston, Conn., assignor to himself, John H. Alcott, and George G. Griswold, Plymouth, Conn.—*Car Starter.*—June 30, 1868.—The draught bar acts upon a ratchet wheel keyed on the axle, to which the carrying wheels are made fast, the starting of the car being thus facilitated. A spring catch, movable by the driver's foot, secures the fixedness of the draught rod after the vehicle has started.

Claim—The lever B′, so constructed and applied as to act directly upon the ratchet wheel D, and employed in combination with the lugs E, sliding draught rod or bar H, chain F, pulley G, and catch *m*, arranged and operating in the manner and for the purpose explained.

79,530.—John B. Van Horn, Trenton, N. J.—*Clamp for Wood Bending Machines.*—June 30, 1868.—The wedge is forced by hand or driven under the flanges so as to clamp and hold the ends of carriage bows or felloes. The straight side of the wedge lies contiguous to the article to be bent.

Claim.—The clamp A, having angular flanges *e e*, in combination with the wedge B, when the same is constructed as described, and the whole operated substantially as described and for the purpose specified.

79,531.—G. W. Walters, Tiffin, Ohio.—*Clothes Sprinkler.*—June 30, 1868.—When it is desired to fill the sprinkler the drum is immersed in water, and the rod pressed on in order to open the valve and allow the air to retire before the water entering at the holes in the head.

Claim.—As a new article of manufacture, a clothes sprinkler, constructed as described, and consisting of a vessel A, having a perforated head, and provided with a hollow handle B, valve *c*, stem E *h*, and springs *s*, all arranged and operating as set forth.

79,532.—Charles Williams, Jackson, Miss.—*Attaching Handles to Mold Boards of Plows.*—June 30, 1868.—The lugs are cast upon the mold board, and are either cast around wrought-iron rods, which are threaded to receive the nuts, or cast solidly and drilled to receive bolts.

Claim.—The lugs *a a*, bolts *d d*, nuts *c c*, and handle *e*, the whole combined, arranged, and operated substantially in the manner herein shown and described, and for the purpose set forth.

79,533.—George Allen, Winchester, Mass., assignor to B. W. Conroy, Port Huron, Mich.—*Spoke and Felloe Connection.*—June 30, 1868.—The pin or tenon relieves the felloe of the pressure of the tire at the point where said pin extends through the tire from the metallic connecting device.

Claim.—The within described device, consisting of the tubular socket A, the transversely concave seat or rest B, the attaching arms C C, and the tenon or projection D, the latter being formed or cast with the metallic connection, and extending entirely through the felloe, in order to cause the tire to be supported by the said tenon D, substantially as and for the purpose set forth.

79,534.—George H. Mellen, Chicago, Ill.—*Baby Jumper and Cradle.*—June 30, 1868.—The doors of the bottom openings may be turned down so as to form a seat for the infant. When the doors are turned up and fastened the cradle is in condition to receive bedding.

Claim.—1. The cradle A, provided with the openings in the bottom *a a′*, made substantially in the manner and form and for the purposes described.

2. The cradle A, provided with openings in the bottom *a a′*, in combination with the adjustable slides *e e′*, and spring or springs B, constructed and made in the manner and form and for the purposes described.

3. The cradle A, and openings *a a′*, combined with the slides and adjustable spring or springs B, and movable platform C, constructed and made in the manner and form and for the purposes described.

79,535.—Henry A. Alden, Matteawan, N. Y., assignor to the New York Rubber Company, New York City.—*Manufacture of Vulcanized India-Rubber Balls.*—July 7, 1868.—A shot is imbedded in one of the sections of the ball before putting them together, and pressed into the material from the inside. The shot is then covered by a piece of India-rubber on the inside. When the whole is vulcanized the shot is cut out and a slit made in the piece of rubber underneath.

Claim.—1. The method of forming the valve for the admission and discharge of air into and from rubber balls, or other hollow articles requiring to be distended by inflation, substantially in the manner herein shown and described.

2. A vulcanized India-rubber ball, or other like hollow article, the aperture or opening in which, for the passage of air, is closed by an elastic valve piece, provided with a slit or valve opening *d*, and applied to the interior surface of the ball, substantially as herein set forth.

3. The employment, in connection with the chamber or opening formed in the ball, and the elastic valve piece, for closing said chamber, of a shot, or its equivalent, inserted in said chamber, so as to close the valve tightly, and prevent the entrance of dirt, as set forth.

79,536.—JOSEPH BELL ALEXANDER, Washington, D. C.—*Bottle Stopper.*—July 7, 1868.—Improvement on his patent of June 18, 1867. The staff is solidly vulcanized into the body of the stopper, the disk being firmly fixed at the top, and the hooks are so imbedded as to prevent the turning of the staff.

Claim.—1. The combination of the staff A and disk D with the rubber body F, when united by the process of vulcanization, substantially as described, and for the purpose set forth.

2. In combination with the above, the device composed of the button G and the string H, for attaching the stopper to the neck of the bottle, substantially as described, and for the purpose set forth.

79,537.—THOMAS ALSOP, Elkhart, Ill.—*Mill Spindle Spring.*—July 7, 1868.—A pinion wheel is united to the spindle by means of a coil spring, one end of the same being held by a stump or projecting pin on the upper face of the pinion, and the other by a removable bolt passing through the spindle, the object being to prevent injury from the "backlash."

Claim.—The spindle C and pinion D, in combination with the spring C′, when the same is connected with the spindle and pinion by means of the projecting pin *c*′ and removable bolt *c*″, and the whole is constructed and arranged substantially as and for the purpose specified.

79,538.—JOHN R. ANDERSON, Brooklyn, N. Y.—*Fog Alarm.*—July 7, 1868.—A trumpet arranged within a hollow cylinder is acted upon by compressed air by means of a hollow plunger operated by a crank and pitman.

Claim.—The arrangement of the trumpet or horn B and hollow plunger C, relatively to each other and with the cylinder A, substantially as herein described and for the purpose set forth.

79,539.—CHARLES J. ARLINGTON, Auburn, N. Y.—*Harvester Rake.*—July 7, 1868.

Claim.—1. In a combined "reel rake," the arms of which are hinged to a head, moving around an axis nearly perpendicular to the platform, the rake heads so hinged to their arms, and combined with springs, that their teeth shall be retained in a position nearly parallel to the platform in reeling, in combination with mechanism under the control of the operator, so that he can bring their teeth to a vertical position at pleasure, for the purpose of raking, substantially as described.

2. The combination, substantially as described, of a continuous, fixed cam way for guiding the rake and reel arms, and a second movable cam, which, when raised by the attendant, forms a guide way outside the first track for controlling the rakes.

3. The spring L, in combination with the arms I, for the purpose of keeping the wings M in proper working position, substantially as described.

4. The spring P, as combined with the rake N and wing M, for the purpose of keeping the rake out of the way of the grain in the process of reeling, substantially as described.

79,540.—JAMES ARMSTRONG, Bucyrus, Ohio.—*Garden Implement.*—July 7, 1868.—The handle enters an eye in the frame and is held by a wedge, and when used as a rake the handle is placed through the eye in the frame, so as to lock the lower roller.

Claim.—The sliding of the handle A through the eye of the frame B, so as to lock the lower roller C, by coming in contact with the teeth of said lower roller, in combination with all the other devices aforesaid, as herein described for the purposes set forth.

79,541.—G. W. R. BAYLEY and JOHN MCCLUSKEY, Algiers, La.—*Railroad Car Ventilator.*—July 7, 1868.—For opening or adjusting at any desired angle, or closing, by one motion, all the raised roof windows of railroad cars, &c.

Claim.—The arrangement of the connecting rods D and D^2 with the connecting rods F and F^2, forming a series of operating mechanism for opening and closing the windows, in the manner and for the purposes described.

79,542.—S. BESSER, Dorchester, Ill., assignor to himself and JAMES DRAPER, St. Louis, Mo.—*Churn.*—July 7, 1868.—The spiral groove, in connection with the guiding pin, imparts a combined rotary and reciprocating motion to the dasher.

Claim.—The dasher rod C, when provided with a spiral groove, c^1, and combined with the wheel A and connecting rod B, and engaged by the pin c^2, so as to produce a combined motion, as set forth.

79,543.—THEODORE F. BIGELOW, Boston, Mass.—*Vegetable Server.*—July 7, 1868.—A stand for holding dishes, and capable of being rotated.

Claim.—The apparatus above described, consisting of the base A, the top B, the rollers C, and a journal, arranged and operating substantially as described, when the same is made portable so as to be used on an ordinary table.

79,544. — WILLIAM BRANAGAN, Burlington, Iowa.—*Steam Generator.*—July 7, 1868.

Claim.—1. The fire chamber A, terminating in a gas chamber A′, and with a curved top plate, in combination with the horizontal flues *a a*, and with the bent or angular water pipes D, and with the outer case or water jacket C, the said pipes D being inserted into the jacket by horizontal branches at points below the gas chamber and below the first horizontal flue *a*, and the several parts being constructed and arranged together, substantially as described.

2. The angular water pipes D, arranged directly in line with the flues *a a*, and inserted into the outer case or jacket C, and applied in the space G all around the case C, and below the crown sheet A′ of the fire box or chamber, all substantially in the manner and for the purpose described.

3. A double-wall air-heating jacket, E, applied to a steam boiler, substantially as and for the purposes described.

79,545.—J. S. BRIDGMAN and EDWIN G. WELLMAN, Brockport, N. Y.—*Gas Burner.*—July 7, 1868.—The several currents of air are caused to impinge on each other, and concentrate so as to expand laterally at right angles to the plane of the nipples in a broad thin sheet.

Claim.—The branched burner A A, provided with the vertical nipples *a a*, and horizontal nipples *a′ a′*, arranged as described, and operating in the manner and for the purpose specified.

79,546.—EDWIN G. BULGIN.—Vienna, N. J.—*Cheese Safe, Gauge, and Cutter.*—July 7, 1868.—A device for the use of retail dealers, to facilitate the cutting up of the cheese and estimating more accurately the weight of the piece to be cut off.

Claim.—1. The sliding doors G and H as arranged and combined with a rotary bottom and a cutting apparatus, for the purposes set forth.

2. The arrangement and combination of the cutting knife K, hand lever *d*, regulating screw *f*, with a cheese safe, as described, for the purposes herein set forth.

3. The graduated scale or index plate L, the sliding plate M, with its index finger *e* and the marker *i*, as connected with a cheese safe, for the purpose set forth.

79,547.—William D. Burgess and George W. Zeigler, Maumee, Ohio.—*Plow.*—July 7, 1868.—The standard is hollow, and provided with side flanges on the top to receive the beam, and an eye in front for attaching the draught rod, and also with a tapering point for receiving and holding a shovel blade and two laterally projecting wings.

Claim.—1. The standard C, constructed with a draught eye, *c*, parallel flanges c', lugs *g g*, and a point C', adapted for receiving and having secured to it the shovel plate J, and laterally projecting hilling wings G G, substantially as described.

2. The clevis E, constructed with an eye *e*, upon its front end, and also with a flanged slotted segmental portion *i*, upon its rear end, substantially as described.

3. The stand K, constructed with a slotted foot-piece, and a segmental elevation, the latter having recessed flanges formed upon it, substantially as described.

4. Securing the handle-support K to the beam A by means of the screw or bolt *o*, which is used for securing the standard to said beam, substantially as described.

79,548.—S. E. Chubbuck, Boston, Mass., assignor to J. H. Chadwick, same place.—*Machine for Making Tin-Lined Lead Pipe.*—July 7, 1868.—An annular partition made stationary with reference to the cylinder, divides the space within the cylinder and around the mandrel proportionately to the required relative thickness of the two metals to compose the pipe. The two parts of the ram or follower are firmly secured to each other while the partition is secured to the cylinder.

Claim.—1. The combination of the annular fixed partition D with the cylinder, ram, and die, when all are arranged in relation one to another, as and so as to operate in the manner described.

2. The construction and adaptation, one to the other, and to the mandrel, of the ram and annular partition D, as shown and described.

79,549.—S. E. Chubbuck and J. H. Chadwick, Boston, Mass., assignors to J. H. Chadwick.—*Machine for Making Tin-Lined Lead Pipe.*—July 7, 1868.—The fused metal for the exterior of the pipe is poured into the cylinder, and forms around the casing; the latter is then drawn out and the metal for the interior of the pipe is poured in, after which pressure is applied.

Claim.—The combination of the annular reciprocating casing *d*, with the ram, cylinder, and die, when all are arranged, relative one to the other, as and so as to operate in the manner described.

79,550.—E. C. Cochrane, Buffalo, N. Y., assignor to himself and J. B. White, same place.—*Guard Fastener for Doors.*—July 7, 1868.—Attached to the door, and engaging with a rod or bar hinged to the jamb, is a bracket arm so arranged that when the arm shall have traversed the length of the bar, the same will act as a stop to prevent the further opening of the door.

Claim.—1. The combination of a hinged bar attached to the jamb, and an arm attached to the door for engagement with each other, substantially as and for the purpose set forth.

2. The slot *c*, of the hinged bar, enlarged at its inner end, to permit the disengagement of the arm from the rod only when the door is closed.

79,551.—John F. Coddington, Bound Brook, N. J.—*Harvester.*—July 7, 1868.—The sickle-driving system of gearing is arranged wholly in front of the axle, for greater compactness and efficiency in operating the sickle. The sickle is prevented from slipping longitudinally from the finger bar when the latter is in a vertical position by a transverse sliding piece in a guide at the inner end of the finger bar.

Claim.—1. The arrangement of shaft c', carrying the bevel-pinion c^{*}, and spur-wheel *d*, and the shaft *f*, furnished with the spur-pinion d^{*}, and crank f' at that part of the main frame in front of axle, and between the wheels B^{*}, and operating in connection with the bevel-wheel *c*, on the axle, and the pitman f^{*} of the sickle, substantially as and for the purpose specified.

2. The elbow-lever *m*, constructed with a spring or yielding arm, m^{*}, for operating the sliding-clutch wheel *d*, substantially as set forth.

3. The arrangement of the elbow lever *m*, circumferentially-grooved hub *i*, of the bevel-wheel *c*, lever *r*, and standard *s*, substantially as and for the purpose specified.

4. The transverse sliding piece *z*, arranged at the inner end of the finger-bar c^{*}, and in relation with the sickle C, substantially as and for the purpose specified.

79,552.—Mrs. Lois A. Collard, Plainview, Minn.—*Quilting Frame.*—July 7, 1868.—The sides and legs of the frame are provided with hinges to enable it to be compactly folded when not in use.

Claim.—The combination of the hinged sides A A and their cogs with the four hinged legs B B, having two staples on each, through which passes a pin, as and for the purposes set forth.

79,553.—Benjamin P. Crandall, New York, N. Y.—*Velocipede.*—July 7, 1868.—Designed as an improvement on patent of Crandall and Conover, dated April 2, 1861. The tubular supports are secured to the seat by a flange. The lever is hung on the support, so as to be free from wearing or rubbing. The handles are held in position by a screw passing through the tubular support.

Claim.—1. In velocipedes, the combination, with the operating lever J, of the tubular support K, constructed of a hollow tube, K, having flanges R and the independent screw L, as applied to the seat I, in the manner and for the purpose specified.

2. As an improvement in the mode of operating the steering apparatus of velocipedes, the parallel rods E, having one end pivoted to the axle of the forward wheels D, and the other end to the yoke F, whereby the said yoke and axle always move parallel to each other, substantially as described.

79,554.—Charles M. Cresson, Philadelphia, Pa.—*Preserving Wood.*—July 7, 1868.

Claim.—1. The employment of heated air or other heated fixed gas, for the purpose of volatilizing or assisting in the volatilization of coal-tar, resin, or other oleaginous or volatile substances, or of carrying or transferring the vapors of coal-tar, resin, or other oleaginous or volatile substances, when thus or otherwise produced, to a chamber or receptacle, in order to be used therein in expelling the moisture from timber or wood, or seasoning the same, or in saturating the same with vapors as a preservative against decay or rot, substantially in the manner and for the purposes above set forth.

2. The seasoning or preparatory treatment of wood or timber by the method above described, in which the temperature of the vapors is elevated to a point above the temperature of the chamber containing the wood or timber, and the temperature of the wood or timber is, in cooling, allowed to fall more rapidly than that of the vapors, substantially in the manner and for the purposes hereinabove mentioned.

3. The treatment of railroad-ties, piles, and other timbers, by vapors, as above mentioned, in combination with the subsequent application of a hot bath of carbolic acid, or of petroleum oils, or of paraffine or other protecting substance, or as a preparatory treatment for the application of metallic or earthy solutions, substantially in the manner above described.

4. The arrangement and combination of the coil, distilling-vessel, and wood-chamber above mentioned, the whole being constructed and operating substantially in the manner and for the purposes aforesaid.

79,555.—Rowland Cromelien, Washington, D. C.—*Car Axle.*—July 7, 1868.—The axle is made in two parts, which inclose a bolt or rod secured by nuts on the inside, the bolt being surrounded by a spring, so as to admit of the wheels running around sharp curves.

Claim.—The construction of the swelled axles A A' when made hollow, and with inner shoulders and nuts $a\,a'$, and inclosing the bolt D, with its spring E E, all as arranged, and combined with the outer clamps as and for the purpose set forth.

79,556.—Alexander H. Damon and James Whitaker, Lowell, Mass., assignors to Eaton & Ayer, Nashua, N. H.—*Shuttle for Looms.*—July 7, 1868.—The top of the shuttle around the cavity is countersunk to receive the curved plate, sufficient room being left to allow the passage of the filling thread, and leaving a space for the projecting arm of the forked stud. The bushing allows the curved plate to be turned to adjust the stud for regulating the tension on the filling without raising or lowering the plate.

Claim.—1. The forked stud, constructed substantially as described, and combined with a plate, *a*, and applied to the slotted-eyed shuttle, for the purpose set forth.

2. The slotted curved plate *a*, in combination with the screw 10, the forked stud, the bushing *v*, and the shuttle, for the purpose and substantially as described.

79,557.—Alexander M. Damon and James Whitaker, Lowell, Mass., assignors to Eaton & Ayer, Nashua, N. H.—*Shuttle for Looms.*—July 7, 1868.—The eccentric stud and its plate are to be used when changes in the tension on the filling are required. The plate is slotted on a curve, and with the eccentric stud connected may be turned round a greater or less part of a revolution, and by the eccentricity of the stud the line of draught is changed to increase or diminish the tension on the filling.

Claim.—1. In combination with the guide pins at the sides of the eye of the shuttle, the concentric plate, supporting stud *b*, and plate *a*, which covers the slot *c* in the side of the shuttle, in the manner and for the purpose described.

2. The plate *a* and eccentric supporting stud *b*, when arranged and combined with the slotted-eyed shuttle for the purpose and substantially as described.

3. The combination, with the slotted-eyed shuttle, of the plate *a*, the plate being arranged over and serving as a cover for the slot.

79,558.—Albert Ludwig Georg Dehne, Halle-on-Saale, Prussia.—*Machine for Filtering and Refining Sugar.*—July 7, 1868.—A combination of devices whereby the juice or semi-fluid is made to enter the chambers of the filtering press at their lowest parts by means of a canal formed by pockets and apertures in the frame. A canal in the lower part of the frames serves to introduce the juice and also to draw off what remains of the latter when filtration ceases.

Claim.—1. The combination, with the filtering chambers or spaces formed by and between the frames C C′, of the inlet-pipe A, arranged by or in connection with pockets B and canal *r*, formed by apertures, *a*, in the sides of the pockets and holes in the frames, to introduce the juice or fluid at or to the lower parts of the chambers *m*, substantially as specified.

2. The swinging or movable pockets B, having apertures, *a*, through their sides, in combination with the frames C C′, having holes therein to form a continuous channel, *r*, essentially as shown and described.

3. The canal *r*, in the lower part of the frame of a filtering apparatus, formed by the pockets and holes in the frame as described, in combination with the cocks *f′* to the spaces *e* of the frames, cock *g*, water-cock *h*, canal *i′*, with its branches *k*, substantially as and for the purpose or purposes herein set forth.

4. The combination to form a filtering cloth between the frames of the press, of adjacent sheets or layers of cotton cloth and linen trellis, as herein set forth.

79,559.—William B. Durant, Cambridge, Mass.—*Water Meter.*—July 7, 1868.—The inventor says: "The principle on which my invention is based consists first in dividing the water, so as to obtain a certain aliquot portion of the whole, and next measuring that part. The part taken for measurement we will consider to be one-sixteenth of the whole which may pass through the meter."

Claim.—1. The combination of the receiving chamber B, provided with a series of discharging tubes, *b*, as described, the pan C, the chamber F, the discharging tube *h*, the receiver E provided with a pipe to discharge into the chamber F, and one or more tilting vessels, H, placed underneath or below the tube, and to operate as described.

2. The combination of the above, and mechanism, substantially as described, for effecting the intermittent rotary motion of the receiver E, as and for the purpose described, such mechanism being the projections *p q*, the shaft *l*, 'scape-wheel *m*, escapement *n*, and arm *r*, the whole being substantially as specified.

3. The combination and arrangement of the box I, provided with an orifice, *s*, with tilting vessels H and K, combined and to operate with the chamber B, its tube *b*, the pan C, the chamber F, and the receiver E, in manner substantially as described.

3. The combination and arrangement of the auxiliary tilting vessel G and its induction tube *g*, with the vessel H, the pan C, the space or chamber F, the receiver E, and the chamber B provided with the series of discharge tubes *b*, to operate as described, the vessels G and H being fastened together, so as to move simultaneously and in the same manner, as and for the purpose explained.

79,560.—George W. Emerson, Chicago, Ill.—*Temporary Binder.*—July 7, 1868.—A strip of steel-tempered hoop-skirt wire is attached to the back edge of each lid of a common music port folio, and pressed upon the papers by means of a needle and cord.

Claim.—The steel-tempered hoop-skirt wire C, or other suitable material, in combination with the fastenings D, one or more, or equivalent, the needles F, and the cords E, one or more, substantially as and for the purpose set forth.

79,561.—James Emerson, Lowell, Mass.—*Dynamometer.*—July 7, 1868.—The rim of the pulley is connected to the indicating arm by means of chains, a collar and screws. The chains pass over sheaves or the end of a spider which is rigidly secured to the shaft and acts as a fulcrum for the connection of the rim of the pulley to the indicating arm. A piece above the index is made to swing out to hold up the ball when necessary. A spring at the lower end of the index prevents the arm from passing by unless pressed back. The amount of power used is obtained by multiplying the amount shown by the indicator by the speed of the pulley, to give the foot-pounds per minute.

Claim.—1. Connecting the rim of the pulley C to the automatic indicating arm *h*, when constructed substantially as described for the purpose named.

2. The arrangement of the stop *o*, in connection with the forked ends of the spider E, so that the pulley C will be clutched to the spider when the arm *h* is raised as described, for the purpose of taking the end pressure from the shaft, and to save the dynamometer from useless wear.

3. Making the collar *d* oval in form, to prevent its resting on the neck of the collar *f*; also chambering it as shown, to hold packing for the purpose of constantly lubricating the neck of the collar *f*.

4. The arrangement of the screws *j j* and *x* with nuts, each side of the eye bolt *k*, and the holders *t*, that the connecting chains may be properly adjusted in length.

5. The spring *v*, for the purpose named.

6. Pivoting the eye bolt *k* in the arm J, in the manner and for the purpose substantially as described.

79,562.—James Emerson, Lowell, Mass.—*Dynamometer.*—July 7, 1868.—The invention consists in applying the principle of the platform scale to the driving pulley of a machine in such a way as to enable any one to weigh the power used thereby, the pulley being the platform; the power used, the load.

Claim.—1. Connecting the rim of the driving pulley C, placed loosely upon the shaft E, to the weighing scale, in the manner and for the purpose as set forth.

2. Supporting the driving pulley C upon the shaft by means of the screws *d d*, as and for the purpose set forth.

3. The connecting links I, supported upon the knife edges *i i*, as and for the purpose as set forth.

4. The spring *t*, connecting the fulcrum bar with the driving pulley, when used as and for the purpose described.

5. In combination with the driving pulley C, fulcrum bar D and weighing scale, when connected and operating as and for the purpose described.

79,563.—Harrie Evertt, New York, N. Y.—*Hydrocarbon Burner.*—July 7, 1868; antedated February 8, 1868.—The upper segment of the combustion chamber forms a hollow longitudinal chamber into which is conducted either steam or atmospheric air, which, becoming superheated, is discharged through openings into the burning mass below. The burner plate is formed with corrugations or hollow ribs, open wider at the bottom than the top so as to serve as air channels and alternate burner grooves.

Claim.—1. A liquid-fuel furnace, constructed substantially as described, and as and for the purposes specified.

2. The combustion chamber B, in the form of an elongated semicircle, constructed of fire-proof material, and supplied with the rarefying chamber *b* and the pipe or pipes *c*, for admitting air or steam thereto, the whole forming the upper portion of a liquid-fuel furnace, in combination with the corrugated and slotted burner plate A, forming the base thereof, the whole arranged substantially as and for the purposes specified.

3. The refractor *e*, for dividing and distributing the jets of steam or currents of air, arranged substantially as and for the purposes set forth.

4. The mode, herein described, of admitting and employing liquid fuel, air, and steam through and upon the burner plate A, together with superheated air or steam admitted through the rarefying chamber *b*, for the purpose of facilitating the combustion of said fuel, the whole arranged substantially as described.

79,564.—Michael G. Fagan, Troy, N. Y.—*Construction of Sheet Metal Coal Hods.*—July 7, 1868.—The sides of the hod taper to the front in somewhat a wedge form, and the rear end is circular. A separate opening is made in the top to fill the hod.

Claim.—A coal hod or scuttle, made in the manner and for the purpose set forth in this specification.

79,565.—Orlando V. Flora, Madison, assignor to himself, George Shannon, and D. C. Robinson, Jefferson County, Ind.—*Carpenters' Vise.*—July 7, 1868.—The enlarged vertical opening in the rear of the brace permits the ready engagement and disengagement of the ratchets. The brace is pivoted to the saddle piece and attached also to the lower end of the movable jaw.

Claim.—The combination of the saddle piece G with the short ratchet on the end of the brace H, having the vertically slotted opening in the said ratchet brace, thus rendering the disengagement of the ratchets *c* and *d* automatic, when the article clamped is released, substantially as specified.

79,566.—Orlando V. Flora, Madison, assignor to himself, George Shannon, and D. C. Robinson, Jefferson County, Ind.—*Vise.*—July 7, 1868.—The screw passes loosely through a washer supported on journals in the loose jaw and turns in a box or nut in the fast jaw. The lugs or journals on the lower end of the loose jaw admit of the ready adjustment of the latter to pieces with either parallel or beveled sides.

Claim.—1. The combination of the jaw B, vibrating washer E, and screw D, all constructed and arranged substantially as described.

2. The jaw B, with lugs G, on the lower end of its shank, in combination with the supports F and gib *n*, all constructed and arranged substantially as described.

79,567.—Alfred C. Garratt, Boston, Mass.—*Galvanic Battery.*—July 7, 1868.—The frames of two or more series of bars are hinged together, and the two series are connected by a chain, so as to enable the whole to be easily folded for transportation.

Claim.—1. The said battery as constructed with the bars so arranged that there shall be a narrow open space, as described, on each side of every bar, and with the bars of each pair of dissimilar metals insulated by means as described, and the several pairs connected by metallic connections at their ends, the whole being substantially as hereinbefore explained.

2. The formation of one of the bars of each pair, with projections or abutments extended from it at or near its ends, such being substantially as and for the purpose described.

3. The combination of two batteries by hinges and a chain, or its equivalent, as described, the whole being as and for the purpose specified.

79,568.—Benjamin F. Graves, Groton, Mass.—*Teat Cup for Milking.*—July 7, 1868.—The upper portion of the teat cup, embracing the udder, and the under portion of the same, are made of some inelastic material, while the middle portion, embracing the teat, is of an elastic or compressible material.

Claim.—A teat cup, to be used in milking cows, constructed and operating substantially as above described.

79,569.—Elias J. Hale, Foxcroft, Maine.—*Lantern.*—July 7, 1868.—The lantern case is made with two doors, one above the other, the chimney or the air deflector being supported on the inside of the upper one.

Claim.—1. The combination of the glass chimney and air deflector, or either, with the door, so as to be capable of being moved with and by it, with respect to the lamp, in manner as described, when such lamp is in the case.

2. The lamp as made quadrantal in form, and hinged at its radial centre to the lantern case, as set forth.

3. With the lamp and its chimney, applied to separate doors of the lantern case, the arrangement of either door so as when closed to lap on and keep the other closed, as specified.

79,570.—William Harvey, Volga City, Iowa.—*Sulky Cultivator.*—July 7, 1868.—An arrangement of parts by which the shovels are capable of being dodged, elevated, and adjusted by the driver while in his seat, the inner shovels being adapted to throw the dirt either toward or away from the plants.

Claim.—1. The combined arrangement of the shovels F F′, supporting chains I I′, perforated straps J J′, and wooden pins *j*, the rock bar K $k\,k^1$, elevating chains L L′, and treadle M *m*′, and the dodging chains O, and treadles N, all as represented and described, for the purpose set forth.

2. The hooks P P′ employed, in combination with the inner shovels F F, to adjust said shovels relatively to the row, substantially as and for the purpose specified.

79,571.—John W. Hewitt and George R. Lynch, Alleghany City, Pa.—*Furniture Caster.*—July 7, 1868.—Caster wheels attached to supports passing through fixed guides attached to the legs of the frame are raised by cams operated by levers and connecting links to raise the frame from the floor.

Claim.—The combination of the eccentric cams G and connecting links I with the supports D, guides E, wheels C, and frame legs S, when arranged and operating as and for the purpose set forth.

79,572.—Alonzo Hitchcock, New York, N. Y.—*Treadle for Machinery.*—July 7, 1868.

Claim.—1. The use of two connecting rods, for driving sewing machines or analogous machines, when the two connection rods form the two legs of a triangle, the crank pin being the apex of said triangle, and when the two other ends of the connection rods that form the legs of the triangle unite with two separate treadles or levers, to operate substantially as set forth.

2. The use of two independent treadles or levers to revolve a crank shaft or wheel, when the two treadles are connected to the same crank pin by two connection rods, substantially as herein set forth.

79,573.—George W. Ilgenfritz and Michael Schall, New York, N. Y.—*Oil Tank Car.*—July 7, 1868.—The car bed which receives the oil reservoir is so arranged that the weight of the liquid will be brought in close proximity to the road in order to lessen the danger of the car running off from the track.

Claim.—1. A metallic tank B for railroad oil cars, formed by bellying a cylindric tube midway between its ends and on its lowest side, and furnishing this tube with heads, a small filling gauge, passage or passages, a safety dome and discharge passage, which latter is at the convergent point of the bellying or lowest portion of the tank, all substantially as described and for the purpose set forth.

2. The construction of the car bed or platform, so as to receive the tank or reservoir B between its sills G and upon chairs *g g*, which are located below the top of said bed or platform, substantially as described.

3. A railroad oil tank car bed, having a depressed tank B upon it, and inclined brace and stay pieces C C applied to its ends, substantially as described.

79,574.—C. A. Johnson, Des Moines, Iowa.—*Culinary Vessel.*—July 7, 1868.—Steam is conducted from the lower pot to the top of vegetables or other articles in the upper.

Claim.—The pots A and B, fitted together, and connected by means of the spout F, pipe E, and covers C and D, when used substantially as and for the purpose set forth.

79,575.—Samuel Johnston, Syracuse, N. Y.—*Harvester.*—July 7, 1868.—Relates to a mode of adjusting and sustaining the platform of reaping machines for different heights of cut.

Claim.—1. The combination of the grain wheel, bracket, ratchet, and spring pawl, for raising and lowering the outer end of the platform.

2. The combination of the bent lever, slotted wedge, and hinged tongue, for tilting the platform and cutting apparatus.

3. The combination of an adjustable grain wheel, a platform, and gear frame, movable perpendicularly up and down on the main axle plate, and a hinged tongue and lever for tilting the platform and cutting apparatus.

4. The employment of a double cam way or track provided with a movable switch, adapted to be moved by the revolving rake and reel arm for changing the path of said arm.

5. The eccentric lever *x*, or its equivalent, for operating the movable cam way, substantially as described.

79,576.—Harris Keeney, Danville, and Charles H. See, New Florence, Mo.—*Corn Planter.*—July 7, 1868.—The holes in the bottom of the hopper are opened and closed by the reciprocating motion of a sliding bar operated by means of a lever, spring, and lugs, the latter being attached to one of the wheels. The caster wheel serves to regulate the depth of the plows.

Claim.—1. The combination and arrangement of the devices D D′ d d^1 d^2 d^3, for dropping the seeds, substantially in the manner herein shown and described.

2. The caster wheel B^1, the lever F, and rack *f*, when arranged with reference to each other and to the frame A, as herein described, for the purpose of turning and elevating the front end of the machine.

79,577.—Joseph Kohler, Cincinnati, Ohio.—*Animal Trap.*—July 7, 1868.—The trap is elevated when set and imprisons the animal when it falls. The improvement relates to devices for maintaining the trap in its elevated position and allowing it to fall readily.

Claim.—The arrangement of the base or foot A and shaft B, with the sliding cage E, slotted sleeve D *d*, bearing point G, bait hook H *h*, and pivot I, or their equivalents, substantially as herein described, and for the purpose set forth.

79,578.—William Kroeger, Alleghany City, Pa.—*Spring.*—July 7, 1868; antedated June 24, 1868.—A flat bar of steel, having its ends welded together and formed into two equal arcs of equal circles, connected at their extremities by two parallels.

Claim.—A spring, constructed and operating substantially as herein described, and for the purpose set forth.

79,579.—Henry P. Lamson, Lowell, Mass.—*Sewing Machine.*—July 7, 1868.—Relates to an improvement upon a machine for which a patent was granted to H. J. Hancock August 6, 1867. A spring guide is secured to the under side of the cloth bed and serves to hold the thread and properly direct it, and also to close the hook upon the thread so as to prevent its point from catching in the cloth as the needle ascends.

Claim.—1. The guide piece *p*, formed with a spring thread-guide to yield against the pressure of the needle, and then to carry the thread athwart its path, and also with another guide piece serving to govern the path of the thread as well as to close the needle barb.

2. The spring guide *p*, in combination with the cloth table of a sewing machine, and with a flexible barbed needle, operating substantially as and for the purpose set forth.

79,580.—J. D. Leach, Penobscot, and E. S. Wardwell, Bucksport, Me.—*Cloak and Coat Suspender.*—July 7, 1868.—The device is of a shape to conform to that of the upper part of the human shoulders.

Claim.—The coat and cloak suspender E, when constructed of iron or other suitable material, and formed with its upper convexity of line, its backward horizontal curve from the ends to the center, its vertical curve, and the hook or loop *e*, formed relative to the body of the suspender, so that the center of gravity of the suspender and the garment hung thereon shall coincide, all substantially as described and shown.

79,581.—Alpheus Lewis, Virginia City, Montana.—*Quartz Mill.*—July 7, 1868.—The stamps are designed to be revolved at the instant of impact with the ore, so as more effectually to triturate and comminute the latter.

Claim.—The train of gear wheels E E E, in combination with the series of stamps D D D, whose stems, C C C, pass up through the eyes of the gear wheels E, and derive a constant rotation therefrom, substantially as and for the purposes set forth.

79,582.—Hiram G. Loomis, Hartford, Conn.—*Level.*—July 7, 1868.—The level is provided with sights at the ends of the frame, one of which can be raised and lowered, so that the sights will look in a line at a given inclination to a level line.

Claim.—A carpenters' or masons' level, having a folding leaf, A, furnished with a sight, *m*, at one end of the frame, and at the other a graduated slide, B, furnished with a sight, *n*, sliding vertically in grooves, to adjust it to different elevations, substantially as herein described.

79,583.—C. C. Lyman, Edinboro, Pa.—*Scale.*—July 7, 1868.—Designed for weighing one half of each car of a train separately on a short platform while in motion, and registering the same automatically, whereby the entire weight of the train is obtained without the necessity of stopping the same.

Claim.—1. The short platform B, when so arranged in relation to the weighing apparatus and car that the scale will be at rest and free when the wheels are not upon the platform, and so operating that each end of a car will be weighted and registered automatically while in motion over the platform, substantially as and for the purpose set forth.

2. The series of counter weights I and lifting shaft J, in combination with the beam D, substantially as and for the purpose set forth.

3. The lifting shaft J, slide and block N, in combination with the loops *a* and *b*, arranged and operating substantially as and for the purpose set forth.

4. The index wheels H G and lug wheel I, in combination with the cheek or lock A′, arranged in relation to each other, and operating substantially as and for the purpose set forth.

5. The loops *a′ b*, in combination with the index wheels G H, slide block N, and lifting shaft J, substantially as and for the purpose set forth.

79,584.—James R. Madison and Milan Thomas, Oneida, Ill.—*Wagon Pole.*—July 7, 1868; antedated June 30, 1868.—In an opening in the outer end of the ferrule is pivoted a ball into which passes a bolt through the center of the neck yoke, by which means the latter is made susceptible of several motions.

Claim.—1. Connecting the neck yoke E to the ferrule by means of the bolt H and the ball G, substantially as and for the purpose set forth.

2. The combination of the ferrule B, with its hook C, yoke E, ball G, and nut H, substantially as and for the purposes set forth.

79,585.—Seth W. Marsh, Rochester, N. Y.—*Water-Wheel.*—July 7, 1868.—The chutes of the case are so arranged as to render the sides elastic, in order to prevent their breaking; and the expansion and contraction of the chutes are regular, being in such proportion as best to concentrate the water upon the buckets.

Claim.—The partitions C, attached to the case B, and the portions D of the gate C, forming the vertical sides of the chutes k, when both are flexible, and free to yield at their inner ends, to allow the escape of obstructions, substantially as set forth.

79,586.—A. J. Martin, Catskill, N. Y.—*Hay and Manure Fork.*—July 7, 1868.—The shank attached to the tines is inserted in the handle in two or more detached parts. A screw thread is cut on the shanks so as to hold the fork firmly in the handle.

Claim.—The combination of the handle A, ferrule B, adjustable tines C C, screw o, and nut a, substantially as and for the purposes herein set forth.

79,587.—Ira W. Mead, Bridgeport, Conn., assignor to himself and Edwin W. Hanford, same place.—*Spike Drawer.*—July 7, 1868.—The parts are so arranged that the purchase or power is greatest at the beginning, and gradually diminishes, the length of motion being largely increased to expedite the drawing of the spike.

Claim.—The lever A, with the lifter B, the pair of levers C, and the spring b, constructed to operate substantially as herein described and set forth.

79,588.—Henry Mitchell, Osborn, Ohio.—*Corn Planter.*—July 7, 1868.—Within the corn box or hopper is an endless belt revolving vertically on rollers, having elevators for picking up the corn in any desired amount or number of grains, and a valve for compelling the elevators to discharge the corn through the tube beneath. Provision is made for regulating the operation of dropping the corn, and of the plows and roller.

Claim.—1. The construction of the belt H, elevators G G, rollers J and Q, and valve K, when arranged, combined, and operating as herein described and for the purpose set forth.

2. The shape and construction of the corn box A, with its chamber, B, in front, and discharge pipe C at the bottom of the chamber, substantially as set forth.

3. The rollers P, U, and S, belt R, shifting lever T, rollers Q and J, when arranged and operated as herein described and for the purposes set forth.

4. The arrangement of the plow V, with its adjustable lever W, brace chain X, scraper Y, and roller Z, when regulated and operated on the under side of the machine, as herein described and for the purpose set forth.

79,589.—George Mohler, Yates City, Ill.—*Sieve.*—July 7, 1868.—The feeder consists of a piece of hoop iron, or other similar material, attached at the lower ends to the sides of the box, the upper ends forming a point which projects into the bottom of the hopper to act as a feeder and regulator.

Claim.—The combination of the swinging and adjustable sieve H, and the conical-shaped feeder P, whose apex extends up into the slotted bottom of the hopper J, and operates with the box H' in the manner set forth.

79,590.—Eli Moneuse and Louis Duparquet, New York, N. Y.—*Stove Grate.*—July 7, 1868.—A locked lever is made to operate the catch that holds up the grate, in order to prevent the grate from falling in the operation of raking the fire.

Claim.—The lever h and catch L, applied substantially as specified, for sustaining the swinging grate.

79,591.—George W. Neill, Boston, Mass.—*Piano Forte.*—July 7, 1868.—The object of the invention is to so construct the metallic frames for supporting the strings that the bars may not come between them, to interfere with any desirable arrangement of them, and also to cover from view the main portion or bars of the iron frame.

Claim.—The combination of the wooden back frame B, the sounding-board C, and flanged plate D, with a separate metallic frame, A, arranged between the back frame and sounding-board, and made with flanges, to support the latter, and having no metallic bars or auxiliary frame to extend between the strings, the whole being substantially as described.

79,592.—W. H. Paige, Springfield, Mass., assignor to himself and L. O. Hanson, same place.—*Device for Connecting Dissimilar Hose Couplings.*—July 7, 1868.—Relates more particularly to a coupling for which patents were granted to Perkins and Hovey, September 10, and December 31, 1867.

Claim.—A connection for hose couplings, said connection consisting of a tube, terminating at its ends in devices corresponding with and adapted for attachment to dissimilar hose couplings or connecting devices, substantially as described.

79,793.—Osker S. Perkins and John R. Richards, Mount Joy, Pa., assignors to themselves and Joseph H. Ferguson.—*Clothes-Line Holder.*—July 7, 1868.—The rim of the pulley wheel is formed into hooks, by taking circular or angular sections from it, and is used in connection with a notched eccentric.

Claim.—1. A pulley wheel, with hooks formed of its outer rim, or equivalent, in the manner shown, and for the purpose specified.

2. A hooked pulley wheel, all combined and arranged in the manner shown and specified, and for the purpose set forth.

79,594.—John S. Perry, Albany, N. Y., assignor to John S. Perry, trustee and executor, and Nathan B. Perry, same place.—*Base Burning Stove.*—July 7, 1868.—An enlarged chamber is formed which will allow of any required amount of draught, and an increased capacity of coal magazine with a comparatively narrow flue space surrounding said magazine. A portion of the heated products may be made to pass through and across the oven to the escape flue when desired.

Claim.—1. In a base burning magazine stove, wherein the products of combustion are carried directly upward from the fire pot, the flue chamber N, extending partly around and beyond the body of the casing I, substantially as described.

2. The laterally projecting flue chamber N, constructed with side divisions p' p', bottom division p, and deflecting plates s', and applied to a stove which is constructed upon the principle herein described.

3. An elevated oven, S, applied on top of the coal magazine H, in combination with a flue chamber, N, which projects beyond the body of the casing I, substantially as described.

4. Providing for exposing the outer portion of the bottom of the elevated oven S to the heated products of combustion, in combination with an extended flue chamber, N, and in a stove constructed substantially as described.

5. Providing an oven, S, with a register, r', and opening r, when employed in combination with an extended flue chamber, N, arranged as described.

79,595.—Fielder Power, St. Louis, Mo.—*Brick Kiln.*—July 7, 1868.—A series of long narrow chambers, arched over the top with brick walls and floored with iron plates, beneath which are smoke passages in all but one compartment, which is to be used as the kiln proper, while the others are only drying chambers. Turn tables are arranged to pass the platforms from one chamber to another.

Claim.—1. The kiln A, and drying chambers A^1

A^2 A^3, when combined and arranged as herein shown and described.

2. The turn tables F F^1 F^2, when combined with the drying chambers and kiln, as described and set forth.

79,596.—William H. Prouty, Hanson, Mass.—*Combined Card and Brush.*—July 7, 1868.—An ordinary brush with one-half of the bristles removed and metal teeth or card in place of the same, for grooming and cleaning animals.

Claim.—The combination of the card or comb and brush in one instrument, to be used together at the same time, for the purposes specified.

79,597.—Silas S. Putnam, Dorchester, Mass.—*Attaching Door Knobs to their Spindles.*—July 7, 1868.—A screw passes through the outer end of each knob into the end of the spindle, serving to unite the knobs together, and also to adapt the same to the thickness of the door.

Claim.—The regulating screw *b*, in combination with the knob A and spindle B, substantially as described, for the purpose set forth.

79,598—N. A. Rand, Winslow, Ill.—*Cultivator.* July 7, 1868.

Claim.—The arrangement of the pivoted bars C C (that connect with the cultivator beams DD) and the movable seat bar K, between the axle and the frame piece I, whereby the operator can shift the shovels by the action of his feet, the several parts being constructed to operate substantially as set forth.

79,599.—John Reakirt, Philadelphia, Pa., assignor to himself, Daniel Phreaner, and Tryon Reakirt, same place.—*Putting up Alkalies.*—July 7, 1868.—The inner surface of the jar or case and the disk or plate is glazed. The cement is composed of beeswax, rosin, powdered brick, and German Burgundy pitch.

Claim.—Packing caustic alkalies in a glazed jar or case, A, having a shoulder or flange, *a*, to support the disk or plate B, when the whole is hermetically sealed with the cement herein named, substantially as described, and for the purpose specified.

79,600.—Christian F. Riley, Philadelphia, Pa., assignor to himself and Jacob P. David, same place.—*Track Clearer for Railroads.*—July 7, 1868.

Claim.—A life and limb protecting track clearer for railway cars, consisting of a foot, A, and leg *a′*, constructed and applied in front of the wheels, so as to move upward and downward in the vertical direction described, from any unevenness of the track during the forward motion of the car, and so that its forward end may underrun and turn aside the limbs or body of a person fallen or lying upon the track, substantially in the manner described.

79,601.—Frederick O. Rogers, Niles, Mich.—*Preserving Composition Roofs.*—July 7, 1868.—A ledge or barrier is formed on the outer edge of the roof containing the composition, and roof and composition are then covered with some porous material saturated with water.

Claim.—The within-described method of preserving cement and composition roofs, substantially as set forth.

79,602.—Theodore Salorgne, St. Louis, Mo., assignor to Jacob Woodburn.—*Wagon and Carriage Wheel.*—July 7, 1868.—Screw wires, of an unchanging diameter throughout their length, are passed through the felloe at either side of the spoke to prevent the felloe from splitting when the spokes are inserted into the mortises.

Claim.—The felloe, perforated transversely at one or both sides of each spoke mortise, and the screw-protecting wires inserted in these perforations, when constructed as herein described and for the purpose set forth.

79,603.—Sylvanus Sawyer, Fitchburg, Mass.—*Callipers.*—July 7, 1868.—Improvement upon his patent dated April 9, 1867. The joints of the legs are so constructed as to be slightly yielding toward and from each other, and the sector gears are forced inward upon the screw, so that the parts will be rigidly held together.

Claim.—Constructing the joints which connect the legs with the stock, so as to yield in the direction toward and from each other, in combination with the geared sectors, the worm or rack, and the clamping rod, spring, or other suitable means for clamping the parts together, substantially as described.

79,604.—Austin D. Shaver, Belleville, N. Y.—*Riding Attachment to Harrow.*—July 7, 1868.—Relates to a mode of attaching a sulky to harrows by which it is rendered adjustable, so as to accommodate it to harrows of different sizes, and by which the bearing on the harrow can be regulated.

Claim.—A riding attachment for harrows, made with adjustable seat H and pole B, curved downward at the forward end, and secured to harrow by swivel link *a*, and to frame by bolt and thumb screw *d*, and ropes E, friction rollers *i i i i*, with counter rollers beneath, as combined, arranged, and attached, for the use and purpose as specified and herein set forth.

79,605. — Alden Sibley, Pawtucket, R. I. — *Gearing.*—July 7, 1868.—Designed for use in a calico printing machine, provided with a series of printing cylinders each of which is to have placed on its shaft one of the pinions or a screw sleeve, to receive the shaft. By means of adjusting screws and nuts the pinion may be moved laterally with respect to the gear, in order to prevent "back-lash," as the teeth wear away.

Claim.—1. The pinion B and its gear A, as made with tapering teeth, as described, in combination with the pinion and its cylinder shaft, and means by which the pinion may be moved and adjusted lengthwise of the said shaft, and with respect to the fellow gear A, as and for the purpose of preventing "back-lash," as specified.

2. The arrangement and combination of the endless screw *f* and the worm gear *e* with the pinion B and its shaft.

3. The combination of the sleeve D with the pinion B, and the adjusting screw or screws *m n* and nuts *k l* thereof, for moving said pinion longitudinally of the sleeve, as set forth.

4. The combination and arrangement of the pinion B, the shaft C, the sleeve D, the adjusting screws *m n*, and nuts *k l*, and the worm *f* and its gear *e*, the whole being substantially as described.

79,606.—Robert A. Smith, Philadelphia, Pa.—*Railroad Track Cleaner.*—July 7, 1868.—The cone on the foot of the king bolt serves to operate and give more or less mold to the plow. A pinion standard is applied to the axle, its upper end being kept in position by guides, so as to conform to the springs of the car. Side guards are so arranged as to prevent snow, dirt, or ice from being thrown on the opposite track or upon passing vehicles.

Claim.—1. The combination of an adjustable main plow, composed of parts P and P′, and the mechanism for operating the same, so that the snow, dirt, or ice can be thrown to the right and left by one operation, or thrown entirely to the right or to the left, as occasion may require.

2. The king bolt K B and cone C, arranged substantially in the manner and for the purpose specified.

3. Arranging on the foot and back of the parts P and P′, constructed and operating as described, a series of brooms M M, with a forward inclination of the beard, for the purpose specified.

4. In combination with the brooms M M, arranged as set forth, the application of the springs S, for the purpose of keeping the broom beard constantly in position.

5. The arrangement of the standard Z and the guides G D, substantially in the manner and for the purpose set forth.

6. The mode of fastening the broom beard to the stay board S B of the broom cylinder, by means of a continuous hollow strap S I, as described.

7. The side guards S G and S G′, with their rods r, r^1, r^2, and r^3, for the purpose as described and represented.

8. The within railroad track cleaner, composed of

the above described parts, all combined, constructed, and operating in the manner and for the purpose specified.

79,607.—AMBROSE SPITZMILLER, Buffalo, N. Y., assignor to JOHN S. PERRY, trustee and executor, and NATHAN B. PERRY.—*Oven in Base Burning Stoves.*—July 7, 1868.—An oven is constructed over the coal magazine so that a portion of the bottom as well as the side wall of the oven shall be exposed to the action of the heated products of combustion on their way to the escape pipe. The oven is provided with openings through its side walls, one of which has a damper applied to it to conduct a portion of the heated products of combustion through the oven when desired.

Claim.—1. In a base burning stove, having an oven arranged over the coal magazine, providing for exposing a portion of the bottom of such oven to the action of ascending currents of heat, substantially as described.

2. An oven S, in combination with ascending flue *f*, and a coal magazine having its upper end contracted, substantially as described.

3. An oven S, in combination with the flue *f*, when used as a drum or dead chamber, and a coal magazine having its upper end contracted, substantially as described.

4. Providing the elevated oven S of a base burning stove with openings through its side wall, one of which openings has applied to it a damper *h'*, substantially as described.

79,608.—SIDNEY STANTON, Syracuse, N. Y.—*Machine for Sawing Stone.*—July 7, 1868.—A hollow standard is provided with a chamber in which is a beveled pinion. In the standard is a shaft having a universal joint at its lower end for connecting with a rubbing disk or a circular saw. The machine is pushed over the face of the stone as the work progresses, the operator turning the crank with one hand.

Claim.—The frame A, hollow standard B *b k*, gears E *e*, C *c*, shaft F *f g*, water box L, and chute *n*, all constructed, arranged, and operating in the manner shown, and for the purpose described.

79,609.—NATHAN STONECIPHER, Cambridge City, Ind.—*Track Clearer for Harvester.*—July 7, 1868.—Attached to the back of the dividing point is a crooked arm provided with a socket and cone-shaped tail piece, having at its small end a projection which fits into recesses at the front end of the sockets. The dividing point is also provided with an upright knife for cutting the tangled grass.

Claim.—The combination of the revolving cone D and socket C, when used as a track clearer, in combination with a grain or grass cutter, the whole being constructed, arranged, and operated substantially as above described.

79,610.—JOHN BLAKE TARR, Fair Haven, Mass.—*Machine for Polishing Spherical Shot and Shell.*—July 7, 1868.—The balls are retained, with emery or other suitable polishing substance, between cups which are applied to vertical shafts whose axes coincide and which revolve at different rates of speed, so that the balls will receive irregular or oscillating motions about their axes.

Claim.—1. The within described machine, which is adapted for polishing spherical shot and shells, substantially in the manner described.

2. The cupped polishing and centering devices G G', constructed, arranged, and operating substantially as described.

79,611.—JOHN BLAKE TARR, Fair Haven, Mass.—*Cast-iron Car Wheel.*—July 7, 1868.

Claim.—As a new article of manufacture, a car wheel, made of cast iron, condensed by pressure while in a molten state within a mold, substantially as and for the purpose described.

79,612.—E. P. TAYLOR, St. Louis, Mo.—*Apparatus for Hardening Stone.*—July 7, 1868.—The mixture of sand and silicate composing artificial stone is placed in a strong air-tight vessel, from which the air is then exhausted. The cylinder is then charged with the impregnating fluid, and to effect more perfect penetration a force pump is afterwards applied.

Claim.—The force pump D, with weighted piston *d'*, in combination with cylinder A, air pump B, and tank C, the whole being operated in the manner described.

79,613.—J. C. THAYER, Dunton, Ill.—*Milk Cooler.*—July 7, 1868.—A series of tanks are arranged one within the other, the inner one having openings communicating with the outer and inner tanks. The inner tank is made removable for cleaning. The pipe which conveys the milk to the can is closed by means of a drop valve, operated by a lever, in connection with a float attached to a stem.

Claim.—1. The combination of the tanks A B C, the latter tank being removable, and having a pipe, F, for the stem of the valve G to operate in, substantially as and for the purpose set forth.

2. The combination of the valve G, pipes F and P, lever H, and float K L, substantially as herein set forth and shown.

3. The combination of the tanks A B C, pipes F P, valves G, lever H, and float K L, constructed and arranged to operate as and for the purpose set forth.

79,614.—WILLIAM TRIPPS, Epsom, N. H.—*Wood Saw Horse.*—July 7, 1868.—An adjustable clamp arm is secured to its bar by means of notches fitting on a pin, and by a wedge. A pressure on the treadle causes the arm to hold the log securely while being sawed.

Claim.—1. The adjustable clamp arm *i*, as applied to the bar *h* by means of the notches *l*, fitting on the pin *m*, and as secured by the wedge *n*, substantially in the manner described.

2. The combination of the treadle *g*, rock shaft *k*, bar *h*, and arm *i*, constructed to operate as and for the purposes set forth.

79,615.—JOSEPH VALE, Beloit, Wis.—*Bake Oven.*—July 7, 1868.—The hearth is rotated by means of a spike or poker inserted in perforations adapted for the purpose.

Claim.—1. The rotating disk or hearth H, secured to and turning upon the shaft H, and the mode herein described of rotating the same, whereby expensive gear and pinions are dispensed with.

2. The crown plate or disk E, in combination with the fire grates C C, covers *b d*, flues *b b*, regulating damper *g*, flue or chimney *a a*, and ash boxes D D, when the whole are constructed and arranged substantially as herein set forth and described, to operate as specified.

79,616.—W. P. VALENTINE, Buffalo, N. Y.—*Refining and Purifying Spirituous Liquors.*—July 7, 1868.—Currents of cold and hot air are forced alternately through the liquor, so as to subject the same to agitation and to changes of temperature, the object being to obtain the advantages supposed to result from a sea voyage to spirituous liquors.

Claim.—1. The process of ripening, mellowing, and purifying spirituous liquors by the use of hot and cold air alternately, substantially as herein described.

2. The apparatus consisting of the tubs A and B, the chamber D, with pipe I, blower C, and pipe F, with its connecting or branch pipe G, for heating air, and pipes *c* and *e*, with concave disks *d* and *f*, for delivering air, whether hot or cold, near the bottom of the tubs A and B, the whole constructed and arranged to operated substantially as herein described, and for the purpose set forth.

79,617.—LEMUEL T. WELLS, St. Louis, Mo.—*Printing Press.*—July 7, 1868.—Relates to an improvement upon his patent dated March 20, 1855, and consists in adding a set of balancing springs to the movable platen, in order to counterbalance its increased weight, and so adapt the machine to large as well as small presses.

Claim.—The springs D, when arranged upon a rocking bar, *d*, and combined with the platen A', as herein described, and for the purpose set forth.

79,618.—MARTIN WELLS, New York, N. Y.—*Pointed Bracket for Lightning Rod.*—July 7, 1868.

Claim.—The new article of manufacture of brackets, by combining the discharging point with the bracket which secures the rod to the building, so that the discharging point is continuous with the bracket, substantially as described.

79,619.—Milton Woolley, Brooklyn, N. Y.—*Cooking Stove.*—July 7, 1868.—The oven is divided into two compartments which can be made to communicate with each other or the communications be closed, according to the different operations of cooking to be performed. Provision is also made for warming apartments adjacent to that in which the stove is located.

Claim.—1. The flue casing B C, provided with a direct draught damper, *i*, and inclosing oven chambers, which are separated by a horizontal plate, E, having a furnace, D, and valve openings applied to it, substantially as described.

2. Oven chambers, which are inclosed by a flue casing, B C, and doors C^1 C^2, and provided with a furnace, D, valves *e e*, and means for conducting off the vapors and gases rising in said oven chambers, substantially as described.

3. The outer jacket A, in combination with a furnace, D, and division plate E, arranged with a double wall flue casing, substantially as described.

4. The water heater *d*, applied within a furnace, D, which is sustained by a division plate, E, within a double wall flue casing, B C, substantially as described.

79,620.—William E. Wyche and Young P. Dickson, Brookville, N. C.—*Hopper Shoe for Grist Mills.*—July 7, 1868.—Two vibrating sieves of different textures hung above an inclined apron, for cleaning the grain before it passes to the millstones.

Claim.—The shoe D, formed of two sieves *m* and *n*, in combination with the apron E, substantially as shown and described, and for the purpose specified.

79,621.—Albert A. Young, Boston, Mass., assignor to himself and Francis McLaughlin, same place.—*Brush and Comb Combined.*—July 7, 1868.

Claim.—1. A hair brush, having a space in its stock and handle, or either of them, for a comb, the comb being detachable from the stock and handle when in use, and said space opening at the extremity of the handle or the end of the stalk, substantially as described.

2. The combination and arrangement of the brush A and the comb B, whereby the comb is protected in the stalk of the brush when not in use, substantially as described.

79,622.—W. H. Young and L. Young, Boston, Mass.—*Cabinet Bedstead.*—July 7, 1868.—The spring bed frame is made in three parts, and different portions of the case are made to serve for ornament when closed, and for use when opened.

Claim.—1. The turn-down legs *a a*, serving the purpose of moldings and fastenings to the closed cabinet, and legs to the bedstead, together with the method of fastening the same, substantially as described and for the purpose set forth.

2. The foot board B, as combined and arranged with the case A and the bed frame, substantially as described.

3. The combination and arrangement of the spring bed frame and the several parts thereof, viz, the parts *f*, *g*, and *j*, together with the method for fastening the slats to the cross supports, substantially as described.

4. The combination and arrangement of the imitation drawer *c* with the springs *e' e' e' e'*, &c., and their supports, whereby, when the drawer is turned down, the parts of the spring frame *g j* are elevated, together with the method of elevating the same, substantially as described.

79,623.—E. H. Ashcroft.—Boston, Mass.—*Drier.*—July 7, 1868.—Relates to machines for drying various articles, chiefly wool, and to means for extinguishing fire which may accidentally take place in such machine from spontaneous combustion or other cause.

Claim.—1. In combination with the machine for drying various materials or substances, a tank of water, when the discharge of water from such tank is effected by the action of fire accidentally taking place in such machine, for the purpose substantially as before described.

2. Operating the valve and opening the discharging orifice of the water tank, or of regulating the flow of water to the structure, by means of a fusible plug connected therewith by any suitable means which accomplish the desired result.

3. The combination and arrangement, with the structure D and water tank H, of the discharging orifice I, valve *b*, rods *c* and *e*, and fusible plug *f*, the whole being combined, arranged, and operating as before described.

4. A rod pipe, or its equivalent, combined with the discharging orifice I and valve *b*, in such manner that upon expansion of such rod, or its equivalent, by reason of fire within the structure, the valve shall recede from and open the orifice to the discharge of water to the structure, essentially as hereinbefore described.

5. The general combination and arrangement of the blower A, air chamber C, with the structure D, and its perforated or foraminous floors E and G, and steam coil or pipe F, the water tank H, and the apparatus for discharging water therefrom, the whole being arranged and operating substantially as hereinbefore described.

79,624.—John Augspurger, Trenton, Ohio.—*Portable Fence.*—July 7, 1868.—A reversible portable board fence so constructed as to enable it to be used upon undulating ground or upon side hills.

Claim.—The clamping cleats *e f*, screw bolt and nut *g*, in combination with the adjustable panels I or I I, constructed and used in the manner and for the purpose substantially as described.

79,625.—Benjamin F. Averill, Dunkirk, N. Y.—*Weather Strip.*—July 7, 1868.—A movable plate is provided with mechanism by which it is made to shut downward and close the space between the door and sill, and to rise again when the door is opened.

Claim.—1. The weather strip constructed as described, of the strip C, fluted along its upper edge to work under and in contact with the reversely-fluted plate D, secured to the door, the plate C being hung upon the headed pins *a*, affixed to the levers E E' beneath the plate, which levers are pivoted to the door at *b b'*, and held up at their inner ends by the springs *f f*, all arranged as described for the purpose specified.

2. The arrangement of the screw *d*, projection *n* upon the lever E, the pivoting pin *b'* upon the lever E', the arm *g* and the incline *h*, all operating as described, to depress the fluted plate C against the tension of the springs *f*, as herein described for the purpose specified.

79,626.—Isaac Banister, Newark, N. J.—*Buckle.*—July 7, 1868.—Improvement upon his patent dated November 8, 1864. A wire loop is attached to the holding bar to allow the buckle to oscillate when fastened to the shoe, so as to prevent chafing of the strap.

Claim.—The tubular bar B, in connection with the oscillating loop C, when used in the manner and for the purposes set forth.

79,627.—Lafayette Barnum, Bridgeport, Conn., assignor to himself, Levi Barnum, and Charles H. Ensign, same place.—*Machine for Cutting and Dressing Stone.*—July 7, 1868.—A sliding bed moves on a platform fitted on two ways to feed the stone to the cutters; near each corner of the platform, and centrally on each side, are standards which hold two adjustable frames and contain all the cams, hammers, cutters, &c. Two or more shapes of cutters are used for rough cutting on flat surfaces, wedge-shaped for smoothing, serrated, &c.

Claim.—1. The combination of the adjustable frames with the cams, hammers, cutters, and feeding apparatus, when the whole is constructed, arranged, and fitted to operate substantially as herein described and set forth.

2. The apparatus for feeding the stone longitudinally, with the method or swinging it on its center, so as to form a curvilinear edge, and the edge cut-

ters, when constructed, arranged, and fitted to operate substantially as herein described and set forth.

3. The combination of the double-edged cutters (Fig. 3) with the rotary hammers, when they are constructed and used substantially as and for the purpose herein described and set forth.

79,628.—ADAM BAUERSCHMITT, Rochester, N. Y.—*Bridle.*—July 7, 1868.—By pulling hard upon the reins, the nose piece will be drawn tightly over the horse's nose, and the bit drawn back into the horse's mouth. When slackened up all the parts readily adjust themselves to their proper places.

Claim.—The India-rubber strap *c*, short round *e*, short strap *f*, and pulley ring *d*, when constructed and operated in connection with a bridle, as herein described and set forth.

79,629.—BENJAMIN S. BENSON, Baltimore, Md. —*Machine for Making Cores.*—July 7, 1868.—Relates to the manufacture of cores for casting metallic pipe, and consists in a device by which such cores are held and rotated while receiving their outer coating of loam, and are then dropped gently upon elastic receivers in such a manner as to leave the surface of the core perfectly smooth.

Claim.—1. Rotating the core or core spindle E by means of two shafts D D′, between which it is held in the manner described, and by which it is applied to a blade, K, substantially as and for the purpose specified.

2. The sockets *d d*, by which the core is held while applied to the scraper, when connected by a rod I, and levers H H^1, so constructed and operating that the sockets are caused to approach or recede from each other simultaneously, for the purpose specified.

3. Operating the shafts D D′ by means of arms F F′, slides G G, rod I, levers H H^1, and spring J, in connection with pawls *n m*, substantially as and for the purpose specified.

79,630.—JAMES BINGHAM and ROBERT COWARD, Pittsburg, Pa.—*Rock Crusher and Tempering Machine.*—July 7, 1868.—Below two fluted rollers are two smooth-faced rollers of different diameters. Underneath the above is a spout leading to a sludge pan supported by a hollow annular cylinder. To a vertical shaft are attached three or more sets of knives placed at right angles to each other and which revolve with the cylinder.

Claim.—The two pairs of rollers J and J J and K L, the spout M, the sludge pan X, the spider Y, having knives Z, the annular cylinder A A, and their operative mechanisms, when constructed, combined, and arranged as described, and to operate in the manner substantially as set forth.

79,631.—HENRY BRINER and EMIL BRINER, Manhattanville, N. Y.—*Steel Shank for Boots and Shoes.*—July 7, 1868.—The steel shank is tipped with some material which shall not spring with the steel, but accommodate itself to the form of the pieces of leather between which it is confined.

Claim.—An improved article of manufacture, the steel shank for boots and shoes, when its free end is provided with an elastic case C, for the purpose of preventing injury to the sole of the boot or shoe by the longitudinal motion produced by the action of the spring, as herein shown and described.

79,632.—O. BROWN and T. F. BERRY, Capron, Ill.—*Carpenters' Gauge.*—July 7, 1868.—A polygonal stem has fitted in one side a mortise gauge provided with two metallic slides arranged to be set for gauging any common mortise without moving the head.

Claim.—The combination of the slides D C, head A, and stem B, substantially as and for the purpose herein set forth.

79,633.—RUFUS CAMPBELL and ALBION P. CAMPBELL, Hillsdale, Mich.—*Brick Machine.*—July 7, 1868.—The clay, as it passes from the mill, falls directly into the jack mold, and upon which the weight is made to fall by treading upon the lever, which will bring the weight down upon the clay, forcing it down through the jack mold, into the mold immediately below.

Claim.—The wheels M, chain N, lever J, and beam H, constructed and arranged to operate in combination with the weight F, in the manner as and for the purpose set forth.

79,634.—E. S. CAPEN, Worcester, Mass., assignor to himself and P. BLAISDELL, same place.—*Loose Pulley.*—July 7, 1868.—A diamond-shaped opening is cut or cored out through the bearing part of the pulley so that the oil will be forced from both ends toward the center of the hub.

Claim.—In a pulley, having the hub combined with a lubricating chamber, as described, providing the said chamber with an opening *b*, extending the length of the hub, and shaped in the manner herein specified, so that the oil discharged from the chamber upon the journal shall be forced from the ends toward the center of the hub, as set forth.

79,635.—GEORGE J. CAPEWELL, West Cheshire, Conn.—*Glass-Pressing Machine.*—July 7, 1868.—To the back part of the plunger or upper die is attached a crooked lever. A grooved arm also extends back from the lower die. In this groove moves a slide that carries the pin, which latter is kept across the face of the die by a spiral spring, one end being attached to a lever, the other to a plunger.

Claim.—1. The lever *j*, in combination with the arms *h* and *l*, the spring *n*, and slide *t*, the whole producing the automatic movement of the pin *i*, as and for the purposes specified.

2. Forming glass beads or ornaments with the desired openings or holes, made by pressing the glass around the pin and nipple, the nipple serving as a support for the pins forming said holes, substantially as described.

79,636.—LUMAN B. CLARK, Bainbridge, N. Y. —*Hop Pole.*—July 7, 1868.—A tapered post of scantling is driven into the ground and forms a base, to which the poles may be attached or readily detached.

Claim.—The hop pole, consisting of the wedge A, lateral staples B, and poles C, all constructed as described, whereby it can be driven into the ground, and reset, when loosened by the frost, or from other causes, without disturbing the vines, as herein shown and described.

79,637.—JAMES E. CONNOR, Brooklyn, N. Y.—*Press.*—July 7, 1868.—Designed to be used in the manufacture of tin ware. The bed is attached to the plate or arms in such a manner as to admit of its being rotated, and the lower die perfectly adjusted to the upper die, so as to insure smooth cutting and swaging.

Claim.—The arrangement of the bed *a* upon the plate *b* of the machine, and the mandrel *h* in the upper and lower heads, with the levers for operating the mandrel as herein set forth.

79,638.—WILLIAM COOPER, Jr., and WILLIAM D. RUMSEY, Howell, Mich.—*Snap Hook.*—July 7, 1868.

Claim.—The snap hook A, when provided with the opening B and pin D, having a shoulder F, a spring E, a thimble G, and a head I, all constructed and arranged to operate substantially as described.

79,639.—GUSTAVUS A. DAVISON, San Leandro, Cal.—*Gang Plow.*—July 7, 1868.—The axle is jointed near one end and provided with a socket in which the opposite end is placed, the same being bent at right angles where it is held and regulated by a screw. The arrangement of the rigid arms and lever admits of great leverage power in operating the plows.

Claim.—1. Regulating the level of the machine by the device O O′, and set screw P, or their equivalents, substantially as set forth.

2. The rigid arms H H′ and G, attached to the axle, and connecting the lever or sweep J, either directly to the arm G, or by the link I, substantially as and for the purpose specified.

79,640.—GEORGE DRYDEN, Worcester, Mass.—*Machine for Boring Wood.*—July 7, 1868.—The mechanism that drives the auger is pivoted to a plate or frame sliding on the base of the machine, and is operated by a rack and pinion to adjust it for boring the different holes successively.

Claim.—1. The connecting of the driving and carrying mechanism to a sliding plate or frame moving on the base by means of a rack and pinion, for the purpose of boring the holes of mortises successively, as above set forth.

2. The central elevating gear, when permanently in mesh with a stationary rack attached to a standard, and operated by a sliding clutch, substantially as set forth and described.

79,641.—William M. Du Bois, Poughkeepsie, N. Y.—*Cathartic Lozenge.*—July 7, 1868.—Aqueous extract of the *Cortex frangula* saturated in gum tragacanth.

Claim.—The medicinal compound, composed of the ingredients in the manner and proportions herein described.

79,642.—James M. Evarts, New Haven, Conn.—*Pipe Tongs.*—July 7, 1868.—The walls or sides of the elongated slot are inclined on each side and serrated, and a stud fitted to the axial pin is also provided with corresponding angular serrated sides, and with a rectangular portion to fit into the rectangular portion of the slot.

Claim.—The jaw A, provided with the elongated slot B, having tapered and serrated walls, in combination with the nut D, provided with corresponding inclined and serrated faces, the jaw C, nut E, and the axial pin E, substantially as and for the purpose described.

79,643.—James M. Everhart, Pittston, Pa.—*Car Coupling.*—July 7, 1868.—The outer ends of the connecting rods are connected by a right and left screw coupling, so that no play or slackness is allowed between the two frames.

Claim.—The right and left screw-threaded coupling F, in combination with the spring rods D, as herein described for the purpose specified.

79,644.—E. J. Fenn, Medina, Ohio.—*Horse Hay Fork.*—July 7, 1868.—The lower end of the central bar is provided with teeth which engage with teeth on the inner ends of the tines. The pressure of the right angular lever upon a projection of the central bar serves to open the tines.

Claim.—The arrangement of the right angular lever D, adapted to press at its angle point upon the projection *b′* formed upon the central rack bar B, to spread the tines D, and, upon being raised by the cord F, permitting the hay to discharge itself from the tines H by gravity, as herein shown and described.

79,645.—Lorenzo D. Ferguson, Dansville, N. Y.—*Roofing Compound.*—July 7, 1868.—Composed of quicklime, plumbago, oxide of iron, plaster of Paris, powdered sulphur, and common sand, mixed with coal tar, with the addition of resin.

Claim.—The combination of the ingredients herein specified, when used in the manner and for the purpose set forth.

79,646.—B. G. Fitzhugh, Ellicott City, Md.—*Car Platform Bridge.*—July 7, 1868.

Claim.—A safety bridge for the platforms of railroad cars, which is made of a plank or board, or of a single piece of metal, and which is supported on and elevated by its ends slightly above the platforms, and united thereto at one or both ends by a flexible or yielding connection that will prevent it from slipping off endwise, substantially as and for the purpose described.

79,647.—Lavinia H. Foy, Newton Centre, Mass.—*Corset.*—July 7, 1868.—Two gores only are inserted, the other pieces being cut to fit the person.

Claim.—As a new article of manufacture a corset, in which the hip gores or pieces E are combined with the front, back, and side pieces of the corset, cut in the form and united in the manner described and illustrated in the drawings, so as to fit the person without the insertion of further gores.

79,648.—Peter J. Fuller, Clarksville, N. Y.—*Hop Vine Support.*—July 7, 1868.—A short pole is provided with a series of arms pivoted to its upper part, which arms can be secured in an upright position, or swung down for the removal of the vines.

Claim.—1. A hop-vine protector, consisting of the post A, and of the arms B, which are pivoted thereto, so that they can be swung up or down at will, substantially as herein shown and described.

2. The swinging arms B, when pivoted to a post, A, and when fastened in their upright position by means of hooks *b c*, or their equivalents, substantially as herein shown and described.

79,649.—Samuel Garber, Beaver, Pa.—*Lock Nut.*—July 7, 1868.—A lock piece or bolt is placed between the nuts to be locked and held in place by a rivet-headed nail or screw passing through said block, and a piece or plate behind it.

Claim.—The lock block E, placed between two adjacent nuts, D, outside the fish plates, and held in position by means of the perforated or recessed fish plates B, or metal strip G, and the reversed bolt and nut F, all arranged and operating as described, for the purpose specified.

79,650.—S. W. Gibbs, Albany, N. Y.—*Base Burning Stove.*—July 7, 1868.—The feeding cylinder extends from the top of the stove downward in an inclined position and rests on the top of the fire pot. The perforations allow the gas to escape into the combustion chamber. The lower end of the feeder is surrounded by a circular perforated tube.

Claim.—1. In combination with a stove, the reservoir or feeder D, constructed and arranged substantially as described, for the purposes set forth.

2. The circular tube G, in combination with the feeder D, arranged substantially as and for the purposes described.

79,651.—John Greenwood, Rochester, N. Y.—*Machine for Cutting Staves.*—July 7, 1868.—A double set of rollers is combined with the curved ribs in such a manner as to sustain the stave bolt without coming in contact with the ribs themselves, thereby leaving a narrow space between the said bolt and ribs to allow chips and splinters to pass through without displacing the bolt.

Claim.—The alternate arrangement, on the face of ribs *a a*, of the double set of rollers *g h*, operating relatively with the swing bed B and cutter C, substantially as and for the purpose described.

79,652.—Joseph H. Greer, Rochester, Pa.—*Cooking Stove.*—July 7, 1868.—The object of the invention is to economize the consumption of fuel, by concentrating the heat to the desired heating surface, and also to insure perfect uniformity in the temperature of the oven.

Claim.—The reverberating flues A A, chamber B, reverberating flues C C, C′ C′, C″ C″, damper D, register R, in combination with orifices or perforations Z, grate L, rack J, door knob M, sliding door knob P, lift hole N, all constructed as herein set forth, or in any other manner essentially the same, and for the purposes as specified.

79,653.—Jesse E. Gustin, Elmira, N. Y.—*Self Detaching Pulley.*—July 7, 1868.—The pulley is attached to a frame, one side of which is jointed, the jointed part being held in position by a spring.

Claim.—The pulley B, so arranged in a frame or block by joints and hinges that it is made self-detaching, substantially as and for the purposes herein shown and described.

79,654.—George Hanlon, William Hanlon, Alfred Hanlon, Edward Hanlon, and Frederick Hanlon, New York, N. Y.—*Velocipede.*—July 7, 1868.—The seat is made adjustable on the inclined perch, and the foot rests on the front axle are also adjustable lengthwise, so that the apparatus may be used by either large or small persons. The rear axle is so arranged in the forked rear end of the perch that either one or two wheels may be hung upon it.

Claim.—1. The seat E, when secured upon the end of a spring, I, and when adjustable on the perch C, substantially as described for the purpose set forth.

2. The extension crank C, on the front axle A, of the velocipede, when arranged as described, for the

purpose of making the velocipede adjustable, as set forth.

3. Providing the perch or connecting frame C with a forked rear end, for the purpose of allowing the use of the wheel G within, or of two wheels H H without, the fork, as specified.

4. A velocipede, consisting of the bifurcated perch C, carrying the axles A B, of the front wheel D, and rear wheel G, or wheels H, of the adjustable spring seat E, and of the extension cranks *c*, on the front axle, all made and operating substantially as herein shown and described.

79,655.—William Hannah, Middlefield Centre, N. Y.—*Horse Hay Fork.*—July 7, 1868.—Attached to a cross-bar are tines moving up and down within two metallic tubes. To the inside of the arms of the tines are pivoted two or more curved hooks to each tine, said hooks passing through slots in the tubes so that by moving the tines upward in, the hooks will be drawn wholly within the tubes.

Claim.—1. The tripping plate H, substantially as shown and described, in combination with the rigid cross-bar A′, of the tines *a*, and the hook *h*, affixed to the cross-bar D of the tubes C C′, all as and for the purpose set forth.

2. The discharge orifice *l*, substantially as shown and described, in combination with the tubes C of a two-tined hay fork for the purpose of permitting the escape of the dust or hay seed, all as set forth.

79,656. — Edson Hartwell, Hubbardstown, Mass.—*Rocking Chair.*—July 7, 1868.—The curved projections on the lower ends of the standards prevent the latter from being displaced from the plates. The curved side pieces serve for back legs as well as top pieces for the chair frame.

Claim.—1. The combination of the arms or standards E, having curved projections *b b* with the slotted plates F, substantially as and for the purposes set forth.

2. The combination, with the lower ends of the standards E, of the plates F and G, substantially as and for the purposes set forth.

3, The combination, with the seat supports or standards E and chair frame, of the curved pieces D, substantially as and for the purposes set forth.

4. The combination of the seat A with the springs *g g*, standards E, and chair frame, substantially as and for the purposes set forth.

79,657.—Robert Hunter, New York, N. Y.—*Propeller.*—July 7, 1868.—A hollow tapering bucket so made as to offer the least possible resistance to the water while moving in the line of the vessel's motion, and the greatest possible resistance when moved by a lever in the opposite direction.

Claim. — The propelling apparatus herein described, consisting of a hollow tapering bucket, C, vibrated by a lever, B, under the stern or run of the vessel, substantially as specified.

79,658.—Samuel W. Huntington, Augusta, Me.—*Scissors and Shears.*—July 7, 1868.—For cutting a piece of whalebone, wire, or other hard substance.

Claim.—The formation of auxiliary shear-blades, *f*, upon the inner and opposite edges of that portion of the arms or blades of scissors and shears between the pivot and handle, or in rear of the pivot, as shown and set forth.

79,659.—Isaac Jennings, Fairfield, Conn.—*Paper Making Machine.*—July 7, 1868.—A dovetailed tapering groove is formed in the side of each of the rollers, in which are fitted wedge-shaped blocks. The rollers are journaled in the slotted arms of a frame, and take the place of the single roller that receives the pulp upon the ordinary machine.

Claim—1. Diminishing the size of the roller after the paper has been formed in any convenient manner, so as to admit of the papers being removed without cutting, substantially as and for the purpose herein set forth and described.

2. The system of rollers B, constructed and arranged substantially as herein shown and described, when used in connection with the other parts of a paper machine, in place of the ordinary single roller, as and for the purpose set forth.

79,660.—Clark Jillson, Worcester, Mass.—*Mold for Making Strawberry Ripeners.*—July 7, 1868.—Molten glass is placed in the matrix of the lower portion of the mold, when the piston is depressed and the proper form is made. The glass ripener is elevated by the movable cams ascending the inclined faces of the stationary cams so as to loosen it from the stem.

Claim.—1. The combination, with the base A, stem C, and series of cams D, of the concaved and perforated part B, and series of cams E, substantially as and for the purposes set forth.

2. The combination, with the parts lettered A, B, C, D, and E, of the convex and recessed piston F, said parts being constructed and arranged for operation substantially as and for the purposes set forth.

79,661.—Richard P. Johnson and Eli J. Sumner, Wabash, Ind.—*Lumber Drier.*—July 7, 1868.—Improvement upon a patent granted to the same inventors on July 9, 1867. The furnace is constructed in two chambers, so that fire made in the upper one will generate steam, and when made only in the lower one hot air only will be created. The curtain causes the hot air to pass under the same so as to maintain the same temperature near the floor as at the top.

Claim.—1. The double furnace A and B, separated by a horizontal partition, and provided with a common escape flue, in the manner and for the purposes set forth.

2. The providing the cars with curtains, or like device, in the manner and for the purposes as set forth.

79,662.—John Lamb, Jeffersonville, N. Y.—*Washing Machine.*—July 7, 1868.—Strips of India-rubber are secured longitudinally and endwise in the cylinder and used in connection with a vibrating beating-rod.

Claim.—The cylinder B, when provided with strips of India-rubber, in the manner set forth, in combination with the fluted vibratory rod *i*, arranged and operated as and for the purpose set forth.

79,663.—Henry A. Lee, Worcester, Mass.—*Molding Machine.*—July 7, 1868.—The upper feed rolls are so arranged that both rise and fall independently of each other, while at the same time their gears continue to mesh with the gears of the stationary central shaft. The cylinder or cutter head is supported in bearings which are fitted to slide up and down on the faces of the stands, and combined with the said bearings are two adjusting screw shafts supported at their lower ends in boxes and having shoulders which rest on the flanges of the stands, by which the cutter cylinder can be readily adjusted.

Claim.—1. The combination, with the lower feed rolls B, the upper feed rolls B′, the adjustable pieces D, and their concentric slotted arms C, and the central shaft C′, of gears 2, 3, 4, 5, 10, 11, and 12, and links 8, 9, constructed and arranged for joint operation, as and for the purposes set forth.

2. The combination, with the stands F and the sliding bearings E, held to said stands by bolts *n* of the elevating and depressing shafts G, with their shoulders 23, the parts being constructed and arranged with relation to each other as and for the purposes set forth.

3. The combination, with the presser bar H, arms I, and screw rods *p*, of the peculiarly constructed holding and swivel bolts *o*, the parts being constructed and arranged with relation to each other as and for the purposes set forth.

4. The combination, with the upper end of each or either of the shafts K, and the slotted bar N′, of the peculiarly constructed bearing piece N, in the manner and for the purposes shown and set forth.

79,664.—Louis J. Lecocq, Argenteuil, France. *Car Coupling.*—July 7, 1868.—The locking bolt is operated by a bent lever, the handle of which is held in position by means of a spring. The free end of the spring is provided with a knife edge which presses against the angle of the lever. Safety chains attached to the coupling eyes by hooks are employed to hold the cars together in case the coupling should break.

Claim.—1. The parts B and C and the locking bolt D, the spring H, and angle *g'* on the bearing part G, all constructed, combined, and operated substantially as described, as and for the purposes specified.

2. The compound eyes I J, connected to and opened and closed by the motion of the locking bolt D of the coupling, so as to confine the safety chains K so long as the coupling is connected, and to liberate the safety chains simultaneously with the attachment of the coupling, substantially as and for the purposes herein specified.

79,665.—JOHN MADDEN, Cleveland, Ohio.—*Wrench.*—July 7, 1868.—The pallet is fitted in the roof of the supplementary jaw, and is made slanting on the lower side from the inner end outward, so that in pulling the wrench in one direction, a stronger grip will be had upon a pipe to which it may be applied.

Claim.—The pallet E, supplementary jaw B, as arranged in combination with a wrench, in the manner and for the purpose substantially as set forth.

79,666.—FRANK W. MARVIN, Sacramento, Cal.—*Marking Can.*—July 7, 1868.—The marking ink is kept in the reservoir which surrounds the can, and is discharged into the can through a valve, as required for use. The reservoir is supplied through the tubular handle.

Claim.—1. In combination with a marking can, the reservoir C, substantially as and for the purpose set forth.

2. The valve D and tubular handle G, in combination with a marking can or pot, arranged substantially as and for the purpose described.

79,667.—WILLIAM MAROT MARSHALL, Philadelphia, Pa.—*Air Carbureter.*—July 7, 1868.—The carbureter is connected with a blower, by means of a coiled metal tube of a conical or other form so as to present a large beating surface to a flame of carburetted air burning within its folds. A globular chamber with sufficient fluid for one feeding and provided with stop-cocks and a funnel, may be attached to the carbureter.

Claim.—1. The coiled copper or other metallic pipe E, substantially as described and for the purpose set forth.

2. The coiled pipe E, in combination with pipe F and flame S, and with the blower A and carbureter B C, when connecting the blower with the carbureter, substantially as and for the purpose set forth.

3. The feeder R O, with its chamber O, funnel R, stop-cocks N and T, and its pipe, substantially as and for the purpose set forth.

79,668.—C. E. MASON and G. F. BELL, Wellington, Ohio.—*Feather Renovator.*—July 7, 1868.—A cylinder of wire gauze or netting is hung within a box, in the bottom of which latter and below the cylinder are arranged steam pipes.

Claim.—1. A cylinder, constructed of wire gauze or netting, substantially as and for the purpose set forth.

2. The cylinder B, in combination with the box A, in the manner as and for the purpose described.

3. The pipes D E, as arranged in relation to the cylinder B and box A, substantially as and for the purpose set forth.

79,669.—HENRY MATTHES, Cambridgeport, Mass.—*Steam Gauge.*—July 7, 1868.—The disk is made of an alloy composed of 5 parts of eighteen carat gold, 4 parts silver, and one part of copper. The center of the disk presses against a rod which operates the indicating mechanism.

Claim.—1. The arrangement of the cap B, the disk A, and washer *a*, substantially as and for the purpose specified.

2. A flexible disk for steam gauges, when constructed of the materials and in the proportions substantially as described.

79,670.—S. T. MCDOUGALL, Brooklyn, N. Y.—*Partitioned Steamer.*—July 7, 1868.—Designed for boiling and steaming a number of different sorts of food with the same vessel simultaneously.

Claim.—As an article of manufacture, a boiler divided into several compartments by vertical partitions, and provided with a depression in the bottom of each compartment, in combination with a steam cooking vessel on one or each compartment, constructed and arranged in the manner and for the purpose herein described.

79,671.—S. T. MCDOUGALL, Brooklyn, N. Y.—*Clothes Pounder.*—July 7, 1868.—The pushers are so arranged as to crowd forward the clothes to be pounded, and so that they shall be brought beneath the pounder just before the descent of the latter.

Claim.—1. The pushers M, connected to the arms K, and operated substantially as described, for the purposes set forth.

2. In combination with the same, the pounder E, when the same shall be constructed and operated substantially as described, for the purposes set forth.

79,672.—DAVID MCFARLAND, New York, N. Y.—*Low-Water Indicator and Steam-Pressure Alarm.*—July 7, 1868.—The filling of hemp or other fibrous material is designed to prevent any space for the reception and expansion of steam therein.

Claim.—1. The float D, constructed of a hollow cylinder, filled with hemp or other suitable fibrous material, substantially as and for the purpose set forth.

2. The float D, in combination with the weighted lever G, valve I, and pipe *e*, substantially as herein shown and described.

79,673.—DAVID MCFARLAND, New York, N. Y. assignor to JOHN JOHNSTON, same place.—*Low-Water Detector and Steam-Pressure Alarm.*—July 7, 1868.—When the lower orifice of the more elevated pipe is below the water level in the boiler, the lower compartment will be filled with water, owing to the pressure of the steam on the surface of the water in the boiler, and the tilting box being in a state of equipoise, the alarm valve will be kept closed. When the water in the boiler descends below the lower orifice of the said pipe, the steam will rush into the compartment, and the water in the same will descend, passing through the lower pipe into the boiler, until the water level in the same is reached. The box will then tilt and cause the valve to open and sound the alarm.

Claim.—1. The tilting box G, fitted within a compartment, B, which communicates with the steam boiler below the water level by pipes E F, and is connected with the valve J of a steam whistle or alarm, K, all arranged to operate in the manner substantially as and for the purpose described.

2. The safety valve M, connected with the valve J of the steam whistle or alarm by means of the lever O and the stem *d* of valve J, arranged with a steam compartment, C, as shown, to admit of a movement of said valve independent of the rod I and box G, and the simultaneous opening of the safety valve M and whistle or alarm valve J, when the steam within the boiler exceeds a certain desired pressure.

79,674.—DUNCAN MCKENZIE, New York, N. Y.—*Wooden Pavement.*—July 7, 1868.

Claim.—The wooden pavement, constructed, as described, of the blocks A, secured together by means of the beveled strips attached to the opposite sides of said blocks A, in the manner substantially as herein shown and described.

79,675.—JOSEPH H. MCPHEETERS and PHILIP P. GROSS, Palmyra, Mo.—*Corn Sheller.*—July 7, 1868.—The ears of corn in passing between the revolving cylinder and the bars are turned over by the points on the cylinder, and the grain is taken off by contact with the edges of the bars, while the cob is carried forward by the cylinder points and thrown out.

Claim.—1. Making the shelling bars flattened, with rounded edges or flat oval in a cross section, substantially as described.

2. Making the shelling bars with corresponding opposite edges, and arranging them in such a manner that the edge of any bar presented toward the

cylinder, or the place of the bar in the bar frame, may be readily changed, substantially as described, and for the purposes set forth.

3. Making the bar frame adjustable in its position relatively to the cylinder D, substantially in the mode and for the purposes described.

4. In combination with the cylinder D and adjustable bar frame J J, the endless apron or cob carrier H.

5. The guides T T, substantially as and for the purposes described.

79,676.—ANDREW J. MOORE, SAMUEL BLEISTEIN, and SAMUEL S. SHIRK, Lebanon, Pa.—*Method of Cutting Boots.*—July 7, 1868.—An adjustable pattern, with scales of figures marked upon it corresponding to the several measures required to be taken to fit a boot to the foot, so that the pattern can be adjusted and set for marking off and cutting from one piece of leather the entire upper and leg of a boot.

Claim.—1. The pattern, composed of the several parts herein shown, said parts being constructed and arranged and operating as herein described, for producing the upper and leg of a boot in the form shown in Fig. 2 of the drawings, or in an equivalent form, as set forth.

2. The piece G, in combination with the pieces D F of the pattern, substantially as described.

3. A boot upper and leg, $T\ T'$, $V\ V^1\ V^2$, made in one piece, produced as described.

79,677.—WILLIAM MORGEY, Wilmington, Del.—*Bending Fifth Wheel.*—July 7, 1868.—The heated clip is placed on the turn-table against the forming plate, when the sizing and lining lever is forced down in the clip. The "moon-shaped" lever is then drawn up, and the circle is forced against the forming plate, when a binding ring is slipped upon the levers to form a firm handle. The clip is then hammered up to the sizing lever.

Claim.—The combination of the turn-table *d*, leveling plate *b*, circle plate *e*, the levers *m*, F, *g*, *h*, and O, rollers *i* and *j*, and slotted slide *k*, constructed and arranged as hereinbefore described, as a circle or elliptic bending machine, for bending fifth wheels and clip circles of carriages, and sizing and lining clips.

79,678.—HENRY OBRECHT, Mahanoy City, Pa., assignor to SAMUEL REINHART and JOHN C. KNAPP, same place.—*Meat Cutter.*—July 7, 1868.—The cutters have a vertical reciprocating motion and at the same time a slow rotary motion.

Claim.—The bar D, when swiveled to the up and down reciprocating bar or plate C, and when passing through and connected with the revolving wheel or disk G, all made and operating substantially as herein shown and described.

79,679.—RALPH G. PACKARD, Brooklyn, N. Y.—*Globe Valve.*—July 7, 1868.—A pin projecting on each side at the end of the valve stem fits within a cavity in the valve proper, so that the valve is free to turn with the stem or rest on the material below without turning, but is compelled to rise with the stem. The packing piece and chamber above are made many sided to prevent the valve from turning.

Claim.—1. The within described mode of connecting the valve proper with the valve stem C, that is to say, by the employment of the pin *c* and cavity *e*, arranged relatively to each other, and to the other parts, substantially as and for the purpose herein specified.

2. The elastic packing piece G, arranged, as represented, relatively to the stem C and top casing D^2, to prevent the escape of steam or other fluid around the stem C, being packed or fitted with increased tightness in proportion as the pressure of the fluid is increased, substantially as and for the purposes herein specified.

79,680.—WESLEY PEARCE, McLean County, Ill.—*Sponge and Dough Raiser.*—July 7, 1868.

Claim.—The introduction of steam in coils of pipe, between a sponge trough and outer box, for the purpose of raising the sponge and dough before baking, substantially as described.

79,681.—JOHN PLAYER, New York, N. Y.—*Manufacture of Iron from Titaniferous Iron Ore.*—July 7, 1868.

Claim.—The smelting of titaniferous iron ores with blast furnace slag, or scoria, or basalt rock, as a flux, or other equivalent, in the manner and substantially as herein described.

79,682.—FRANK J. PLUMMER, Worcester, Mass., assignor to R. BALL & CO.—*Circular Saw Mill.*—July 7, 1868.—The construction of the machine is such that after one roll has been moved to the desired position by a screw shaft the cams can be disconnected, when one feed roll will remain in a fixed position, while all the varying movements caused by the inequalities of the material being fed in will be indicated by the other roll. When the cams are connected the motion of the feed rolls will be uniform in both directions, whereby the cut will be central throughout.

Claim.—1. The combination with the shafts B B, or either, of the cams 8 8, or either, and friction rings 6 6, constructed to operate substantially as and for the purposes set forth.

2. The combination with the shafts B B of the cams 8 8, friction rings 6 6, and balls *d d*, substantially as and for the purposes set forth.

3. The combination with the adjustable feed rolls, the lower ends of whose shafts are received in balls *d d*, mounted in the machine as described, of the sliding gears for driving said rolls, and the balls *m* and stem *n*, for connecting the gears with the shafts of the rolls, under the arrangement and for operation as herein shown and set forth.

4. In combination with the parts claimed in the preceding clause, the dogs *c*, collars *p*, wings 4, and pins 5, mounted upon the hubs of the gear wheels and feed roll shafts, in the manner and for the purposes shown and specified

5. The combination with the cams 8 8 of the handle or arm J and fastening screws 11, for the purpose of allowing one to be operated independently of the other, substantially as and for the purposes set forth.

79,683.—J. MORTON POOLE, Wilmington, Del., assignor to himself, WILLIAM T. PORTER, and THOMAS S. POOLE, same place.—*Machine for Turning Cylinders.*—July 7, 1868.

Claim.—An arrangement of one or more pairs of cutting or grinding tools, or one or more pairs composed respectively of a cutting or grinding tool and a rest, upon a frame which is free to move laterally or transversely to the object which is being turned or ground, the tools constituting a pair being capable of adjustment and fixation thereon, in relation to one another, and dependent for their movements to and from the surface of the object placed between them to be turned or ground by their contact with the surface or surfaces of said object at opposite points thereof, substantially as herein described.

79,684.—WILLIAM PRATT, Providence, R. I.—*Tool Holder.*—July 7, 1868.

Claim.—A tool holder, carrying an independent cutter, for engine lathes and planing machines, in which the bar or stock A is slotted transversely to the vertical line of the cutter, dividing the mortised end of the bar A into an upper and lower limb, and the fastening of the cutter by drawing these limbs together with a screw bolt and nut, or by spreading them apart by means of a set screw passing through one limb and abutting against the other, all made and operating substantially as described, or their mechanical equivalents.

79,685.—DANIEL R. PRINDELL, East Bethany, N. Y.—*Agricultural Boiler.*—July 7, 1868.—The cover is made of wood and is kept immersed in water to prevent it from shrinking. The elbow connecting the steam discharge pipe with the flexible pipe is screwed upon the former so as to enable it to be turned in any direction. A small groove around the barrel of the elbow, in connection with a clip, serves to attach the flexible pipe to the elbow.

Claim.—1. The combination of the caldron A and cover B, so constructed as to enable the cover to be kept immersed in water, substantially as and for the purpose herein specified.

2. The revolving elbow H, in combination with the stationary steam pipe G, and flexible shifting pipe I, for the purpose set forth.

3. The mode of attaching the flexible pipe to the elbow H, substantially as herein specified.

4. The metallic band *d*, on the edge of the wooden cover, in combination with the fastening clamps, for the purpose set forth.

79,686.—Samuel S. Rain, Lowville, N. Y.—*Animal Trap.*—July 7, 1868; antedated June 27, 1868.—The cage is held suspended by a coiled spring and catch upon a standard. The bait hook is arranged to disengage the catch and the spring, by its recoil, draws down the cage and entraps the animal.

Claim.—The use of the within described combination of devices for the object and purpose here set forth.

79,687.—W. H. Ramsdell, Lowell, Mass., assignor to himself and H. J. Sawyer, same place.—*Bobbin.*—July 7, 1868.—From the two bearings of the bobbin, to the ends of the same, the hole is enlarged sufficiently to allow of a thick piece of felt cloth to encircle the spindle between the bearings and two metallic rings, which latter are cut open to render them elastic.

Claim.—A bobbin, constructed as described, in combination with the spring rings E, and felt or suitable absorbent packing, as and for the purpose described.

79,688.—Caroline M. Rolfe, Laconia, N. H., administratrix of the estate of Charles F. Rolfe, deceased.—*Hog Trough.*—July 7, 1868.—The cover is arranged to be adjusted so as to expose the trough at the outer or inner side of the frame. The frame is held in place by means of cleats and keys.

Claim.—1. The detachable frame B, provided with the trough C and cover D, constructed and arranged substantially in the manner as and for the purpose set forth.

2. The securing of the frame in the side of the pen or sty by means of the cleats *b d*, and keys E, substantially as shown and described.

76,689.—Antonio Rottanzi, M. D., San Francisco, Cal.—*Cup for Effervescing Drinks.*—July 7, 1868.—The cup is divided into two separate compartments to contain the different powders which effervesce on being poured out in solution simultaneously. A series of stops in the spout cause the mixture to become more fully incorporated.

Claim.—In combination with the partition B, the stops or gates *a b c*, or equivalent device, and the lid or cover E, substantially as and for the purpose described.

79,690.—George Rowe and S. W. Nelson, Worcester, Mass.—*Cutter Head.*—July 7, 1868.—Attached to the molding cutter is a clamping piece which is recessed upon the under side, leaving two flanges, one of which fits into a recess in projections on the cutter head while the other rests upon the outer surfaces of the said projections.

Claim.—The combination of the cutter holding or clamping piece B, having flanges C and D, with the head part A, and its projections *b c*, and bolt I, substantially as and for the purposes set forth.

79,691.—Reuben V. Sallada and George A. Pearson, Philadelphia, Pa.—*Carriage and Riding Whip.*—July 7, 1868.—The whip is made in two parts so constructed as to be readily convertible into a riding whip and walking cane if desirable.

Claim.—The construction and combination of a carriage whip, when made and arranged in the manner and for the purpose specified, as a new article of manufacture.

79,692.—Thomas Scantlin and James M. Scantlin, Evansville, Ind.—*Coal Scuttle.*—July 7, 1868.—The horizontal fluting assists the lapped edge to hold the bottom firmly affixed to the body. The legs are a continuation of the bottom flange, and diagonal ribs are cast on the bottom.

Claim.—A coal scuttle having the body A formed with a fluting *c*, and the edge or border just below this fluting lapped over a conical flange of the bottom B, the said bottom being formed with legs *a a a a*, *b*, and ribs *e e e e*, all substantially as described, and for the purpose set forth.

79,693.—David W. Shaw, Baltimore, Md.—*Milk Can.*—July 7, 1868.—Designed for making the cover air tight and locking the same.

Claim.—The combination of the anchor C, having stem B and radial arms *d*, the follower *e*, lever screw nut *f* and packing *g h*, when the upper portion of the stem B is provided with an opening, *o*, to receive a lock, whereby cover J may be secured, as herein shown and described, for the purpose specified.

79,694.—Alba F. Smith and John H. Vickers, Norwich, Conn., assignors to Norwich Lock Company, same place.—*Padlock.*—July 7, 1868.—The inclined projection on the rear face of the front plate throws the key backward in the lock, at the proper position to depress the catches, and the inclined projection or the back plate of the casing throws the key forward again as soon as it has turned the disk to a sufficient extent to liberate the shackle.

Claim.—1. The incline a^3, arranged as herein specified, and adapted to throw the key forward out of the holes *c* so soon as the unlocking movement is completed, substantially as and for the purposes herein specified.

2. The within described inclined projection a^4, on the back face of the front plate A^2, arranged as represented relatively to the key E *e* and catches *d*, for for the purpose herein specified.

79,695.—William Spalding, Port Clinton, Ohio.—*Application of Steam to a Propeller.*—July 7, 1868; antedated June 18, 1868.—Steam being forced into the water reservoir causes a vacuum to be formed therein, and the water is forced into and through the propeller blades thus causing the latter to rotate. A valve within the tubular shaft provided with spiral grooves serves to reverse the rotation of the propeller.

Claim.—1. The arrangement of the water reservoir B, perforated rotating shaft E, water supply pipe D, steam pipe C, valve rod H, reversing lever I, valve G, having spiral grooves *d*, and propeller F, as herein set forth for the purpose specified.

2. The valve G, when constructed as described, with spiral grooves *d d*, as herein shown and described, for the purpose specified.

79,696.—James Spear, Philadelphia, Pa.—*Base Burning Stove.*—July 7, 1868.—The grate is arranged to be dumped without opening the base of the stove, thus preventing the escape of dust. The reservoir is constructed in three sections, by which it is made lighter for transportation and as durable as if wholly of cast iron. Above the mica windows is a register for the purpose of admitting air to the fire.

Claim.—1. The revolving grate S, in combination with the dumping apparatus, consisting of the pivot bar T, arms W W, lever *r*, rod t^1, so constructed that it can be dumped without opening the stove.

2. The reservoir N, constructed with a lower cast-iron ring n^1, sheet-iron section n^2, upper cast-iron rings n^3 n^6, so connected as to form a reservoir for the purpose shown and described.

3. The register H, for the purpose of admitting air between the outer section G and reservoir N, in combination with the revolving windows d^2, arranged and operating substantially as shown and described.

4. The combination and arrangement of the revolving and dumping grate S, with the fire pot B, revolving windows d^2, reservoir N, register H, and swinging urn M, substantially as described.

79,697.—Herman Spiro, Knoxville, Tenn.—*Elevator.*—July 7, 1868.—The object of this invention is to elevate bricks and mortar for building purposes and to present the same in a position conveniently accessible to the builders upon the scaffolding.

Claim.—1. The drums A A, belt *g g g*, *f f f*, boxes I and J, and hooks *a b*, all substantially as shown and described, in combination with the uprights B, all as and for the purpose set forth.

2. The links *d*, having rollers *i i*, and eyes, sub-

stantially as described, in combination with the drum A and its belt of boxes, all as and for the purpose set forth.

3. The ropes K, pulleys I, links N, and windlass S, substantially as described, in combination with the uprights B, drums A A, and belt of boxes all as set forth.

4. The shoulders P, substantially as described, in combination with the uprights B, links *d*, drums A, and belt of boxes, all as and for the purpose set forth.

79,698.—Charles W. Sproull, Rome, Ga.—*Panel Fence.*—July 7, 1868.—The ends of the horizontal boards project beyond the outer uprights of each panel and lap alternately in a contrary direction so as to bear against each other and be held in place by friction.

Claim.—The combination of the projecting ends *b′* of fence panel, the triangular uprights *a*, and feet *h*, all substantially as shown and described, and for the purpose shown and described.

79,699.—William Standing, Cairo, Ill.—*Grain Drier.*—July 7, 1868.—The apparatus consists of a steam chamber containing grain cylinders through which the grain is passed, and around which cylinder is a steam space. In the lower openings of the cylinders are valves for regulating the passage of the grain. Air passes through perforated tubes within the grain cylinders to assist in drying the grain, and bear away the moisture expelled from the same.

Claim.—1. A grain drier composed of a series of cylinders for the passage of the grain, each surrounding a central perforated air tube, and all inclosed by a metallic case, forming a close steam chamber, substantially as herein described, for the purpose specified.

2. The grain drier constructed as described, of the annular chamber B, inclosed between the heads *a b*, and each containing a central perforated tube *c*, supported by radial arms *d*, and extended in imperforate pipes *i*, above the head *d*, for conducting the moisture to the chamber G E, the cylinders B being surrounded by the case A, to form the steam chamber, all constructed and arranged as described, and supported upon the perforated conical base N, as herein set forth, for the purpose specified.

2. The arrangement of the valves *h*, supported upon the ring K, and adjusted by means of the bifurcated plate *l*, pivoted lever L, screw rod S, and burr K, as herein described for the purpose specified.

3. The arrangement of the close steam chamber, the grain cylinders B, and the perforated air tubes C, having extended imperforate ends *i*, whereby the grain is heated by steam around the cylinders B, and the moisture discharged through the centre of said cylinders by the tubes C, as herein described, for the purpose specified.

79,700.—John Stark, Thomasville, Ga.—*Pruning Hook.*—July 7, 1868.—The hook is formed in two parts, secured together by screws, so that they may be separated for grinding or sharpening.

Claim.—1. A harvesting or pruning hook, formed of two or more cutting edges, when the same are united and arranged substantially as described for the purposes set forth.

2. Attaching the hook D and blade A together, as described, whereby they are rendered detachable for sharpening, as herein shown and described.

79,701.—Chase A. Stevens, New York, N.Y.—*Treating Ores, Metals, and Minerals.*—July 7, 1868.—The ores are treated by smelting in a crucible or furnace with the application, as a flux, of the residuum obtained from the manufacture of soda and other chemicals from the mineral cryolite.

Claim.—The within described process of treating auriferous and argentiferous, and other ores, clays, earths, and metallic iron, by the application of the residuum obtained from cryolite, substantially in the manner and for the purpose set forth.

79,702.—G. R. Stevens, Chicago, Ill.—*Churn.*—July 7, 1868.—An inverted frustum of a cone forming a part of the dasher rod causes the cream, when forced through diagonal holes in the hinged dashers, against the said cone as the rod is pressed downward, to pass outward against the sides of the churn.

Claim.—The cone E, in combination with the rod D and winged dasher B C, the latter having holes *d d*, made diagonally through it, substantially as and for the purpose herein set forth.

79,703.—George E. Stewart, East Saginaw, Mich.—*Corn Husker.*—July 7, 1868.—Designed to protect the hand in breaking an ear of corn from its stalk, and consists of two plates, having each a sharp edge, pivoted together at one end and applied to the hand by means of curved hooks and straps.

Claim.—The protecting device described, consisting of the pivoted metallic plates A B, secured to the index finger and thumb of the wearer by means of the curved strips D G I, and straps E F, all constructed and operating as herein described, for the purpose specified.

79,704.—Anthony B. Sweetland, Fitchburg, Mass., assignor to himself and James Daley, same place.—*Refrigerator.*—July 7, 1868.—The refrigerator is formed of an outer cylindrical casing, which is made in two parts, the upper part containing the ice, and the lower portion inclosing a revolving frame provided with a grated partition and a grated bottom.

Claim.—1. The ice shelf B, carrying, by the central pivot *d*, the pendant metallic disk C, and supported by the curved strips *f* from the lugs *e* upon the interior of the upper removable part A′, all arranged above the inclined flange G, which forms the channel *h*, and supports the vertical tube *i*, as herein described, for the purpose specified.

2. The construction of the ice shelf B, supporting strips *f*, pendent disk C, and inclined flange G, forming the channel *h*, and supporting the pipe *i*, all arranged as described in the upper case A′, and adapted to be removed with said part from the lower case A, bearing the revolving frame J, as herein described, for the purpose specified,

3. The combination of the ice shelf B, pendent disk C, supporting strips *f*, inclined flange G, pipe *i*, with the cases A A′, and revolving frame J, all constructed, arranged, and operating as herein described, for the purpose specified.

79,705.—Salmon E. Tyler, Beloit, Wis., assignor to himself and Wm. S. Stephens, same place.—*Spring Bed Bottom.*—July 7, 1868.—The clamps, in connection with the eccentrics, serve to hold rubber springs firmly to the ends of the slats. The rubber springs are secured to the head and foot boards by a clasp and screws.

Claim.—The clamps B and corrugated eccentrics *b*, as and for the purpose herein set forth and described.

79,706.—Theophilus A. Wainwright, Wilson, N. C., assignor to himself and Albert Farmer, same place.—*Cotton Plow.*—July 7, 1868.—The frame is cast in one piece, ready to receive the double moldboard and the point, each of the same being secured to the upright by a single bolt.

Claim.—The construction of the frame A B C, it being cast from one pattern complete, and the manner of securing thereto all of the necessary parts, as above described, by a single bolt or key each, substantially as and for the purposes herein set forth.

79,707.—W. P. Walling, Swartz Creek, Mich.—*Water Elevator.*—July 7, 1868.—An arrangement of devices for conveying water from a spring or brook to any convenient distant point. The bucket is filled and carried by means of a rope and pulleys to a point over a water receiver where a valve in the bottom of the bucket is automatically opened, and the water discharged.

Claim.—1. The projection C x, in combination with the ring C′, rope P, pulley *b*, and car C, as herein described, for the purpose specified.

2. The bucket K, provided with the discharge spout a^2 in its bottom, and containing the angular valve lever *e′*, the valve *e* of which is held closed by the spiral spring, and opened to discharge the water by means of the projection N upon post A, fitting

beneath the arm *a′* of said lever, as herein shown and and described.

3. The angular pivoted valve lever, in combination with the coiled spring, bucket K, car C, and projection N, as herein described, for the purpose specified.

4. The grooved vibrating link I, in combination with the slotted car C, curved bar H, curved arms *b′*, and bucket K, as herein described, for the purpose specified.

79,708.—Charles S. Watson, Philadelphia, Pa.—*Low Water Indicator.*—July 7, 1868.—An oscillating vessel divided into two parts by a central partition, is placed within a stationary spherical receiver that is provided with a whistle, and has an open communication with the water in the boiler, so that the water runs out of the pipe and the receiver, and steam takes its place when the water in the boiler descends below the end of the pipe.

Claim.—1. The combination of the oscillating vessel C, constructed substantially as described, with the receiver A, lever D, and valve E, substantially in the manner above set forth, and for the purpose specified.

2. The construction of the part 2 of the oscillating vessel C with the valve F, to provide for the escape of air from the same, so that water may ascend into and fill it, as above described.

3. The combination and arrangement of the valve G with the part 1 of the vessel C and the bar H, substantially as and for the purpose set forth.

79,709.—George Weare, Fitchburg, Mass.—*Surface File Handle.*—July 7, 1868.

Claim.—1. A surface file handle, composed of the bent or curved handle A F I, in combination with a clamping device for grasping the file shank in the manner described, so that the bent part I of the handle shall rest or bear upon the file in front of the point at which the handle is attached to the file, as and for the purposes set forth.

2. The combination of the base F, of the curved handle, and the clamp and its adjusting or tightening screw and nut held in said base, and covered by the horn or projection C, the said parts being constructed and arranged to operate as herein shown and specified.

79,710.—Samuel K. Wellman, Nashua, N. H.—*Hydraulic Crane.*—July 7, 1868.—At the base of the revolving crane post is a projection, to the top of which is fitted a cylinder provided with a piston, which is fastened to the husk case or shell. The husk case is fitted to slide up and down the crane post. When the crane arm is to be used, water is pumped into the cylinder, thereby forcing up the piston, together with the husk case, crane arms, and the mass or bar of metal supported by the windlass.

Claim.—1. The combination, with the revolving post *e*, of the projection *b*, and the cylinder *c*, substantially as shown and described.

2. The combination, with the crane post and its husk case or shell, of the piston H and cylinder *c*, substantially as and for the purposes set forth.

3. The combination, with the tube B, attached to the lower end of the crane post, of the nuts 1, 4, knee *a*, and leather packing 5, said parts being arranged in relation to each other substantially as described, and as shown in Fig. 4 of the accompanying drawings, and for the purposes set forth.

4. The combination, with the part 11 of the carriage *n* and windlass S, of the cushion O′, as shown and described.

79,711.—E. I. White, Locke, N. Y.—*Horse Hay Fork.*—July 7, 1868.

Claim.—The construction of the shank A, consisting of the cross bar a^1, whose reduced ends are fitted rigidly in the tines D, and turn freely in the tines E, and whose arc, a^2 is provided with a slotted extension, a^3, carrying the hoisting and tripping pulleys B C, all arranged as described for the purpose specified.

79,712.—John H. William, Essex, Conn., assignor to himself, Thomas N. Dickinson, and William E. Beames.—*Manufacture of Floor Cloth.*—July 7, 1868.—The cloth after passing beneath the roll is drawn between two sets of spring plates successively, the one set for scraping and evenly distributing the paint, while the other set serves to smooth and finish the surface.

Claim.—1. The spring plates C C, or their equivalents, for distributing the paint evenly over the surface of the cloth, and also remove the extra amount of the same, substantially in the manner and for the purpose specified.

2. The spring plates D D, or their equivalents, as a smoothing device, for the purpose of finishing the cloth, substantially as herein described.

3. The peculiar curve of the plates herein described, when in operation, constructed of springs, or their equivalents, to give the smooth and polished surface to the cloth as it passes through the machine, in the manner described and for the purpose specified.

79,713.—Dexter B. Wingate, Natick, assignor to Needham C. Millett, Salem, Mass.—*Apparatus for Printing on Glass.*—July 7, 1868.—A movable type block made of some firm elastic material is combined with suitable mechanical devices for printing upon unyielding irregular surfaces.

Claim.—Forming a type block of an elastic yielding material, and its use in combination with the adjustable ways H, adjustable gauge E, and lever L, operating in connection with the movable support C, for the purpose substantially as described and set forth.

79,714.—Aurin Wood, Worcester, Mass.—*Machine for Threading Bolts.*—July 7, 1868.—The invention does not admit of a brief description.

Claim.—1. The arrangement, with the spindle B, head B′, and case F, of the cam ring G, arms G *i*, locking pieces I, and dies H, the parts being constructed and operating in connection with each other, substantially as and for the purposes set forth.

2. The notched stop or flanged collars *d e*, in combination with the cam ring D and arms *i* and G, the said parts being constructed and arranged in the manner set forth, to open and close threading dies, substantially as described.

3. The combination of the rod *o* with weighted lever *t*, arm 5, cam 29, and lever P, provided with arms *x* and 30, said parts being arranged for operation to stop and release the notched or flanged collars *d e*, substantially as and for the purposes described.

4. The cam 23, on the wheel 24, and the rod 22 working in the sleeve P″, in combination with the spring stop, said parts being arranged to throw back the blank carriage after the threading dies are opened, substantially as described.

5. The rod *o*, weighted lever *t*, arms 5, cam 29, and lever P, with its arms *x* and 30, in combination with the connection P′, sleeve P″, and notches or flanged collars *d e*, substantially in the manner and for the purpose set forth.

6. The combination of the spring 27, lever R R′, wheel N, with rack, pinion, and the blank carriage, said parts being constructed and arranged substantially as and for the purposes set forth.

79,715.—Daniel S. Yeakel, Dillingersville, Pa., assignor to Henry Deer and Solomon Deer, same place.—*Grain Separator.*—July 7, 1868.—To supports at the discharge end of the framing are attached a horizontal and a vertical spring, the upper end of the vertical spring being connected by a rod to the bottom of the screen.

Claim.—The swinging screen C, hung or suspended as shown, in combination with the springs D^x E^x, all arranged and applied in the manner substantially as and for the purpose set forth.

79,716.—John H. Yocum, Ashland, Pa.—*Stove Grate.*—July 7, 1868.—An aperture is made in the front edge of the grate, of sufficient size to admit of the passage through it of slag, slate, &c. Coal is prevented from falling through the aperture by means of a shield adapted to the purpose. Over the aperture is arranged a tube or flue to carry off the dust.

Claim.—1. The provision, in a flat or horizontal grate, or in a grate bottom, of one or more apertures *c*, as and for the purpose set forth.

2. The combination, with the aforesaid aperture or

apertures *c*, of one or more shields F, as and for the purpose specified.

3. Constructing a grate having one or more apertures *c*, with bars converging toward said aperture or apertures, for the purpose described.

4. In combination with a grate having one or more slag apertures *c*, the dust flue D, arranged and employed substantially as and for the purpose specified.

79,717.—PETER ZIMMERMAN, Delaware Water Gap, Pa.—*Device for Hanging Mill Stones.*—July 7, 1868.—To the bail, which is secured in the usual manner to the stone, is pivoted an auxiliary bail provided with bent arms having set screws at their lower extremities, by which the amount of oscillation on the main bail may be adjusted.

Claim.—The improved adjustable mill-stone hanging device, substantially as herein shown and described, and for the purpose set forth.

79,718.—F. S. ZUMSTEIN, Evansville, Ind.—*Heating Stove.*—July 7, 1868.

Claim.—An improved stove or heater, formed by the combination of the outer case A, having a close-fitting cover, B, upon its upper end, and an ingress draught opening in its bottom, air pipes E, interior furnace F, having a close-fitting cover, H, with an egress draught opening in it upon its upper end, and ingress draught openings, at its lower end, the egress-draught pipes M, L, and N, or their equivalent, and the water receiver, O, with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

79,719.—HENRY A. ALDEN, Matteawan, N. Y., assignor to the NEW YORK RUBBER COMPANY, New York City.—*India-Rubber Base Ball.*—July 7, 1868.

Claim.—1. A base ball or other like ball having a center or core consisting of one piece, or of several pieces of cork, cemented together, said core being surrounded with the compound substantially such as is described in letters patent of the United States, No. 72,355, and the whole being united and vulcanized as set forth, the said ball being either provided or not with a cover of suitable material.

2. In a base ball formed of a vulcanized compound such as herein specified, the use of a wire-bound or twine or cord-wrapped cork core, substantially as and for the purposes set forth.

3. The combination, with a cork and rubber compound base ball, of a rubber covering or coating, united and vulcanized with the body of the ball, substantially as herein set forth.

79,720.—WILLIAM BALDWIN, Plymouth, Conn., assignor to himself, JOEL BLAKESLEE, of Plymouth, and E. BLAKESLEE, New Haven, Conn.—*Grain Rake* —July 7, 1868.—A series of teeth, combined with a clamp, collect the grain in bundles so that the rake may be inverted, and the grain be put in a convenient position for binding.

Claim.—The combination of several teeth, C, and prongs G, arranged so as to gather the grain, with the supports E, extending above said teeth, the whole constructed and arranged so as to operate substantially as specified.

79,721.—T. D. BASSETT, Charlestown, Mass.—*Lathe for Screw Cutting.*—July 7, 1868.—To the end of the arbor which carries the burr cutter is coupled, by means of a universal joint, a splined shaft supported in bearings in a piece which is capable of yielding to the amount required by the movements and position of the cutter arbor. The cutter arbor has its bearings in a pivoted piece so as to give the proper inclination to correspond with the angle of the pitch of the screw threads to be cut.

Claim.—1. The combination of the jointed shaft *h*, burr cutter *e*, and its swinging frame *f*.

2. The combination of the elements last above mentioned with the weighted and sliding tool rest.

3. Arranging the dead center in the edge of the tail stock in the manner and for the purpose described.

79,722.—THOMAS L. BAYLISS, Richmond, Ind., assignor to THE AMERICAN PATENT CHROMATIC PRINTING PRESS COMPANY.—*Inking Apparatus for Printing Presses.*—July 7, 1868.—Supply rollers attached to oscillating bars are arranged to be moved so as to permit the proper intermediate inking rollers to be brought into contact with their own supply roller, each one receiving its own peculiar color to be transferred to its own set of color strips, from which the colors are taken in bands upon a type-inking roller and transferred to a single form from which the job is printed at a single impression.

Claim.—In combination with the oscillating slotted arms F, rollers B C D, springs *e*, and tripping collars I I′, the rollers B′ D′, upright bars N, projections *u*, and spring *e*′, arranged in relation to one another, so as to operate substantially in the manner and for the purpose set forth.

79,723.—EDGAR B. BEACH, West Meriden, Conn.—*Oil Can Tube.*—July 7, 1868.—A valve is so arranged as to close the tube when the can is not employed for pouring the oil, in order to prevent evaporation.

Claim.—The herein-described tube, as an article of manufacture, consisting of the tube A, spout B, valve C with the head E, the said valve arranged in the tube A, in such relative position to the spout B as to open and close the spout, and all constructed and arranged in the manner set forth.

79,724.—JAMES R. BROWN, Boston, Mass., assignor to E. H. ASHCROFT, same place.—*Pipe Tongs.* —July 7, 1868.—An improvement upon his patent of Nov. 30, 1858. The tooth-jaw lever extends through a slot in the hook-jaw lever and abuts against the adjusting screw, and is provided with one or two shoulders to rest against the hook-jaw lever, a center pin for the tooth lever being dispensed with.

Claim.—The arrangement and combination of the hook-jaw lever A and the tooth-jaw lever B, when constructed as shown and described, and the latter is controlled by its shoulders *d*, the pin *f*, and the screw C.

79,725.—GEORGE H. BUCKIUS, Canton, Ohio., assignor to himself, C. AULTMAN, A. C. TONNER, and P. H. SOWERS, same place.—*Harness Ring.*—July 7, 1868.—The arms are designed to be sewed in between the rows of stitches at the sides of the leather, to which the ring is attached to prevent sliding of the leather around the ring.

Claim.—A ring, A, having one or more arms B arranged on its periphery, substantially as and for the purpose specified.

79,726.—HENRY BULLARD, Middletown, Conn. —*Handle for Tea and Coffee Pot.*—July 7, 1868.—The handles are so formed that the tips may be attached thereto without the intervention of any other material.

Claim.—Handles for tea and coffee pots, formed from hard rubber or similar material, and so as to be attached to the tips B and C, substantially in the manner herein set forth, as a new article of manufacture.

79,727.—WM. L. BURLINGAME, Leslie, Mich. —*Ladder.*—July 7, 1868.—Two ladders of ordinary construction are hinged at their upper ends so as to be convertible into a long extension ladder. A platform is so connected with the two parts as to admit of adjustment of the ladder to any required angle.

Claim.—1. The ladders B C, so arranged in relation to each other as to be able to be formed into one continuous ladder, by means of the rounds 2 and hooks 3, in the manner and for the purpose herein set forth.

2. In combination with the above, the removable platform A, when provided with hooked projection E, slots 4, and locking button D, all arranged and operating substantially as set forth.

79,728.—WILLIAM S. CARR, New York, N. Y.—*Water Closet.*—July 7, 1868.—The construction allows of a broader seat for the flange of the basin, and also for the introduction or removal of the swinging pan, whereby one joint is dispensed with, and the putty or packing needs to be applied only below the flange of the basin.

Claim.—1. The hopper or container *a*, contracted at its upper end and adapted to receive the flange of the basin, in combination with the movable ring that forms a sufficiently wide bearing for the said basin flange, and allows for the introduction or removal of the swinging pan of the closet, substantially as set forth.

2. The ring *f* and hopper *a*, in combination with the swinging pan *d* and lug 7 upon said hopper *a*, and below the ring *f*, as specified, so that the concussion of the pan *d* in closing will be taken on said lug 7 and the ring *f* relieved, as and for the purposes specified.

79,729.—**Judson A. Cleaveland**, La Fayette, Ind.—*Tool for Turning Shafting, &c.*—July 7, 1868.—Improvement upon a screw-cutting tool, for which a patent was granted to G. H. Wells, April 2, 1867, and consists in the adaptation of the stock to ordinary lathes either for cutting screws or turning shafting, each of the cutters being provided with set screws which, acting independently, may be used for adjusting the cutters separately, while the whole are fed simultaneously by a screw acting upon the rest.

Claim.—1. The combination of the rest D, stock B, and jaw C, the cutters G, and the set screws I, and lugs I$'$, by which the cutters may be independently regulated in relation to one another, while the rest is adjustable, so as to move all the cutters simultaneously, substantially as described.

2. The stock B, when constructed as described, in combination with the rest D, adjusting screw E, and a series of cutters, G G, substantially as and for the purpose set forth.

79,730.—**Edward R. Cole** and **Henry S. Cole**, Pawtucket, R. I.—*Steam Fire Engine.*—July 7, 1868.—The piston forms a movable partition between the top, bottom, and one side of the interior of the main cylinder, and the bottom and opposite side of the same. The suction or supply pipe is constructed in one piece with the eduction pipe between the air chamber and the pump. The suction pipe is elevated above the pump and continued so as to form a siphon, by which means the pump, after being started, is continually charged, and "pounding" is prevented.

Claim.—1. The pump cylinder A, constructed substantially as described, forming the chambers A A^1 and A A^2 by the interposition of plunger B.

2. The elevated induction pipe D D and eduction pipe C, connected substantially as described, for the purposes specified.

3. The arrangement of the siphon-formed induction pipe D D^2 in relation to the air chamber C C, water way D D, and operative parts A B and A A^2 and B B, all substantially as shown and described.

79,731.—**J. M. Cook**, Lake Village, N. H.—*Water Wheel.*—July 7, 1868.

Claim.—The water wheel B, having independent buckets L L, secured to the upper plate by inclined flanches *p p*, and formed with inwardly-curved discharge edges *l l*, downwardly-curved discharge edges *m m*, and curved connecting edges, substantially as and for the purpose herein specified.

79,732.—**Franklin A. Curtis**, East Saginaw, Mich.—*Water and Fire-proof Roofing Compound.*—July 7, 1868.

Claim.—The roofing compound, when composed of coal tar, wheat or rye flour, water-lime, and sand, mixed in a cold state, as herein described.

79,733.—**Henry T. Dagget**, South Braintree, Mass.—*Siding Boots and Shoes.*—July 7, 1868.—A sliding gauge is combined with mechanism for throwing it back while the sewing is progressing to a determined distance, corresponding to the difference between the distance at which the stitches on the counter should be run and that at which it is desirable to place the stitches between the top of the boot-leg and the counter.

Claim.—The combination of the gauge *f* with the mechanism for changing its position, substantially as and for the purpose set forth.

79,734.—**Owen Davis**, Newton, Iowa.—*Bee Hive.*—July 7, 1868.—Over the inner box are arranged two "surplus" honey boxes. The larger comb frame is provided with pins or flanges on its sides to prevent the bees from mixing them together.

Claim.—1. The combination of the boxes A and D, boxes I I, and comb frames K, when the several parts are constructed and used as herein specified.

2. A comb frame whose sides are provided with vertical grooves, within which are inserted small frames L, that are provided with comb guides *e* and braces *c c*, substantially as shown and described.

79,735.—**Frederick S. De Witt**, Rochester, N. Y.—*Swaging Machine.*—July 7, 1868.—On the inside of the dies are placed two rings, the lower one of which is beveled on its inner edge to contract or increase the size of the edge of the pipe. The other ring has a rim on its inner edge beveled to correspond with the bevel of the other ring. A transverse adjustable guide is placed between the swaging rings and the frame.

Claim.—The beveling sections D and D$'$ of the swaging rollers C of tinners' tools, in connection with a gauge, H, arranged and operating substantially in the manner and for the purposes herein shown and described.

79,736.—**Andrew Dietz**, New York, N. Y.—*Process of Treating Glue.*—July 7, 1868.—The object of the invention is to render the cheaper and inferior kinds and qualities of glue equal to the better and higher grades or qualities.

Claim.—1. Treating glue with rosin or other proper resinous substance and petroleum or hydrocarbon or fixed oils, substantially as and for the purposes set forth.

2. Combining with glue, so treated and prepared, carbolic or wood acid, substantially as and for the purposes set forth.

79,737.—**Hiram Dillaway**, Sandwich, Mass.—*Glassware Mold.*—July 7, 1868.—A hook piece on each section of the mold acts on the pipe to keep the bottom of the mold in a central position relatively to the side sections when they are fully opened.

Claim.—1. A sectional glassware mold-body, when constructed with a hollow hinge pin, so that water can flow from one section to another through said pin, substantially as described.

2. In combination with the bottom and side sections of a mold body, the hooks *i*, arranged to operate substantially as described.

79,738.—**Hiram Dillaway**, Sandwich, Mass.—*Cooling Glassware Molds.*—July 7, 1868.—The water reservoir is attached to the body of the mold in such a manner that both will move together to and from the press, and so that the mold and reservoir may together be inverted without causing the water immediately to leave the reservoir.

Claim.—1. The combination, with a glassware mold body, of a water reservoir, in such a manner that the reservoir forms a part of the mold body, and moves therewith, without making and breaking the connection between the reservoir and the mold body at each impression obtained from the mold, substantially as described.

2. The combination, with a glass mold body, of a close reservoir, made with the coiled air tube, substantially as described.

3. A mold body, made with drilled passages *e d o*, connected by the trough-like passage *c*, substantially as described.

79,739.—**George H. Dow**, Freeport, Ill.—*Churn.*—July 8, 1868.—Angular beaters are so arranged as to throw the cream upward and downward, as they revolve. A saucer placed below the pinion serves to catch the dirt falling from the gearing.

Claim.—The beaters D as arranged, in combination with the shaft B, saucer J, and case, in the manner as and for the purpose set forth.

79,740.—**Joseph J. Duchesne**, Lacon, Ill.—*Harvester.*—July 7, 1868.—A curved slotted bar is arranged between a screw head and the end of the ferrule on the draught-pole, which may be clamped at any point to compensate for any lateral strain upon the animals. A chain attached to the tongue may be employed for attaching a second pair of animals.

Claim.—1. The screw *a′*, in combination with the ferrule *a* and the slotted bar *b*, as and for the purpose set forth.

2. The chain *c*, in combination with the bar *b* and tongue A, as and for the purpose described.

79,741.—**Benjamin F. Edmands**, Boston, and **James Hamblet, Jr.**, Charlestown, Mass.—*Escapement for Dial Telegraph Instrument.*—July 7, 1868.—Relates to a particular construction and arrangement of double escapement wheels actuated by suitable rigid and resilient pallets, in connection with an armature, so that the resilient pallets are relieved from strain, and the rigid pallets supersede the necessity of independent pawls or detents. The device is designed more particularly as an indicator for electro-magnetic telegraphs.

Claim.—1. An escapement, consisting of an escape wheel, having two rows or series of teeth, as described, and an arbor, which carries also an index impelled by a double set of pallets, one set being rigid and the other set resilient, or their equivalents, substantially as described.

2. The double pallet anchor, or its equivalent, with its suspension arbor, its attached pallets and armature or lever, as described.

3. The combination of the anchor pallets and pawl pallets, with the double escape wheel, as described.

4. The combination of an escapement, constructed as herein described, with a magneto-electric machine, or an electro-magnetic apparatus, or other motor, having the effect of causing a vibratory motion of the armature or lever M, substantially as herein set forth.

79,742.—**Matthew Faloon, M. D.**, Bloomington, Ill.—*Syringe.*—July 7, 1868—The inner end of the permanent nozzle is beveled and provided with a barb shoulder, which catches against and behind a shoulder formed in the elastic bulb.

Claim.—The piece B, made convex on its inner end, forming a shoulder, *x*, and provided with a flange on the outer part, which covers the neck of the bulb A, when arranged and used substantially as specified.

79,743.—**Addison C. Fletcher**, New York, N. Y.—*Grate Bar.*—July 7, 1868.—The upper edges of the grate bar are constructed with points or rests by means of transverse recesses or air ducts communicating at their base with channels or ways of a reversely-tapering or diminishing form in the sides of the bars.

Claim.—1. The reduction of the fuel-bearing portions *a* of a grate bar by the formation of air ducts, *f*, therethrough, having communication with the main ducts *b* for the more thorough cooling and equalizing of the expansion of such portions, and increasing the air-heating surfaces, substantially as shown and described.

2. The combination of the passages *f*, the channels or ways *e*, and air ducts *b*, with the fuel points or rests *a*, all arranged substantially as shown and described.

79,744.—**A. L. Fleury**, New York, N. Y.—*Apparatus for Dissolving Quartz and Extracting Metals.*—July 7, 1868.—The liquefier consists of an iron vessel mounted on a furnace and provided with a stirring apparatus, operated by a shaft and gearing. A steam electric apparatus is connected by its negative pole with the shell of the liquefier, and by its positive pole with the liquid and materials in the liquefier. The resulting gases escape by a pipe into an absorbing apparatus.

Claim.—1. The above-described apparatus for dissolving quartz or silicates, consisting of the furnace A, liquefier K, electric apparatus Z, tanks *f f*, and absorber V, arranged and operating as described.

2. The furnace A, with its fireplace B, furnace P, and trap D, when used for the purposes specified.

3. The liquefier K, as above specified.

4. The combination of the electric machine Z and the liquefier K, in the manner and for the purpose set forth.

79,745.—**Orlando V. Flora**, Madison, Ind., assignor to himself, **J. E. Witwer**, and **J. S. Boyle**.—*Single Harness.*—July 7, 1868; antedated June 28, 1868.—For attaching single harness to the thills of a vehicle and releasing the same in a simple and rapid manner. The attachment to the thills is made at or near the point where the hold-back strap is usually fastened, thus getting two bearings on the thills.

Claim.—1. So arranging the circular opening in the draught plate E, with a notch, extending forward at an angle of about forty-five degrees, that the draught bolt C may be passed through by rotating the plate vertically, and, when passed through, will form a fastening, for the purpose and in the manner as set forth.

2. Placing the draught plate E at or near the point where the hold-back strap is usually fastened, so as to allow an elastic bearing at that point on the shaft, while the other bearing of the shaft is arranged in the usual manner, for the purposes as described.

79,746.—**M. B. Foote**, Northampton, Mass.—*Fastening for Gloves.*—July 7, 1868.—A metal chain is attached to buttons, springs, and screws for fastening gloves to the wrist, and arranged in such a manner that the whole can be taken off one pair of gloves and applied to another.

Claim.—1. The combination of the button B, spring C, and screw D, arranged and operating substantially as and for the purposes herein set forth.

2. The combination of the buttons B B, metal chain E, and lever F, when the several parts are constructed, arranged, and used substantially as and for the purposes specified.

79,747.—**Caleb Foster**, Wappinger's Falls, N. Y.—*Enameled Metal Comb.*—July 7, 1868.—The object is to provide, for the requirements of trade, a cheaper article, "which, though not so serviceable, still answers a purpose of commerce."

Claim.—A comb, of any other sheet metal than steel, and enamelled all over, so as to represent or imitate a material of which it is made, but of which combs generally are made, as herein described and represented.

79,748.—**George Geer**, Galesburg, Ill.—*Cherry Stoner.*—July 7, 1868.—An octagonal, rotating carrier receives the cherries in a single row from a trough, whence they are carried under a fork, a stripper holding the cherry in the recess until the fork rises out of it. The stones are pushed through holes in recesses of the receiver, and drop into a box.

Claim.—1. The rotating octagon carrier or receiver D, made and arranged and operating substantially as and for the purposes above set forth.

2. The stripper L, arranged with the cross piece M, and operating substantially as and for the purposes above set forth.

3. The arrangement of the spring G, receiver D, and stone carrier F, with the fork E, when constructed and operating as specified.

4. The arrangement of the cross piece M, fork E, and latch H, when constructed and operating as set forth.

79,749.—**A. B. Glover**, Birmingham, Conn.—*Nut Machine.*—July 7, 1868.—A combined forming and punching die cuts the blank from the bar, punches and partially forms the same, and combined with a crowner, operating independently of the punching dies, automatic fingers being employed to transfer the partially-formed nut to the crowner, whence it is transferred to combined rollers, which, as the nut is passed between, rolls all the edges, and is thence transferred by similar fingers to another crowner, which completes the nut.

Claim.—1. In combination with the hollow punch *f*, punch *h*, and die *a*, the crowner *g*, and the transfer finger *e*, all arranged and operating in the manner described.

2. In combination with the above, two or more rolls, *m* and *n*, with the follower L and guide pin *l*, arranged with the transfer finger *i*, so as to operate in the manner described.

3. In combination with the above, the crowner *g′*, arranged with the transfer finger *r*, so as to operate substantially as described.

4. In combination with the transfer fingers *e i r*, the holding fingers 1 2 3, when constructed and arranged so as to transfer and hold the blanks, substantially as herein set forth.

79,750.—William W. Goff, Eagle Harbor, Mich.—*Channel Buoy.*—July 7, 1868.—Convex reflectors are placed upon the tops of buoys, which reflect the head light of a vessel passing into or out of a harbor.

Claim.—The reflectors B, when attached and operating substantially as and for the purposes herein described and shown.

79,751.—H. M. Hall and George W. Espey, Moore's Hill, Ind.—*Printing Press.*—July 7, 1868.—A movable clamp is connected with the platen in such a manner as to present the paper to the type and withdraw it when printed. A cam shaft, extending across the box, engages with hooks attached to the platen, to effect the pressing movement.

Claim.—1. The movable paper clamp G, when arranged as described, so as to receive the necessary movement from the raising and lowering of the platen.

2. The combination of the clamp G and fingers H, when arranged as described, for the purpose of holding the paper.

3. The combination of the cam shaft F and hooks E', for giving the impression to the paper, as set forth.

4. The combination of the clamp G, rod *h'*, and standard L, with the slotted hinged platen B, when arranged and operating substantially as and for the purpose described.

79,752.—David Harrington, Worcester, assignor to himself and S. A. Woods, Boston, Mass.—*Lubricating Pulley.*—July 7, 1868.

Claim.—1. In combination with the hub of a loose pulley, an annular chamber, extending continuously around the hub, and opening all around into the bearing surface thereof, this chamber being cored out in casting, and being narrow at the bearing surface, and enlarging back therefrom, substantially as shown and described.

2. In combination with the oil chamber *c*, the lateral ducts, made shallow at their outer ends, and deepening and widening toward and into the main chamber *c*, substantially as described.

3. In combination with the main annular chamber *c* and the lateral duct or ducts, and end groove *h*, connecting with the lateral duct or ducts, substantially as shown and described.

79,753.—Charles T. Harvey, Tarrytown, N. Y.—*Elevated Railroad.*—July 7, 1868.—The track is supported on a column composed of two or more cylinders or tubes, by means of a frame fastened by draw bolts and keys, the ends of the transverse portion of the frame being turned up to clasp the rails.

Claim.—1. The construction and arrangement and adjustment of a supporting column, composed of two or more independent cylinders or tubes, substantially as described.

2. The combination of the several cylinders or tubes of the combined column, the frame J, in which the track rests, and the bolts or keys that connect said tubes and frame together, substantially as described.

3. The method of connection of the cylinders or tubes of the combined column to the base plate, by means of bolts or keys, substantially as described.

4. The construction and arrangement of the ends of the frame J upward or over the flanges of the track, to serve as a guard to confine the latter in place, with or without the wooden keys M, substantially as described.

79,754.—Charles T. Harvey, Tarrytown, N. Y.—*Elevated Railroad.*—July 7, 1868.—A frame composed of iron beams is placed below the sidewalk, (or embedded in the same,) the outer ends being deflected so as to pass under the curb stone, the object being to provide a support for the columns of elevated railroads over vaults, cellars, &c.

Claim.—The combination of a supporting column of an elevated railroad with beams E, to which it is secured, and with the pavement or cover D, in such a manner that the column is supported above or over vault A, substantially as and for the purpose described.

79,755.—Charles T. Harvey, Tarrytown, N. Y.—*Mode of Propulsion and Construction of Elevated Railways.*—July 7, 1868.—The periphery of the driving drum is composed of a series of compressing cams hinged to the solid portion of the drum, the adjacent parts of the said cams overlapping each other, and so constructed to form a groove for the cable.

Claim.—1. The construction and arrangement of a driving drum having elastic ribs across its face, in combination with a propelling cable.

2. The construction and arrangement of a driving drum having compressing cams, in combination with a propelling cable operated by any stationary motor for railway or analogous purposes, substantially as described.

3. The construction of a driving drum with a central elastic cushion for receiving the impact of and imparting motion to a propelling cable for railway or canal transportation purposes, substantially as described.

4. The construction of the opposing surfaces of the compressing cams B with a series of corrugations or depressions for obtaining greater adhesion, substantially as described.

5. In combination with a driving drum for railway or analogous purposes, the construction and arrangement of intermediate adjustable frictional attachments to the stationary motor, substantially as described.

6. The open cable guide Q, substantially as described.

7. The arrangement of cable guides, and combining the same with a double track of a railway and a driving drum in such manner that an endless cable running therein will propel cars in opposite directions on the different tracks, substantially as described.

8. The construction and arrangement of anti-friction pulleys or rollers in the sides of a cable guide at points where the cable diverges from a straight line, substantially as described.

9. The flanges U, on the periphery of a driving drum, substantially as and for the purposes above mentioned.

79,756.—Charles T. Harvey, Tarrytown, N. Y.—*Railroad Car.*—July 7, 1868.—The car body is supported directly upon girders which are connected by saddle bars at each end of the truck frames, so as to allow the car body to be supported between the trucks instead of above them. A coupling arm is hinged to a collar which slides upon the coupling shaft, so as to yield when the car is pushed backward, but is prevented from swinging the other way by a shoulder.

Claim.—1. The arrangement of the coupling arm V of a car in such a manner that it will be automatically disengaged from the cable when the arm is moved beyond a certain point, substantially as described.

2. The construction and arrangement of car trucks or running gear of a car in such a manner as will admit of the placing or hanging of the car body between the trucks, substantially as described.

3. The combination of the girders, saddle bars H, and trucks, substantially as described and shown.

4. Hinging the coupling arm V in such a manner that it will swing upward, and allow the car to be moved in a reverse direction to the motion of a propelling cable, substantially as shown.

79,757.—Charles T. Harvey, Tarrytown, N. Y.—*Car Wheel.*—July 7, 1868.—A series of radial wooden blocks is arranged around the hub, the whole being held together by a flange projecting from the hub. The blocks are connected to each other and to the flange by means of bolts.

Claim.—1. The combination, with the wooden central body of a car wheel, of a removable metallic flange or flanges, substantially as described.

2. In combination with the above, the removable metallic tire *t*, substantially as described.

3. The combination of the central body of a car

wheel, as described, and the removable metallic tire *i*, with the elastic packing *k*, as and for the purposes set forth.

79,758.—JOSEPH HEALEY, Jr., Detroit, Mich.—*Stove Pipe Damper.*—July 7, 1868.—The damper is constructed with a central plate provided with side openings, by which the heat is impelled against the walls of the pipe to increase radiation.

Claim.—As a new article of manufacture, the stove pipe damper herein described, the same consisting of the central open plate A, the disks F, having an annular space G, and the columns H, when the parts are cast in one piece, substantially as specified.

79,759.—JOHN HIBELL, Nechells, England.—*Annealing Pot and Saucer.*—July 7, 1868.—The object of the invention is to avoid the production of scale on the surface of articles during the process of annealing, and also to heat the annealing pot rapidly and uniformly.

Claim.—1. The improvements in annealing pots for annealing iron and steel wire, sheet metal, and other articles hereinbefore described, and illustrated in the accompanying drawing; that is to say, making the said annealing pots of two concentric hollow cylinders, of different diameters, the space between the said hollow cylinders constituting an annular chamber in which the articles to be annealed are placed, the said annular chamber being exposed to the fire and heat, both on its outer and inner sides, substantially as described and illustrated.

2. The improvement or improvements in the saucers used for supporting annealing pots in the furnaces or muffles in which they are heated, hereinbefore described, and illustrated in the accompanying drawing; that is to say, making the said saucers with a double flange, by means of which the bottom of the annealing pot is protected from the injurious action of the fire, substantially as described and represented.

79,760.—LEWIS G. HOFFMAN, Albany, N. Y.—*Parlor Ice Creeper.*—July 7, 1868.—Made detachable so as to be easily removed on entering the house, to avoid injuring carpets, floors, &c.

Claim.—A detachable spur for an ice creeper, in combination with the plate A, or its equivalents, substantially in the manner and for the purpose above described.

79,761.—DAVID B. HOWELL, New York, N. Y.—*Means for Hanging Swords.*—July 7, 1868.—The tubular slide, to which the sword plate is pivoted, moves freely upon the suspending chain, and allows adjustment of the sword and scabbard to the motions of the body.

Claim.—The tubular slide C, pivoted to the frog or plate D, in combination with the suspending chain B, substantially as shown and described, for the purpose specified.

79,762.—WILLIAM W. HUBBELL, Philadelphia, Pa.—*Quartz Mill.*—July 7, 1868.—The pot, sections, and revolving nuts are so constructed as to adapt them to prepare and supply the hard quartz of gold and silver for two sets of reducing stones; the object being to economize the wear and expense of the material in the pot, in its reduction of the quartz by sections and increasing velocities.

Claim.—1. The opposite apertures *g g* and revolving arms *i′* operating in the lower part of the pot *e*, containing the nuts *c c′*, *d d′*, and plates *k j*, in combination with the two sets of stones *a a*, *b b*, and the opposite inclined conduits *p p*, elevators *s s*, *v v*, *r r*, hoppers *y y*, all constructed and arranged one with the other, as and for the purpose set forth.

2. The combination of the grinding plates *k j*, with concave interiors and angular exteriors, ribbed or thickened backs, and the pot *e*, when so secured together, by means of the saddles *l* and bolt *l′*, as to leave the angular spaces *x*, substantially as herein described.

79,763.—ROBERT H. JONES, San Francisco, Cal.—*Fireman's Extension Ladder.*—July 7, 1868.—Consists of a series of frames sliding vertically one within the other, each frame being provided with a section of ladder. At the center of the frames is a series of vertical metallic telescopic tubes, the lower one of which is connected with a reservoir to be supplied with water from hydrants. Upon the upper platform is a rotating platform, so that any portion of the same may be brought in front of a window; to this platform is attached a metallic sliding drawbridge.

Claim.—1. The combination, in a fireman's extension ladder, of the sliding frames A A^1 A^2, with the sliding telescopic tube I I^1 I^2, substantially as above described.

2. In combination with the extension tube I I^1 I^2, the reservoir J, provided with several supply pipes M M M, substantially as and for the purposes specified.

3. The rotating platform N, when used in connection with a fireman's extension ladder, substantially as and for the purposes described.

4. The sliding bridge V, operated by the wheels T Y, when used in combination with a revolving platform N, substantially as and for the purpose specified.

5. The combination of the carriage *c* with the screws *z z*, by which it is adjusted to a level when standing upon inclined ground, substantially in the manner described.

79,764.—HENRY KRAUT, St. Louis, Mo.—*Apparatus for Atomizing Liquids.*—July 7, 1868.—Inside of a metallic vessel two tubes are arranged in such a manner that the pointed and pierced ends meet at right angles.

Claim.—The arrangement of the tubes B and C inside of the vessel D, so as to be protected from all external influences.

79,765.—ROBERT M. LAFFERTY, Three Rivers, Mich., assignor to himself, J. E. PRUTZMAN, and J. P. PRUTZMAN, same place.—*Preparing Cotton Seed for Planting.*—July 7, 1868.—The furze of the cotton seed is removed by instantaneous combustion effected by the ignition of gunpowder, or other similar explosive preparation, sprinkled among the cotton seed confined in any suitable vessel, after which the seed may be coated with any proper glutinous solution.

Claim.—The method of cleaning and preparing cotton seed for planting, substantially as hereinbefore described.

79,766.—CHARLES T. LAMPHERE, Greenfield, Mass.—*Eye Protector or Chip Arrester for Lathes.*—July 7, 1868.—A glass secured in a metal frame, arranged to turn in any direction, is attached to the lathe in such a manner that the chips cut from the metal will be prevented from flying into the face of the operator.

Claim.—An apparatus, constructed and arranged for use substantially as described, for protecting the eyes from chips or metal shavings and similar substances.

79,767.—J. P. THEODORE LANG, Washington, D. C., assignor to himself, E. H. ASHCROFT, Boston, Mass., and S. S. FAHNESTOCK, Washington, D. C.—*Screw Cutting Lathe.*—July 7, 1868.—Fastened to the carriage and gearing into the feed screw is a worm wheel connected by a stud with the governor. A slotted lever is pivoted to the carriage, having a hooked end which catches into notches in the governor, by which means mistakes in chasing over the same thread, and at the same operation, and also accidents, are prevented.

Claim.—The lever L, governor plate H, and worm wheel G, in combination with the feed screw E, as and for the purpose set forth.

79,768.—C. K. MARSHALL, New Orleans, La.—*Draw Bridge.*—July 7, 1868.—Movable cars or platforms are suspended by rods and form traveling trucks, which run upon rails laid on the top of metal tubes supported upon pillars, and which serve also as viaducts, by which means the crossing of streams is afforded to traffic and travel. The tubes are to be elevated sufficiently to allow vessels to pass under the same.

Claim.—The construction and arrangement of the traveling tracks *a a*, with suspended platforms E E, when the same are supported, braced, and guided, as herein described, and combined with the tubular bridges A A, the whole supported on piers, in the manner and for the purpose herein described.

79,769.—JOHN H. MCGOWAN, Cincinnati, Ohio. —*Tobacco Press.*—July 7, 1868.—The band which surrounds the box casing is secured at its ends by a hinged bolt which passes into slotted ears, and is secured by a wedge-shaped key.

Claim.—The ears D D, provided with the slots *e e*, in combination with the swing bolt E and key I, or swing bolt F and collar H, connected, arranged, and operating substantially as described.

79,770.—BENJAMIN F. MILLER, New York, N.Y. —*Pavement.*—July 7, 1868.—Prismatic sleepers are laid with their angles forming ridges, between which the lines of blocks are placed, so that each block may have a bearing upon two sleepers.

Claim.—The prismatic sills, laid as specified, and receiving the block superstructure, substantially as set forth.

79,771.—WILLIAM S. OBORNE, Marion, Ohio.—*Cider Mill.*—July 7, 1868.—The plunger rods are connected to a press beam which is raised and lowered by means of screw posts operated by suitable gearing, together with appliances for elevating the platens, end gates, and sleepers.

Claim.—The press beam D, plunger rods *b′*, screw posts E, screws E², and swivel nuts D′, all arranged and operated substantially as herein set forth.

79,772.—WILLIAM M. PALMER, Middlebush, N. J.—*Water Elevator.*—July 7, 1868.—The lower cylinders are loose upon the shaft and are made to turn alternately with it by means of a shifting clutch, so that by turning the winch continuously in one direction and shifting the clutch from one cylinder to the other, the buckets will be drawn alternately to the top of the well.

Claim.—The combination of the cylinders D and D′, the shaft G, and clutch H, with the cylinders E and E′, and shaft L, and clutch K, and ropes F and F′, for alternately raising and lowering the buckets B through a distance that may be adjusted as required, by the continuous revolution of the shaft in one direction, substantially as set forth.

79,773.—PHILIP PENINGTON, Union City, Ind. —*Churn.*—July 7, 1868.—Two horizontal arms having upright staves with horizontal semi-circular dashes attached to them are made to revolve in opposite directions, and are arranged to be taken out and put in at pleasure.

Claim.—The combination of the dashers E F on the movable arms D D, having recesses *c c*, and slides *e e*, for securing to the journals *d d* in the churn A, to operate as set forth.

79,774.—D. H. PRIEST and H. S. WOLCOTT, Boston, Mass.—*Fastening the Lining to Soles of Boots and Shoes.*—July 7, 1868.—Upon the outer surface of the last at the edge of the sole is a yielding facing or rim supported by springs or otherwise. Attached to the side brace is a lever provided with an adjustable gauge so that when brought down upon the rim the latter is pressed down even with the surface of the sole.

Claim.—1. The automatic facing or rim *c*, operated by the springs *d*, *e*, and *f f*, or their equivalents, in combination with the last *b*, for the purpose of protecting the lining, substantially in the manner specified.

2. The combination and arrangement of the lever *g*, with its adjustable plate *j*, and the parts *i h*, and B, for the purpose of operating upon the rim *c*, substantially in the manner specified.

79,775.—EDMUND W. QUINCY, Lacon, Ill.—*Corn Harvester.*—July 7, 1868.—Consists of a mechanism for gathering ears of corn from stalks in the field, and shucking the same at one operation.

Claim.—1. The brace board *k*, applied to a corn-harvesting machine, substantially as and for the purpose described.

2. The elevating and gathering apparatus, constructed as described, when applied in combination with the brace board *k* to a corn-harvesting machine, substantially as and for the purpose described.

3. The combination of the shucking with the gathering apparatus, the former consisting of the spout *m* with its endless apron, said apron having prongs *m′*, and the plate *u*, with its stripping orifice *n′*, said orifice being made capable of accommodating itself to ears of different sizes, as and for the purpose set forth.

4. The buckets *h*, when constructed with their front sides higher than their rear sides, as and for the purpose described.

5. The vertical rollers *l*, in combination with the brace boards, as and for the purpose described.

79,776.—A. C. RAND, Westfield, Mass.—*Whip Holder.*—July 7, 1868.—A base of wood or other material is provided with bows of whalebone or other elastic material so arranged as to grasp and securely hold the lash of a whip when struck against the same.

Claim.—The combination of the base with the springs bent in the form of bows, as described and secured therein, all constructed and operating substantially as described, and for the purposes herein set forth.

79,777.—JOSIAH M. REED, Boston, Mass.—*Boot Crimper.*—July 7, 1868.—Designed as an improvement upon a device patented to J. Copeland, January 20, 1844. The sides of the pyramidal block are formed with teeth instead of making such tooth upon the clasp, in order to prevent injury to the leather.

Claim.—A boot crimper, composed of the jawed clasp, the screw, and the pyramidal block, with the retaining teeth formed upon the latter, essentially as herein shown and described.

79,778.—ALMON ROFF, Southport, Conn.—*Adjustable Spring.*—July 7, 1868.—To increase or diminish the tension of the spring, a central pin and bolt are moved through a partial revolution, and the spring is held by ratchet and dog under greater or less tension as may be desired.

Claim.—The adjustable spring A, provided with a ratchet and dog, for increasing or diminishing its tension, substantially in the manner and for the purpose set forth.

79,779.—ISAAC RORABACK, South Bend, Ind.—*Harness Buckle.*—July 7, 1868.—The tongue is secured between the sides by a roller, the sides being connected to each other by cross plates, upon which latter is introduced a filling which serves to clamp the tug and trace more tightly.

Claim.—The sides D, provided with inclined slats E, cross plate F, and filling C′, as arranged, in combination with the tongue G, and roller H, in the manner as and for the purpose specified, as a new article of manufacture.

79,780.—LEWIS ROTH, Newark, N. J.—*Umbrella.*—July 7, 1868; antedated July 2, 1868.—An additional brace is arranged above the usual brace for additional strength.

Claim.—The arrangement of the brace B, extending from the thimble E to the arm A, above the regular brace I, in the manner and for the purpose named.

79,781.—STEPHEN P. RUGGLES, Boston, Mass. —*Rotary Fluid Elevator.*—July 7, 1868.—The float wheels are so arranged that one of the floats of one of the series shall act as a cut-off at or in the space between the float wheels, so that no communication is had between the under and upper portion of the box or case, except what is had by the floats themselves.

Claim.—The combination, in one case or box, of two float wheels that move one before the other and then both together, for the purpose of passing air, gas, or water through the case in one direction only, and prevent it from flowing back, substantially in the manner and for the purpose set forth.

79,782.—EMILY S. RUSSELL, Plymouth, Mass.—*Toy House.*—July 7, 1868.—A doll may be slid between the sheets, and by means of a wire or a strip of card attached to it may be made to move from room to room.

Claim.—A toy house, made of two thin sheets of material secured together, the outer sheet having swinging doors and blinds, concealing or disclosing representations of apartments on the inner sheet, and the space between the sheets being adapted to the movements of a doll, *n*, substantially as described.

79,783.—JAMES M. SEYMOUR, Newark, N. J., assignor to himself and DANIEL WHETLOCK, same place.—*Mitering Machine.*—July 7, 1868.—Attached to the frame are two additional arms projecting back of and parallel to the knives. A double clasp slides upon the arms, through which passes the stem of an adjustable support, the foot of which is adjusted to the under side of the rebate of the molding, and on a line with the knife.

Claim.—1. The adjustable foot *b*, stem H, double clamp G, and the arms F F, when combined with a miter machine in the manner and for the purpose specified.

2. The adjustable foot *b*, when constructed to move on the line of the edge of the knives, and close thereto, as specified and shown.

79,784.—EDWARD SNYDER, Slatington, Pa.—*Machine for Polishing Slate.*—July 7, 1868.

Claim.—1. The smoothing machine herein described, having two or more pairs of polishing wheels, revolving in opposite directions, and mounted one above the other, so that the slates may feed through the series by gravity, all substantially as and for the purposes herein set forth.

2. In such machine, automatically increasing and diminishing the distances apart of the polishing surfaces, so that the machine is self-adjusting for each thickness of slates, substantially as and for the purposes herein set forth.

79,785.—GEORGE B. STEVENS, Pluckemin, N. J.—*Sleigh Brake.*—July 7, 1868.—Two pieces of iron fitting over the cross brace are turned up in front to form sockets, in which the rod that holds the drag bar turns. Metal plates are secured to the uprights and side pieces, against which the bar bears when the brake is in operation.

Claim.—1. The combination, with the turning rod D, of the open bearings, constructed and applied to the cross brace B, as and for the purpose set forth.

2. The arrangement of the open bearings, the flanged turning brake rod, and the plates G beneath the side pieces, as described.

79,786.—MICHAEL SWEENEY, Wheeling, W Va., assignor to SWEENEY, BELL & COMPANY, same place.—*Glass Pressing Machine.*—July 7, 1868.—Stong blasts of air are applied to the plunger, and also to the surface of the molds, for the purpose of keeping them at a uniform temperature, preventing the formation of a shell, and effecting the easy delivery of the glass.

Claim.—1. The combination of a machine for pressing glass and a pressure blast, the tubes leading from which are so arranged that cold-air currents, generated by the blast, shall be directed against the surfaces of the pressing mechanism, substantially as and for the purpose set forth.

2. So arranging the pipes M and N, leading from the pressure blast I, as to direct the currents of air to the mold G, and against the plunger C, substantially in the manner set forth.

79,787.—OTIS A. TEFFT, Plattsburg, assignor to JOSEPH FRAZIER, Clinton County, N. Y.—*Sharpening Saws.*—July 7, 1868.—The device is composed of two frames, one oscillating upon trunnions, and the other adjustably connected to it, so that it may be partially rotated backward and forward, the latter frame being provided with a grindstone or polishing wheel.

Claim.—The rod or shaft M, provided with crank Q and spiral spring N, in combination with bar P and frames B and G, all constructed and arranged to operate as described, and for the purposes specified.

79,788.—E. LAWRENCE TEVIS, Philadelphia, Pa.—*Shoe Hook.*—July 7, 1868.—For buttoning shoes. A bifurcated jaw takes hold of the button underneath, and lifts it through the button hole without exerting any strain upon the button hole or the button itself.

Claim.—A shoe hook, constructed and operated for the purpose and in the manner above described and set forth.

79,789.—ORISON TWOMBLY, Holderness, N. H., and WILLIAM NOYES, Jr., Newburyport, Mass.—*Knitting Machine.*—July 7, 1868.—The needle cylinder is provided at its base with a screw thread fitting within the bed plate, and on the inner side of the shell gear is a cam so arranged that by screwing the needle cylinder in and out from the bed plate, the former will be raised or lowered, causing the needles to form longer or shorter stitches in the work as desired.

Claim.—1. The needle cylinder D, provided with a screw thread, D′, in combination with the cam C, screw S′, and bed plate A, constructed and operating substantially as and for the purpose specified.

2. The needle cylinder D, provided with a screw thread, D′, in combination with the reversible cam C, slotted thread-guide E, screw S′, and bed plate A, substantially as and for the purpose set forth.

79,790.—GEORGE W. WAITT, Philadelphia, Pa.—*Manufacture of Desiccated Cocoa-Nut.*—July 7, 1868.—Designed as an improvement on the process of Maltby and Smith, patented June 25, 1866. The rasped or grated kernel of the cocoa-nut is first deprived of its moisture and the heated granules are then coated with pulverized white sugar.

Claim.—The improvements in the mode of desiccating and preparing the meat of the cocoa-nut, substantially as described, and for the purposes set forth.

79,791.—R. WARD, Edinburg, Ind.—*Smut Mill.*—July 7, 1868.—A triple suction separator is combined with a smut mill and riddle, by which the separated grain passes through one suction pipe into the smut mill, thence through a second and third suction pipe, and out of the machine.

Claim.—The smut mill, with drum L, constructed as described, with chamber M, suction pipes N and O, and the fan in the drum R, with their various parts, all constructed, arranged, and operating substantially as and for the purposes specified.

79,792.—THOMAS WATSON, Brooklyn, N. Y.—*Device for Operating Shutters.*—July 7, 1868.—A sliding lever with one end inside of the window is pivoted in a circular block fitted in a recess in the window, and connected with a vibrating lever pivoted to the window sill, the said latter lever being attached to a rod or guide on the shutter, so that the shutter may be readily opened or closed from the inside of the window.

Claim.—1. The combination of the sliding lever *d*, the turning socket *e*, locking pin *f*, and the vibrating lever *c*, with the guide *b* on the shutter and window sill, all arranged and operating substantially as shown and described, and for the purpose specified.

2. The combination with a window shutter or blind, of the stop-pin *f*, with the sliding lever *d*, and the turning socket *e*, substantially as and for the purpose specified.

79,793.—SAMUEL WEHRLY, San Francisco, Cal.—*Spur.*—July 7, 1868.—Attached to the sides of the band which encircles the heel and holds the spur is a sliding plate provided with a slot. By means of graduated holes and a pin attached to the end of a spring, the spur may be readily adjusted to the boot of the rider.

Claim.—The graduated holes *b b b*, or their equivalents, in the sides of the band A, and the pin *c* near the end of the spring E, for adjusting the spur to the heel, substantially as described.

79,794.—SAMUEL WHITMARSH, Northampton, Mass.—*Composition for Forming Molded and Coated Articles.*—Antedated June 27, 1868.

Claim.—1. The combination of blood with asbestos, for the production of a composition applicable either in a liquid or solid form, substantially as described.

2. A composition, made up of blood and mineral or earthy matter, mixed or ground together, and afterward exposed to a temperature of 350° Fahrenheit, or thereabouts, to give to it a hard and water-proof character, essentially as herein set forth.

79,795.—H. B. WILLOUGHBY, Ottawa, Ill.—*Mop Wringer.*—July 7, 1868.—The levers are so arranged that the rollers of the wringer may be opened sufficiently to remove the vessel from between them. The wash vessel is held in a hoop a short distance from the floor.

Claim.—The combination of the levers J K E, braces H G, supports F F, treadle D, frame A, hoop B, with rollers L L′, the latter being arranged to open and close over the top of a wash vessel, as and for the purpose herein shown.

79,796.—ELIAS WOODWARD, Brooklyn, N. Y.—*Fastening for Neck-Tie.*—July 7, 1868.—A detachable fastening for a bow, &c., is formed with penetrating points that hook into the material of which the bow is formed, in combination with an elastic connection between such a hook and a hook that is adapted to connect the scarf to the collar.

Claim.—The detachable fastening for a bow or scarf, formed with penetrating points *o*, elastic connection *d*, and hook C, combined and arranged as described.

79,797.—WILLIAM YATES, Canton, Ohio, assignor to C. AULTMAN, A. C. TONNER, P. H. SOWERS, and GEORGE H. BUCKIUS, same place.—*Harness Ring.*—July 7, 1868.—The base is designed for rendering the ring ornamental, and the arms prevent the straps, which are attached to the ring, from slipping around.

Claim.—A ring, A, having a base, B, arranged in its interior by means of one or more arms, C, substantially as and for the purpose herein specified.

79,798.—W. H. YOUNG and L. YOUNG, Boston, Mass.—*Caster for Trunk.*—July 7, 1868.

Claim.—The revolving shank *c*, with its head *d*, the shoulder *e*, and the roller *f*, combined and arranged with socket *b*, the screw *g*, and the strip *h*, substantially in the manner and for the purpose above set forth.

79,799.—JOSEPH I. BEAUMONT, St. Paul, Minn.—*Air Escape Funnel.*—July 7, 1868.—A small funnel is arranged within a larger one and a space left between the two, closed at the top of the inner funnel. Small holes are made in the outer funnel above and below, to permit the escape of air from the vessel being filled.

Claim.—The combination of the inner funnel B, having thereon the wire rods *b*, with the outer funnel A, containing the apertures *c* and *d*, the whole being constructed and arranged in the manner and for the purposes substantially as herein described and set forth.

79,800.—ANDREW A. ABBOT, Boston, Mass.—*Fastening for Boots.*—July 14, 1868.—The shoe or garment to which the spring button and eyeleted button-hole are applied may be readily fastened or unfastened, as the button yields to permit the eyelet to pass over it, and expands to retain the eyelet.

Claim.—The within-described fastening, consisting of the spring button C, in combination with an eyelet, B, or its equivalent, substantially as described.

79,801.—ALONZO WHITNEY ADAMS, New York, N. Y.—*Self-Locking Bolt for Meter Safes.*—July 14, 1868.—This bolt, with its expanding catches, is intended to afford a means of securing the meter within the safe, and prevent it from being tampered with, until the proper authorities shall render it accessible by opening the safe, which is done by the employment of the necessary violence.

Claim.—1. The bolt A and the devices attached thereto, or equivalents, as shown and described.

2. The safe or guard casing, with its devices thereto attached, or equivalents, as shown and described.

3. The combination of the bolt A with the safe or guard casing, as represented in the specifications and in Fig. 4 of the drawings, or any equivalent for the same.

79,802.—WILLIAM ATWOOD, Cape Elizabeth, Me.—*Machine for Separating Light from Heavy Particles of Litharge, Paint, &c.*—July 14, 1868.—The hollow rotating drum is somewhat inclined, so that while the light particles are blown through the opening near the feed spout, the heavy particles are discharged through a second spout at the lower end of the drum.

Claim.—1. The combination of the fan wheel *f*, tube *g*, and rotating drum *b*, as and for the specified purposes.

2. The combination of the spout *a* with the rotating drum *b*, as and for the purposes set forth.

3. In combination with the fan wheel *f*, tube *g*, and drum *b*, all operating as described, the deposit chamber *h*, for the purposes described.

4. Separating the finer from the coarser particles of litharge, &c., by means of a current of air forced through a rotating drum, &c., and carrying the said finer particles into a deposit chamber, substantially as described.

79,803.—JOHN S. BARDEN, Providence, R. I., assignor to himself and DANIEL N. PICKERING, Boston, Mass.—*Rotary Steam-Engine.*—July 14, 1868.—A semi-rotative engine, the shaft of which has an axially-reciprocating movement, so as to work the two pistons of a double-acting pump. The stems of the valves extend down into the sectoral chambers, so as to be raised alternately by the oscillating pistons, for the purpose of opening and closing the induction and eduction passages and reversing the movement of the parts. The purpose of the faucet and its branch passages is to free the piston chambers of the water resulting from the condensation of steam.

Claim.—1. As my invention, the combination consisting of the two sectoral chambers *c c*, the oscillating pistons C D, the shaft D, the cylinder *d*, the reciprocating valve-piston G, its cylinder F, and tapped or stemmed valves b^1 b^1, arranged and provided with steam passages of induction and eduction, the whole being substantially as and so as to operate as described.

2. The arrangement of the steam passages *f g* with the pistons C D, the cylinder *d*, and the shaft B.

3. The arrangement and combination of the faucet E, and its branch passages *k k*, with the steam chambers *c c*.

4. The arrangement of the valves b^1, the rods c^1 thereof, and their passages a^3 b^3, so as to effect "cushioning" of the valve piston G by the steam, under circumstances as set forth.

5. The valve piston G, constructed of the shell *r* and body part *q*, made and arranged together as set forth.

79,804.—JOHN L. BEERS, McAlisterville, Pa.—*Scroll for Water Wheels.*—July 14, 1868.—By means of the tongue the throat may be made larger or smaller, according to the amount of water required. In shutting off the water the gate is first closed, thereby relieving the tongue of pressure, so that the inner bar may be closed.

Claim.—The arrangement of the gate D and bar C with the adjustable tongue B and the throat A, as and for the purpose specified.

79,805.—WM. P. BLADES, Baltimore, Md.—*Car Brake.*—July 14, 1868.—This mode of suspending the brake is designed to cause the entire breaking surface of the shoe to press equally upon the wheel.

Claim.—The brake block B, constructed with the slotted cavity, in combination with the supporting bolt D, made with a neck or bolt to pass through brake bar, and when pivoted to the block by the same link which supports the whole, substantially as described.

79,806.—GEORGE W. BOWLSBY, Monroe, Mich.—*Revenue Stamp.*—July 14, 1868.—The stamp is divided up into sections of different colors, and for different purposes, more or less related to each other, and used at different times and places, by different persons, for the collection of revenue on commodities, said sections of the different colors and other varying features (though used at different times and places) being used upon the same individual parcel, cask, or package.

Claim.—1. A blank stamp, having no fixed value while in the hands of the government, until the inspector has estimated the tax, through the proper means, and has entered the amount upon the face of the stamp, for a specific package, the value of the stamp depending mostly upon said estimate, and partly upon the class name of the stamp.

2. A stamp made, and the value fixed by the government, for a particular individual package, as shown in Figs. 2, 3, 4, 5.

3. A stamp made in separate and independent sections, mechanically, substantially as described, for the purposes named, or for other similar purposes.

4. A stamp, the mechanically independent sections of which are of different colors, for the purposes named.

5. Making the different sections or portions, as described, of the same stamp vehicles for the necessary entries of inspection and reinspection, and continuing and carrying a history on their face of the movements, ownership, duty, proof, weight, measure, and (or) other matters of record pertaining to the article taxed, as an ever present means of detection, an auxiliary in reinspection, and also a partial cancellation.

6. A stamp whose sections have duplicate and corresponding entries upon their faces, to be separated, substantially as and for the purposes described.

7. The numbering of the different stamps, and also the sections of the same stamp, by various series, for further means of detection, reference, cancellation, record, and identification.

8. The entry of official countersignatures upon the face of the stamp and its sections in successive series, or by intermediate steps, for the purposes named.

9. The continuous cancellation of the stamp by the process described.

10. The final resumption of the stamp coupons, and then of the stamps proper, by the government.

11. A stamp whose face history is connected with an official book record at the home office, and also with the inspectors or assessors' book, for the purposes specified.

79,807.—Albert Brown, Troy, N. Y.—*Hot Water Tank on Cooking Stoves.*—July 14, 1868.—The division plate in the horizontal flue of the reservoir has a damper, the closing of which diverts the direct draught in a downward direction through the descending flue of the reservoir, which has also an ascending flue leading to the exit.

Claim.—1. A hot water reservoir, having a descending or driving flue therein, substantially as and for the purpose herein specified.

2. The projecting horizontal flue E, for forming a connection between the stove and reservoir flues and exit pipe thereof, substantially as set forth.

3. The suspension of the reservoir by the stovepipe projection or thimble, substantially as described and as represented in Fig. 1.

4. The boiler hole or holes *g* over the flue space E, in combination with the hot water reservoir, substantially as set forth.

79,808.—H. H. Bryant, Boston, Mass.—*Fire-proof Safe.*—July 14, 1868.—Water or other liquid is employed within the door and walls of the safe for the purpose of preventing the place of deposit from becoming heated to such a degree as to injure anything contained therein. The improvements provide for the escape of steam, under a certain pressure, to obviate explosion; also for the entrance of air to prevent a vacuum.

Claim.—1. The combination of one or more vessels, adapted for containing a liquid suitable for generating steam, with a safe which has its chamber of deposit made steam-tight against the steam which is generated from the water in said vessels, substantially as and for the purpose herein described.

2. The arrangement of water or fluid vessels with steam valves, applied either within the door of the safe, or immediately around the receptacle E, or both within the door and around said receptacle, substantially as and for the purpose described.

3. Providing the water vessels with air valves, substantially in the manner and for the purpose described.

4. The combination of both air and steam valves with the water vessels applied to a safe, substantially as and for the purpose described.

5. The arrangement of the valves in or on the water vessels or chambers in such a manner that some of the valves will operate, in whatever position the safe may assume during a fire, substantially as described.

6. The combination of water or other fluid with a solid absorbent substance, as a filling for a vessel or a chamber used in a safe or other similar fire-proof structure, substantially as and for the purpose described.

79,809.—Hezekiah H. Bryant, Boston, Mass.—*Fire-proof Structure.*—July 14, 1868.—The pipes are so arranged as to conduct off the steam from the liquid receptacle, be the latter in any position whatsoever.

Claim.—In combination with a safe or other structure of a similar nature, the use of one or more vessels or chambers, used as steam or vapor generators, that are provided with a suitable number of pipes, *a*, arranged substantially as and for the purpose set forth.

79,810.—Albert Carter, Forrestville, Conn.—*Machine for Attaching Spangles to Hoops of Skirts.*—July 14, 1868.—Conductor for supplying machines which apply to tapes the small clasps or spangles whereby the tapes are held to the hoops of skeleton skirts. The devices claimed effect the separation of the clasps, which may be presented in the wrong position, from those which are properly presented, and thus obviate obstructions to the operation of the machine.

Claim.—The swinging gate *c*, with its end inclined upward, in combination with the inclined assorting plate *a*, opening *e*, and fence *b*, substantially as and for the purposes specified.

79,811.—Benjamin I. Crew, Philadelphia, Pa.—*Mustard Plaster.*—July 14, 1868.—By the preparatory removal of the fixed oil, the active principle of the mustard is retained in a condition which does not induce fermentation and rotting. Prior to application the plaster is steeped in water to develop the active properties of the mustard.

Claim.—A plaster, composed of mustard deprived of its fixed oils, and mixed with a solution of India-rubber, or other material insoluble in water, as set forth.

79,812.—James Dampman.—Lebanon, Pa.—*Railroad Switch.*—July 14, 1868.—Under this construction and arrangement the switch cannot endanger a train passing over it, whether it be adjusted for the main track or siding.

Claim.—1. The bent switch-rail C^1 C^2, and straight rail C, in combination, when the former has the tapering section N applied to it by means of rods *f f* and springs *e e*, and the latter has the frog P' and pointed rail extension P applied to it, all substantially in the manner and for the purpose described.

2. The frog P', and pointed rail extension P, constructed and adapted to serve the purposes substantially as described.

3. The switch rod *b*, constructed with removable shoulders *j j*, and with removable griping-jaws *j′*, and screw threads and retaining nuts, substantially as described and shown.

79,813.—Levis H. Davis, Newark, Del., assignor to Casho & Company, same place.—*Grain Separator.*—July 14, 1868.—The shaking screen in its backward movement descends closely to the grain board, thus causing the rakes to draw the grain forward to the opening, through which it is discharged into the shoe. The heavy and light grain, respectively, pass into the two troughs to be conducted into separate receptacles.

Claim.—1. The longitudinally vibrating stair-shaped screen F, provided with rectangular perforations *f* in the riser of the stair, as and for the purpose set forth.

2. The combination, as set forth, of the longitudinally vibrating, stair-shaped, rectangularly-perforated screen, with the rachet ribs *c*, whereby the straw escapes backward and the grain forward.

3. The combination, substantially as set forth, of the stair-shaped perforated screen with reciprocating rakes G, which return the grain to the front of the machine after passing through the screen.

4. The combination, substantially as set forth, of the threshing cylinder, longitudinally vibrating, rising and falling stair-shaped perforated screen, and reciprocating rakes, with the fan and second longitudinally vibrating shaking shoe, for the purposes specified.

5. The combination, as described, with the fan, of the shoe H, troughs k^1 k^2, and adjustable back board K, for the purposes set forth.

79,814.—GEORGE DICKERSON, Harveysburg, Ohio.—*Corn Planter.*—July 14, 1868.—The seed-dropping mechanism is operated by one of the wheels of the machine, and the invention has reference to the devices for actuating the seed-slide, and to the means by which the covering shares, covering roller, and seed tube are properly secured and adjusted.

Claim.—1. The general arrangement of the bracing and adjusting bolts P *e e'* and S, sheath B, tube K, coverers D D, and roller E, all constructed and employed as described.

2. In combination with the above parts, the relative arrangement of the horizontal trigger L, retracting spring N, and cam-wheel H *h h'*, when constructed as specified.

79,815.—EDWARD P. DICKIE, Morristown, N. J.—*Picks and Pick Axes.*—July 14, 1868.—The point of the pick is twisted, that its effect in loosening the earth may be increased.

Claim.—The twist-pointed pick or pickaxe herein described.

79,816.—HORACE M. EDSON, Mount Vernon, Ohio.—*Closing Vulcanizing Flasks.*—July 14, 1868.

Claim.—The screw, of brass or other suitable metal, which screwed down through a nut in the top of a vulcanizer, will close the flasks inside of the vulcanizer, as above described, and the steam-tight packing box around the screw, to prevent the steam from escaping from the vulcanizer during the process of vulcanizing.

79,817.—LEVI S. ENOS, Almond, N. Y.—*Stove Pipe Damper.*—July 14, 1868.—The serrated latch, by engagement with the plate through which it passes, holds the oval plate damper in position as desired.

Claim.—The serrated latch C, as constructed and arranged, in combination with the oval plate damper B, substantially as and for the purposes herein set forth.

79,818.—SAMUEL FARRENBURG, Taylorsville, Ind.—*Tool Sharpener.*—July 14, 1868.—The movement of the cranks and pitman rods gives to the grindstones a horizontal reciprocating motion upon metallic bed plates.

Claim.—1. The arrangement of the wheel E, cranks F F, pitmen G G, stones H H, slides I I, rests L L, and binders M M, upon the table A, and operating as set forth.

2. The adjustable rest L and binder M, for supporting the tool to be sharpened, substantially as and for the purposes above set forth.

3. The rest N, against which the person working the machine may lean, substantially as and for the purposes above set forth.

79,819.—A. L. FLEURY, New York, N. Y.—*Electric Machine.*—July 14, 1868.—In this apparatus a current of steam rushes upward through the holes in the plates and impinges upon the points. The particles of water resulting from condensation descend and collect on the points, where the friction, occasioned by the rushing of steam in opposite directions against said particles of water, develops electricity, which is collected by the points and conveyed by proper conductors to the place where the effect is desired.

Claim.—1. The above-described electric machine, composed of the non-conductor casing A, isolated plates C and D, and battery of plates *f f f f*, &c., arranged substantially in the manner set forth.

2. The battery of plates *f f f f*, with perforations and exciting points *g g g g*, connected together, or any other perforated plates, wire cloth, or equivalent, when arranged together and operating in the manner and for the purposes specified.

79,820.—J. W. FORD, San Francisco, Cal.—*Chimney Cowl.*—July 14, 1868.—This device, while affording ventilation for ships, buildings, cars, &c., is designed to prevent the entrance of the rain through the ventilator.

Claim.—The ventilator, composed essentially of the pipe A and cowl C, united by the connection-pipe B, the cowl having the expanded end *c*, to receive the air to create the current, and the elongated cylindrical or parallelopipedon discharge-end *c'*, for the purpose described, all the said parts being constructed and arranged to operate together, substantially in the manner specified.

79,821.—J. C. GILBERT, Galesburg, Ill.—*Churn.*—July 16, 1868.

Claim.—The revolving box B, with perforated dashers H H K, and small lid F on the main lid, when the several parts are constructed, arranged, and used to operate substantially as shown and described.

79,822.—GEORGE D. GILLETT, Meriden, N. Y.—*Attaching Pad Hooks to Pads.*—July 14, 1868.—The shank of the harness-pad hook has a system of shoulders and hooks for embracing the pad, so that but little other fastening is required.

Claim.—In combination with the pad hook B, the hook *c* and shoulder *b'*, with or without the shoulders *b b*, as herein shown, and for the purpose described.

79,823.—FREDERIC NEWTON GISBORNE and HERBERT ALLMAN, London, England.—*Lamp Chimney Attachment.*—July 14, 1868.—The movement of the valve, to regulate the admission of atmospheric air to the flame, is produced by the action of the heat of the flame upon a compound bar attached to the ring or some portion of the valve.

Claim.—1. Our improved apparatus for regulating the supply of air to the flame of a lamp or burner, when constructed and arranged substantially as herein described and set forth.

2. The combination of a disk or button, F, with an opening or valve placed above it, substantially as described and herein set forth.

3. The combination of the compound bar *d*, the hinged valve *c*, and perforated rim *a*, the whole used in connection with a lamp or gas chimney, substantially as herein described, and for the purposes specified.

79,824.—HUBBARD S. GOFF and FRANKLIN M. GOFF, Middletown, Conn.—*Dish Cover.*—July 14, 1868.—The springs sustain the cover when it is unlocked, but when the cover is forced down it is so held by the figure on its top, said figure springing under the top cross wire, which rests in a notch in the head of the figure.

Claim.—1. The arrangement of the cover B of the dish, upon one or more vertical pieces A, so that it slides up or down, and can be fastened up or down upon the dish at pleasure, substantially in the manner described and shown.

2. The arrangement of the figure hinged at the top of the cover, and operated by the spring G, so as to form a lock, substantially as shown.

79,825.—A. D. GOODELL, Florence North Hampton, Mass.—*Bit Stock.*—July 14, 1868; antedated July 3, 1868.—Has reference to the method of holding the bit in the brace, and attaching the head of the brace to the shaft of the crank.

Claim.—1. A bit brace, in which the clamp is formed of the two pieces D and D', operated by a collar B, arranged and constructed substantially as shown.

2. The adjustable socket C, operated by the collar A, substantially as shown.

3. The device for attaching the head, consisting of the split screw E, set around a neck formed in the journal, and screwing into the head, substantially as shown.

79,826.—Charles C. Hall, Portland, Me.—*Steam Heating Apparatus.*—July 14, 1868.—Water is supplied in limited quantity to the receptacle at the bottom of the apparatus, and is converted into steam by the heat applied thereto. The steam rises in the central pipe and passes into the radiators, whose foraminated tops permit sufficient steam to escape thereat to impart humidity to the atmosphere. Hot-air conductors are also employed.

Claim.—1. The open boiler *b*, constructed and operating as herein set forth and for the purposes described.

2. Combining the air and steam heat within the boiler, by the means of the pipe *n*, as and for the purposes herein set forth.

3. The minute perforations *i* in the tops of the radiators, as and for the purposes described.

4. The arrangement of the radiators *e* and connecting tubes *f*, for the purpose of distributing the steam therein, as described.

5. The steam heating apparatus, as herein described, in which the liability to accident or explosion is obviated, by the prevention of steam pressure, as herein described.

6. The steam heating apparatus, as herein described, which is automatic, that is, when the supply of water and the pressure of steam are regulated by the apparatus itself, without the necessity of any care, as herein described, by means of outlet *h*, regulator *p*, pipe *c*, and waste pipe *m*.

79,827.—O. Court Hamilton and Harvey McKinney, Turtle Creek, Pa.—*Fruit Gatherer.*—July 14, 1868.—The jaws are held open by the spring which encircles the handle, but may be closed by means of the pull cord, so as to cut or pull the fruit from the tree. The edges of the jaws have knives secured to them.

Claim.—1. The combination, substantially as set forth, with a partly open box, of jaws, hinged near the edges of the opening, which jaws, when closed, complete the box, and thus prevent the spilling of the fruit.

2. The combination, substantially as set forth, with the receptacle and jaws, of the rounded internal strips, to prevent the crushing of the fruit or the clogging of the jaws.

79,828.—Caleb Harrison, Milwaukee, Wis.—*Rotary Steam Engine.*—July 14, 1868; antedated June 27, 1868.—The two ports in conjunction with the valve, adapt the notched wheel to be turned in either direction, as the steam, issuing from said ports, acts directly upon the wheel to impart motion thereto. The worm and cog wheel reduce the velocity sufficiently to admit of the application of the power to useful purposes.

Claim.—An engine, consisting of the serrated disk B, mounted in a case provided with the two steam passages L L, and valve H, and having the shaft D, provided with the endless screw P, engaging in the wheel F, all constructed and arranged to operate as shown and described.

79,829.—Anthony Hochstein, Williamsville, N. Y.—*Harrow.*—July 14, 1868.—The cross beams are adjustable by means of set screws, so that the teeth may be used at different degrees of inclination.

Claim.—The combination of the adjustable teeth-supporting beams B, independent of each other, and the set screws *b′ b′*, substantially as and for the purpose described.

79,830.—R. H. Hooper, West Roxbury, Mass.—*Working the Pedals of Piano Fortes, &c.*—July 14, 1868.—A device to be attached to the lyre or pedal standard to enable short-limbed persons to control the pedals.

Claim.—1. The pedal levers and treadles, when constructed substantially as shown, and used with the pedals of a piano, or other similar musical instrument, all substantially as and for the purpose described.

2. The pedal levers and treadles, in combination with the fixed foot stool A, all constructed and used substantially as described.

3. The pedal levers and treadles, in combination with the stool bar B, when constructed and used substantially as described.

79,831.—Jacob W. Horst, Annville, Pa.—*Manure Fork.*—July 14, 1868.—The operator having thrust the tines into a heap of manure, draws back the handle and at the same time forces the catch bar forward until it engages the shoulder of the handle, which operation raises the load and elevates the points of the tines above the ground, so that the combined sled and fork may, without obstruction, be drawn to the place where the manure is to be discharged.

Claim.—1. The fork D G E, pivoted to runners A A, and provided with latching bar C, substantially as described.

2. The use of sled runners A A, constructed substantially as described, and adapted for sustaining a fork, and also a latching bar, C, which passes through the handle of the fork, substantially as set forth.

79,832.—Adolphus Howard, Wellsville, N. Y., and George F. Howard, Chicago, Ill., assignors to George F. Howard.—*Machine for Washing Leather.*—July 14, 1868.—These improvements, having reference to the use of splint brooms, and to the manner of applying them to a rotary shaft, are designed to be applied to the leather-washing machine for which letters-patent were granted same parties May 28, 1867.

Claim.—1. In a machine for washing leather, the application and use of splint brooms, substantially as and for the purposes herein described.

2. In a machine for washing leather, the clamps D D′, or their equivalent, in combination with the radial arms or disks C upon the shaft G, for the purpose and substantially as described.

79,833.—William H. Hoyt, Bethel, Conn., assignor to himself and Nathan Seeley, same place.—*Machine for Sizing Hat Bodies.*—July 14, 1868.—The elastic support of the corrugated bed sustains the lower end of the latter above the surface of the liquid, so that the roll of hats may be adjusted upon the bed without exposing the hands to the hot water. The handle, pivotal shaft, and impelling springs enable the machine to be operated by hand when power cannot be conveniently applied.

Claim.—1. The combination of the vibrating or swinging segment D, and the correspondingly-formed bed *a a*, hinged or pivoted at N, it being elastically supported by the spring O, substantially as herein described, and for the purpose set forth.

2. The handle R, shaft E, springs S S, and swinging segment D, when arranged as described, and for the purpose specified.

79,834.—Abram C. Jacques, Leavenworth, Kansas.—*Plow.*—July 14, 1868.—The roller and its frame are attached to the plow beam by a brace. The roller, by moving in the furrow last made, serves to guide the plow in making the next furrow.

Claim.—1. The adjustable frame F and roller G, to determine and guide the width of the furrow, substantially as herein described.

2. The projecting horizontal blade E and the vertical spur cutter *d* on the plow point, as and for the purposes herein set forth.

79,835.—James Gray Jewell, Washington, D. C.—*Window Sash Stop.*—July 14, 1868.—The disk sustains the sash at any height, and locks it when closed.

Claim.—1. The combination of the metallic socket nail *g* with the tooth F, the socket nail to be made with a sharp point where it penetrates the wood, so that it may be driven into its proper place like a nail or tack, having an angular groove in its head, in which the tooth F rests when the window is locked down.

2. The corrugated groove *i* in the disk or wheel A,

in combination with the rubber ring or band B, so as to prevent the rubber from slipping when in use.

79,836.—JOHN JOHNSON, Atkinson, Ill.—*Stove Pipe Damper*.—July 14, 1868.—The damper when closed affords ventilation and prevents the collection of soot, but does not admit of the ascent of fire and sparks in the pipe.

Claim.—A stove damper, consisting of one center plate A, made of a circular rim, *a*, and fine wire sieve *b*, with arms *c c*, and two outside perforated plates B and C, of oval shape, arranged and fastened together as described, substantially as and for the purposes herein set forth.

79,837.—C. P. KIMBALL, Portland, Me.—*Car Seat.*—July 14, 1868.—The rack and pinion turn gears rigidly attached to the revolving posts of the chairs, which are consequently reversed by being turned in horizontal planes.

Claim.—1. Locking or securing the seats of cars so that they cannot be turned or reversed, either separately or all together, without operating the lever or brake *c*, in the manner and by the means substantially as set forth.

2. Operating or reversing in horizontal planes the seats of cars by means of a rack and lever, or brake and gears, substantially as and for the purposes herein set forth.

3. Reversing all the seats on one side of a car simultaneously by one lever or brake, as and for the purposes set forth.

4. Arranging the seats of cars so that each one of the separate chairs or seats will turn independent of the other, substantially as and for the purposes herein set forth.

79,838.—FRANCIS L. KING, Worcester, Mass.—*Machine for Dressing Stone.*—July 14, 1868.—The invention has reference to the arrangement for adjusting the stones to be dressed so as to hold them steadily in the proper relative position to insure a perfectly plane surface; the method of supplying sand and water; a peculiarly-shaped scroll grinder; a self-adjusting frame, and manner of raising and lowering the same at will; and an arrangement for relieving the grinders of all weight in excess of that required for grinding purposes.

Claim.—1. The arrangements of the grinder blocks U U, so as to leave a hollow space in the center, and the conveyance of sand and water to the hollow space left by this arrangement of the stone in the grinder boxes by means of the upright hollow shafts D D and their hoppers M M, or their equivalent.

2. The collars O O, or their equivalent.

3. The slots in the shafts D D, with the set screws in the gears C C, or their equivalent, when combined with the shafts D D, gears C C, self-adjusting frame L, rotary grinder boxes N N, and reciprocating carriage I.

4. The sectional grinder boxes N N, the inner frames *g g'*, the knobs *d d'*, the set screw *c'*, or its equivalent, arranged and operating substantially as and for the purpose described.

5. The cutters *e e'*, combined with the rotary grinder boxes N N and the carriage I, arranged and operating substantially as and for the purpose specified.

6. The self-adjusting frame I, the shafting R R, the gears S S and T T, racks P P, the slide bearings *b b'*, arranged and operating substantially as and for the purpose described.

7. The hoisting chains X X, pulleys, shaft Y, ratchet wheel W, intermediate gears *p p'*, pawl *r'*, arranged and operating substantially as described, when combined with the grinder boxes N N, self-adjusting frame L, collars O O, and shafts D D.

8. The chains *i' i'*, pulleys *k' k'*, weights *m' m'*, used for the purpose described, when combined with the self-adjusting frame L, grinder boxes N N, collars O O, and shafts D D.

9. The scroll grinder, with its hollow cone in the center, as represented in Figs. 6, 7, and 9, made and operating substantially as described.

79,839.—B. F. KINGMAN and M. V. B. SHEPARD, Chicago, Ill.—*Spring Bed Bottom.*—July 14, 1868.—The metallic strap is long enough to extend around the slat, and hence the fastener may be readily adjusted at any part of the slat by passing it over the end thereof, or opening it and securing it around or upon the same.

Claim.—A bed spring fastening, consisting of the metal strap C and loop D, the former having a nib, E, for holding the spring in place, and a slot, H, through which said loop passes, and the latter having projecting flanges F G fastened to the end of the strap C, and bearing against the inside of the same, substantially as and for the purpose herein specified.

79,840.—ALEXANDER M. KNOWLSON, Troy, N. Y.—*Suppository Machine.*—July 14, 1868.—This device forms or shapes the suppository while the material is in a cold, solid state, and the medical agent equally distributed throughout said material.

Claim.—1. The mode or manner herein contained, described, and set forth, for the manufacture or formation of suppositories from the medicated material, while in a cold or solid state or condition, substantially as herein described and set forth.

2. The combination of the plunger B with the suppository molds *a* and G', each being arranged with the supply tube or cylinder A, in the manner and for the purposes substantially as herein described and set forth.

3. The employment of the frame H, having combined therewith the mold or die G', the supply channel *c*, and the cap I, containing the vent *s*, each being arranged in the manner and for the purposes substantially as herein described and set forth.

4. The arrangement and combination of the die or mold *a* with the cap E, in the manner and for the purposes substantially as herein described and set forth.

79,841.—J. A. LAKIN, Thompsonville, Conn.—*Radiator.*—July 14, 1868.—These radiators rest upon the small ledges of the stove holes, where they are placed in order to adapt an ordinary cooking stove to subserve the purposes of an air heater.

Claim.—The peculiarly shaped radiators herein shown, open at the lower ends, and connected in pairs by means of the pipes B and B', substantially in the manner and for the purpose herein shown.

79,842.—GEORGE G. LOBDELL, Wilmington, Del.—*Cast Iron Car Wheel.*—July 14, 1868.—The flanged side of the hollow rim is straight, instead of curved or depressed, and continued beyond the internal strengthening ribs, at right angles to the latter, so as to increase the strength of the hollow rim and facilitate the casting of the same with the strengthening rib.

Claim.—A cast-iron car wheel, having a hollow rim with transverse strenghthened ribs *a*, where the flanged side of the said hollow rim is made straight, and at right angles, or nearly so, to the said internal ribs, as set forth, for the purpose specified.

79,843.—WILLIAM A. LODER, Rochester, N. Y.—*Fruit Jar.*—July 14, 1868.

Claim.—A sealing ring for fruit jars formed from a strip or strips of paper, or other flexible material, coated on the inside with gum or wax, for covering the joint between the cover and jar, as herein set forth.

79,844.—C. K. MARSHALL, New Orleans, La.—*Hot Air Flues in Stoves.*—July 14, 1868; antedated July 4, 1868.—The internal fire-clay pipe is acted upon directly by the fire. Its lower elbow pipe supplies it with air, which, being heated, is discharged by the upper elbow pipe, which may have an extension pipe to conduct the air to the point where it is to be made available. The contraction of the heating pipe at top prevents the too rapid transit of the air through the same.

Claim.—1. Constructing the pipe D of fire-clay, soapstone, or other like material, with a tapering flue, substantially as described, and for the purpose specified.

2. Constructing the stove A with openings *a b*, in combination with the pipe, having elbows *d* and *d'*, when the same are constructed of fire-clay, soap-

stone, or other like material, and arranged so as to operate substantially as described, and for the purpose specified.

79,845.—C. K. MARSHALL, New Orleans, La.—*Coal Grate and Stove.*—July 14, 1868; antedated June 27, 1868.—The supply pipes and grooves are for supplying the interior of the rear tile of the grate with fresh air, which, being heated, is discharged into the room. The damper enables the course of the air to be changed, so that it may be directed into the flue instead of into the room. The triangular tile also serves as an air heater.

Claim. 1. The tile C, with its internal grooves *c c*, in combination with the pipes E and F, or their equivalents, and the grate B, when the same are constructed and arranged substantially as described and for the purpose set forth.

2. The tile C, with its internal grooves *c c*, in combination with the pipes E and F, and damper G, when the same are constructed and arranged substantially as described and for the purpose set forth.

3. Arranging, in the bottom of an open fire grate, a hollow triangular tile D, when the same is connected with openings in the side of the grate, substantially as described.

79,846.—WILLIAM MAROT MARSHALL, Philadelphia, Pa., assignor to himself and J. B. ALEXANDER, Washington, D. C.—July 14, 1868.—Glass tubing is prepared by silvering, gilding, or painting the inside surface and filling it with plaster or other suitable substance to strengthen it, and combined with open work metallic coverings, and ornamental mountings of metal, wood, or plaster, in relief, to be employed as stair rods, mountings for sash, &c.

Claim.—1. The use of glass tubing, when supported by metal or other casing, mountings in relief, of metal or other material, or the rabetted supports, of metal or other material, substantially as described and for the purpose set forth.

2. The filling of silvered or gilded glass tubes with plaster, cement, or thei requivalents, combined with wood or metal rods, substantially as described, and for the purpose set forth.

79,847.—BENJAMIN K. MALTBY, Cincinnati, Ohio, assignor to CHARLES R. FOSDICK, same place. —*Eye Cup.*—July 14, 1868.—By this device it is designed that the eye shall be called into healthful exercise instead of being inactive and kept in darkness while the compression, by exhausting the air around it, is going on.

Claim.—The use of tubes that serve as receivers for exhausting the air around the eye, in combination with spectacles, with or without magnifying power, designed to elongate the eye, and by proper use to prevent and also to cure long sightedness.

79,848.—JAMES P. MCLEAN, New York, N. Y.—*Refining and Smelting Ores.*—July 14, 1868; antedated July 3, 1868.—By this process pure, dry hydrogen is introduced into the ore chamber in a free state. Coming in contact with the decomposing ore it unites with the oxygen and operates to desulphurize and precipitate the metal and assist combustion.

Claim.—1. The dry gas or gases, prepared and applied to smelting or refining ores, substantially as above set forth, or otherwise prepared, to suit the exigencies of the time and place.

2. The retort B, cleanser C, drier D, gas chamber E, neck V, with pipes G G′ G″, and cocks *m*, *n*, *o*, P, *u*, and X, prepared and arranged in the manner and for the purpose set forth and shown in the drawings or otherwise arranged, substantially as described.

79,849.—JOHN MEYER, Portland, Me.—*Machine for Separating Iron from Sugar.*—July 14, 1868.—The bars of the sieve are magnetized iron, and so arranged that the charcoal introduced at the top of the vat must come in contact with them. The particles of iron adhere to said bars, and hence the charcoal is freed therefrom before passing into the vat.

Claim.—As an improvement in the process of filtering sirup in manufacturing sugar, the improved filtrator herein shown and described, having the metallic sieve, for the purpose of eliminating the particles of iron which have become mixed with the charcoal in the process of preparing the same.

79,850.—GEORGE MUNRO, Philadelphia, Pa.—*Instrument for Stretching Boots and Shoes.*—July 14, 1868.—By turning the handle the two sections may be drawn together, so as to adapt the instrument to be readily inserted in the boot or shoe. They are likewise forced apart to stretch the toe.

Claim.—1. The combination of the sections A B, block C, screw spindle D′, nut G, bevel wheels *h* and *h′*, and spindle D, the whole being arranged and operating substantially as and for the purpose herein set forth.

2. The block .C, consisting of two parts, *e* and *e′*, secured together by screws *f f*, and arranged for the reception of the bevel wheels *h* and *h′* and spindles D and D′, as described.

79,851.—PATRICK O'CONNOR and MORRIS COLLINS, Decatur, Ill.—*Ditching Machine.*—July 14, 1868.—When it is desired to increase the working depth of the ditching apparatus, the pin fastening the mold-boards and the pins holding the several braces are removed, the screw turned to a lower position, and said pins inserted into higher holes.

Claim.—In combination with the beam A and the plow C, the mold-boards D, knives K and L, screw G, and guides I, so that the whole may be moved and adjusted by said screw, substantially as specified and for the purpose set forth.

79,852.—GEORGE OERLLEIN, Utica, Minn.—*Horse Power.*—July 14, 1868.—The horse power is mounted and put in operation upon the wheels, which are used for moving it from place to place. Power can be applied from both sides and both ends at the same time, or from either point alone, as desired.

Claim.—1. A horse power, arranged on wheels, substantially as described.

2. Master wheel C, supporting frame Q, step R, arms S, center shaft T, and draught levers U, in combination, substantially as described.

3. Draught levers U, chains V, toothed wheels, shafts, and dogs, W, in combination with master wheel C, substantially as described.

4. Tumbling-rod shafts O, M, and K, arranged and combined substantially as described.

5. Wheels D and G and master wheel C, with their connections, arranged and combined substantially as described.

6. Braces X and Y, in combination with frame A, substantially as and for the purpose described.

79,853.—JOHN W. PATTEE, Thornton, N. H., assignor to himself and EPHRAIM ELLIOTT, Lowell, Mass.—*Painter's Hook.*—July 14, 1868.—This hook is for suspending painters' buckets, and may be used in three different ways, which will readily suggest themselves in practice.

Claim.—The combination and arrangement of the arms *c* and *d*, with their projections *e* and *f*, eye hook *g*, or its equivalent, and main hook *i*, with or without the projection or barbs, when arranged substantially as described, and for the purposes fully set forth.

79,854.—ELIAS C. PATTERSON, Rochester, N. Y.—*Wire and Picket Fence.*—July 14, 1868.

Claim.—A wire and picket fence, in which each picket is provided with two or more pairs of oblique slots or notches for wires, at different heights, the notches of each pair in the same picket being also at different heights on opposite sides, and inclined, the one upward and the other downward, the pickets being so arranged that each wire of a pair shall alternate from a high to a low notch and *vice versa*, in the successive pickets, and the two wires of each pair being tightened by being seized together at their crossings, substantially as described.

79,855.—DAVID PHILIPS, Cordova, Ill.—*Wagon Brake.*—July 14, 1868.—The handle being seized and drawn backward, the chains are wound upon the roller bar, and, inasmuch as the chains are attached to the axle or other fixed part, the roller bar is consequently moved backward, and the shoes applied to the wheels.

Claim.—The brake, consisting of the roller bar B, having the blocks *d* pivoted thereon, with the lever D, supports C, and chains F, when said parts are constructed and arranged to operate substantially as described.

79,856.—HIRAM PLUMMER, Brooklyn, assignor to himself and WILLIAM E. DOUBLEDAY & Co., New York City, N. Y.—*Sewing Machine.*—July 14, 1868.—This machine is especially adapted to the sewing of straw and other braids for bonnets and hats. The strip of material that is to be sewed is made to lap upon the body of the material, the positions of the parts being determined by gauges, and both thicknesses pass beneath the folder, so that the needle will pass through the two thicknesses while held down by the folder, and, as the needle recedes, a loop of needle thread remains in the hole, in consequence of the shuttle with its thread having previously passed through the loop of needle thread. The raising of the folder relieves the material, which is moved along and again crimped by the folder into form for the needle to pass through it again.

Claim.—1. The combination of a reciprocating perforating needle with the folder *o*, constructed and operating substantially as described, and shuttle *r*, or its equivalent, for the purposes and as set forth.

2. A feeding mechanism, acting in the direction of the needle's length, in combination with a folder and reciprocating perforating needle, substantially as specified.

3. A perforating needle, reciprocating in a plane parallel to that on which the fabric to be sewed is placed, in combination with a shuttle moved in a race way in the bed, and with mechanism for presenting the material to the needle in a folded condition, substantially as set forth.

4. The swinging plate *l*, carrying the folder *o*, in combination with the feeding point *s* and mechanism, substantially as specified, for giving motion to the parts.

79,857.—JEROME POTTER, Pierceton, Ind.—*Gate.*—July 14, 1868.—The bar over the roadway may be removed to permit high loads to pass.

Claim.—A sliding gate, having a long stile, I, and a short stile, J, in combination with a stationary bar, D, and movable bar, E, the whole being constructed and arranged substantially as and for the purpose set forth.

79,858.—REUBEN RAMSDELL, Rindge, N. H.—*Machine for Making Wooden Boxes.*—July 14, 1868.—An instrument to be used in the manufacture of fig and other similar wooden boxes. The wood is wound around and directly against the metallic surface of the former-block whose grooves serve to deflect the points of the nails, which are driven into the box, across the grain. The jaw piece is for griping the end of the stock and holding it securely against a spring, while the band of wood is drawn around both blocks and lapped. The jaw is moved by a treadle and its motion is limited by the adjusting screw.

Claim.—1. In combination with the former-block or its equivalent, the groove or grooves *d*, for turning the nail points, substantially as set forth.

2. In combination with the block *c*, the jaw block *e*, with its clamping or griping jaw *g* and the spring *h*, substantially as set forth.

3. Combining with the jaw *e* and the block *c* the adjusting screw *k*, substantially as and for the purpose set forth.

79,859.—DAVID F. RANDALL, Chicopee, Mass.—*Padlock.*—July 14, 1868.—The opening for the key extends through the solid lock body at right angles to the key socket. The lock consists of six parts, to wit, the body, bolt, spring, shackle, pivotal pin of latter, and small screw constituting detent.

Claim.—1. The arrangement of the detent O in the curved depression beneath the heel of the shackle, so that the detent cannot be removed without detaching the shackle from the body of the padlock, as set forth.

2. The combination of the padlock body, formed as described, slotted and serrated bolt B, spring H, detent O, and shackle C, with the elongated and ridged key shank T, the whole constructed and operating substantially as described.

79,860.—EZRA RIPLEY, Troy, N. Y., assignor to himself and W. C. DAVIS AND COMPANY, Cincinnati, Ohio.—*Tea Kettle.*—July 14, 1868.

Claim.—1. A tea kettle or other culinary vessel, having a hinged bail and an edgewise swinging cover, so hinged or pivoted, and made flat, or so shaped on top, that the cover forms a convenient shelf for supporting and warming other culinary vessels of larger diameter than the cover.

2. In combination with a cover formed and hinged as specified in the preceding clause, so constructing and applying the bail or lifting handle and the rear bail lug, that when the bail is turned down, it will permit the cover to swing over it, as described.

3. In connection with a flat topped swinging cover, the lug or handle G, projecting horizontally, in such a manner as to offer no obstruction to placing a vessel upon said cover.

79,861.—SYLVESTER H. ROPER, Roxbury, Mass., assignor to the ROPER REPEATING-RIFLE COMPANY, Amherst, Mass.—*Detachable Muzzle for Shot Guns.*—July 14, 1868.—The detachable muzzle being slightly contracted at its forward end, has the effect, when attached to the gun, of adapting the latter to throw the shot in an aggregated instead of a scattered state.

Claim.—A contracted ring or ferrule, substantially as described, attachable to and detachable from the muzzle of a shot gun by means of a screw joint, for the purpose of diminishing or increasing the scatter of the shot, substantially as shown and described.

79,862.—O. C. ROSS, Penfield, N. Y.—*Door Straightener.*—July 14, 1868.—The lugs are first fixed in position above and below the warp, and the sections are then applied so as to form a toggle, whereupon the screw at the junction draws the door into form and clamps the parts firmly in contact.

Claim.—The device for straightening doors, consisting of sections D D, connecting intermediately at *b*, and engaging at the extremities with lugs C C, by means of angles *f g*, and ribs and slots *h i*, substantially as herein set forth.

79,863.—W. G. SAVAGE, Knoxville, Iowa.—*Steam Engine.*—July 14, 1868.—The shaft, which is parallel with the cylinder and derives motion from the piston, has a groove in which is secured a small spring, which catches in a notch in the eye of the cog wheel to cause the latter to turn with the shaft. A lever secured to the head holds the spring out of the notch long enough to allow the shaft to turn half way round without the wheel, whereupon the spring catches in another groove in the opposite side of the wheel and starts it forward, so as to give motion to the valve and reverse the engine.

Claim.—1. The arrangement of the lever S and spring *x* with the shaft F and wheel G, by which means the motion of the engine is reversed, substantially as set forth.

2. The combination of the valve C with the head A, having a hub, *b*, and the cylinder D with its steam spaces B *a*, constructed and operating substantially as specified.

79,864.—CHARLES SAYWARD, Gloucester, Mass.—*Gudgeon for Booms.*—July 14, 1868.—A method of attaching the boom to the mast, so that it can move freely in any direction about its attachment.

Claim.—The arrangement of the swivel, hinge, yoke, and bolt, the swivel intervening between the boom and the hinge, substantially as and for the purpose specified.

79,865.—HENRY SHAW and WILLIAM D. LEAVITT, New Orleans, La.—*Grinding Plate for Grist Mills.*—July 14, 1868.—The thinness of the grinding plate, together with the non-conducting packing, prevents the accumulation of enough heat to operate injuriously upon the meal.

Claim.—The combination and arrangement of the cast-iron grinding plate B, having diamond-shaped projections A, the unyielding, non-conducting paper packing C, and back plate D, all constructed and secured together in the manner and for the purpose herein described.

79,866.—William Shea and L. D. Harvey, Harvey, Mich.—*Furnace for Melting Metals.*—July 14, 1868.—The plates contain pipes which receive and discharge water, to protect the jambs and cool the brick-work around the crucible. The hearth is protected in like manner.

Claim.—The putting of pipes into cast-iron plates, substantially as and for the purposes above set forth.

79,867.—William Sherburne, Charlestown, Mass.—*Journal Box.*—July 14, 1868.—The object of this arrangement is to facilitate the removal of the bearing from the journal of the axle, for the inspection of the journal, or the renewal of the bearing, while the oil box remains in its place. Also to so combine the oil box with the axle and jaw, that the oil box may be easily removed therefrom, for the purpose of renewing the packing in the rear end, &c.

Claim.—1. The bolt E, constructed as and for the purposes above described.

2. The bolt E, in combination with the jaw *m* and oil box B, substantially and for the purpose above specified.

79,868.—C. Latham Sholes, Carlos Glidden, and Samuel W. Soulé, Milwaukee, Wis.—*Type Writing Machine.*—July 14, 1868.—The disk has a peripheral groove to hold, support, and guide the pivots of the type bars, which are worked by rods, levers, and keys. Provision is made for moving the paper carriage vertically and laterally, the paper to be written upon being held fast to the carriage by rods and clamps.

Claim.—1. A circular annular disk C, with radial grooves and slots, or grooves alone, to receive and guide the type bars or hammers, so that they inevitably and necessarily will strike the central point with perfect accuracy, when made and operated for the purpose, and as described.

2. The combination of a circular, annular, radially-slotted or grooved disk, with type bars fitted therein, and pivoted thereto, when made and operated for the purpose, and as described.

3. The combination of a ratchet, of regular and equi-distant teeth or cogs, with rods and levers to the keys, so that the paper carriage will be moved a certain and exact distance every time a key is struck, when made and operated for the purpose, and as described.

4. The clamp or rod *u*, in combination with the hinges *h*, and the catches or buttons *m*, for holding the paper securely down on the carriage, when made and operated for the purpose, and as described.

79,869.—J. R. Smith, Springfield, Mass.—*Bridge Block.*—July 14, 1868.—This arrangement of the block and lock of the wrought-iron chords, enables the latter to be connected firmly together without reducing their sectional area, as is commonly done by bolt holes.

Claim.—In combination with the wrought-iron locks D D, connecting the heads *a a* of the chords, the cast-iron block, filling in closely around the joints, substantially as and for the purpose herein described.

79,870.—Hervey D. Snow, Bennington, Vt.—*Water Wheel Regulator.*—July 14, 1868.—The device remains inoperative while the speed is normal, but is brought into action by a change of speed, to admit more or less water to the wheel. Adjustable stops are applied, to prevent the supply of water being entirely shut off, or the gate opened too wide.

Claim.—The adjustable stops *g g'*, in combination with the pawls *r s*, ratchet wheel *f*, and flange *t*, moved by a connection to the governor, substantially as set forth.

79,871.—Welcome Sprague, Farnham, N. Y., assignor to himself and Bernard H. Muehle.—*Harvester.*—July 14, 1868; antedated June 30, 1868.—The grain being twisted into the shape of a continuous rope, is left in the track of the reaping machine, supported on the stubble, where it may be allowed to dry.

Claim.—So constructing a reaping machine that the grain, after it is cut by the knives or cutters, will be collected and formed into a rope, or equivalent, and in that shape be left, in the rear of the machine, upon the ground.

79,872.—Joseph M. Stone, North Andover, Mass., assignor to himself, George L. Davis, and John A. Wiley, same place.—*Card Cylinder.*—July 14, 1868.

Claim.—A card cylinder, formed of a thin shell, with three or more spiders or sets of arms in the same, all cast in one piece, substantially as described, as a new manufacture.

79,873.—George Stowe, Braceville, Ohio.—*Hoisting Grate.*—July 14, 1868.—One of the supporting bars is slotted so as to give play to the trunnion of the grate, and allow that end of the grate to be hoisted. The grooves in the ends of the fire box receive the trunnions and constitute guides for the grate during its vertical movements.

Claim.—1. The supporting bars B and C, constructed with a slot, and operating substantially as described and specified.

2. The grooves D and E, in the ends of the fire box, constructed and operating as herein described.

3. The bottom grate H, provided with a nib or guide I, or its equivalent, for the purpose of guiding the grate, and constructed and so arranged as to be hoisted and dumped, substantially as shown and described.

79,874.—W. H. Taylor, Baldwinsville, N. Y.—*Harness Buckle.*—July 14, 1868.—The frame of the buckle constitutes the loop.

Claim.—The combination of buckle and loop, substantially as and for the purpose specified.

79,875.—Enoch Thomas, Craigsville, Va.—*Oil, Tobacco, and other Presses.*—July 14, 1868.—Under this arrangement the toggle levers are made alternately to exert their power upon the follower.

Claim.—1. The combination and arrangement of the double-acting toggle levers E E' and F F' with the follower frame D and the reciprocating frame I, substantially in the manner herein described, and for the purpose specified.

2. The combination and arrangement of the sectors J J and J' J', rocking shafts H H', shaft K, and eccentric wheels L L, in relation to each other and to the reciprocating frame I, toggle levers E E' and F F', substantially as herein described, and for the purpose specified.

79,876.—James H. Thomas, Lynn, Mass.—*Weather Strip.*—July 14, 1868.—The roll, being made in sections, is free to bend, and thus accommodate itself to irregularities of the threshold.

Claim.—The combination of the flexible elastic roll D, with the short cylinders K K' K'', &c., and the spindle H, arranged substantially as described, and for the purpose set forth.

79,877.—William Thompson, Worcester, Mass.—*Lathe Rest.*—July 14, 1868.—The object in attaching the nut to the block through the side of the rest instead of through the top, as is usually done, is to obviate the accumulation of trash and chips within the screw chamber.

Claim.—Connecting the nut E to the poppet block C by means of a screw passing through a slot in the side of the rest B, in the manner herein described.

79,878.—Thomas E. Thurston, Newark, N. J., assignor to himself and James Kearney, same place.—*File Cutting Machine.*—July 14, 1868.—These improvements are designed to be embodied in the construction of various parts of file-cutting machines of the kind for which a patent was granted E. O. Potter, November 8, 1864.

Claim.—1. Plate A, having the part *s* cast or forged therewith, in combination with parts *a b*, and B and E, all combined and arranged in the manner and for the purpose set forth.

2. The improved adjustable stem D, the improved

parts E and F, the improved part G, and the adjustable roller *u*, when arranged and used in a file-cutting machine, which has thereon the improved part *e*, all constructed substantially as hereinabove set forth.

79,879.—George Washburn, New York, N. Y.—*Lock Bolt.*—July 14, 1868; antedated June 27, 1868.—This locking mechanism for a slide bolt enables the bolt to be operated by a key from the outer side of the door.

Claim.—1. The combination and arrangement of the slide bolt C, provided with the rack E, the case G, pinion F, and shaft H, provided with the bolt *f* and collar *e*, all operating as described, for the purpose specified.

2. The key J, provided with the thumb lever I, having the pin *g* attached, in combination with the shaft or arbor H of the pinion F, said shaft having the hole *f*, substantially as and for the purpose specified.

79,880.—James T. Watkins, Santa Clara, Cal.—*Gang Plow.*—July 14, 1868.

Claim.—1. The plows H H, in combination with the blocks E E′, the holding screws I I, by which the plows are adjusted, and the wedges *a a*, constructed and arranged substantially as described.

2. The blocks E E′, mounted upon the axles C C′, and the bent arms J J′, with the set screws K K′, for regulating the depth of the furrows, substantially as described.

3. The bent arm N, and connecting rod O, with the handle M and the catch P, for disengaging the plows, substantially as described.

4. The bent axle R, with the nut R′ and the screw S, for raising and depressing the furrow wheel, substantially as described.

79,881.—Cyrenus Wheeler, Jr., Auburn, N. Y.—*Harvester Rake.*—July 14, 1868.—Relates to the means for mounting, regulating the movements of, and driving the revolving rake and reel arms.

Claim.—1. The construction and arrangement of the chain sheave or pulley, whereby it is adapted to serve as the rotating head to which the rake and reel arms are pivoted.

2. The arrangement of the endless chain and the driving and guide pulleys, for driving the rake, arranged on one side of the drive wheel, from a pulley or sheave on the opposite side of said wheel, substantially as described.

3. The rake cam or track, made in one piece with the base plate or yoke, and attached to the rake stand, substantially as described.

4. Mounting the friction rollers that traverse the guiding cam in detachable boxes or stands, located in recesses or chambers formed in the rake and reel arms.

5. Linking the rake and reel arms together in pairs, in such manner that the angle of relation of said arms may be varied by adjusting the point of connection of the links therewith at either end.

6. The rake and reel arms, provided with lugs or ears, having set screws for adjusting the height of said arms in passing over the platform.

7. The guiding sheave or pulleys in front of the drive wheel, around which the rake-driving chain passes, made adjustable for the purpose set forth.

8. The main frame, or arm A′ thereof, extended in the rear of the drive wheel, and affording a point of support for the seat bar, substantially as described.

79,882.—H. K. White, Conneaut Township, Pa.—*Washing Compound.*—July 14, 1868.—Dissolved yellow bar soap, sal-soda, saleratus, borax, and saltpeter.

Claim.—The above described composition, for washing and cleansing clothing and other goods, compounded in about the proportions specified.

79,883.—Charles Whittaker, Milwaukee, Wis.—*Apparatus for Moving Heavy Bodies.*—July 14, 1868.—As the screws are turned the supporting beams are raised, together with the straps which pass beneath the weight or load; the latter being thus raised and supported may be wheeled by the same apparatus to any desired point.

Claim.—The portable hoisting apparatus, consisting of a frame, A, mounted on wheels, with a series of vertical screws E, with the bars F, and stirrups G, arranged to be operated by bevel gear attached to the horizontal shafts H, all substantially as described.

79,884.—Henry Willard, Ripon, Wis.—*Portable Fence.*—July 14, 1868.

Claim.—The adjustable braces C C, the mortised posts A, the hook, D, and the pin B, the whole arranged and combined with the fence, in the manner substantially as and for the purposes shown and described.

79,885.—George L. Woods, Newburyport, Mass.—*Windlass.*—July 14, 1868.—The object is to produce a continuous motion of the windlass. The turning of the capstan causes the revolution of two wheels, upon which are cranks, connected by links with ratchets, which actuate the windlass. The cranks are upon independent wheels, so arranged that both the links cannot, during the operation, be simultaneously at rest.

Claim.—The arrangement of the capstan *c*, shaft *d*, gears *f f′*, and the bevel gears *g h h′*, in connection with the windlass *r*, when constructed and operated as and for the purpose set forth.

79,886.—Morgan Workman, Washington Township, Ohio.—*Feed Rack.*—July 14, 1868.—The troughs are secured to the main standards by tongue-and-groove joints, so as to be readily slid into and out of place. The hinged covers exclude filth while the animals are not feeding.

Claim.—In the construction of a feed rack, the arrangement of the removable troughs B, and hinged covers *b*, substantially in the manner and for the purpose as herein shown and described.

79,887.—Ferdinand Adt, Wolcottville, Conn., assignor to himself and Elisha Turner, same place.—*Lamp.*—July 14, 1868.—A plurality of wicks and wick tubes is employed. The deflectors are slotted, dome-like plates, which direct the air to the base of the flames. The air tube supplies air to the upper part of the flames. The reflectors are vertical plates, polished on both sides and situated between the flames.

Claim.—A reflector placed between two or more deflectors, and within the chimney, so as to reflect the light from the flames, in the manner specified; and in combination with such deflectors and reflectors, the air tube *f*, for the purposes set forth.

79,888.—Thomas L. Baylies, Richmond, Ind., assignor by mesne assignment to the American Patent Chromatic-Printing-Press Company.—*Inking Apparatus for Color Printing.*—July 14, 1868.—The arms, to which are pivoted the bars, whereby the inking bars are held, are firmly secured in position at the ends of the cylinder by screws and lugs. The interposed rubber compensates for any variation that may occur as to the length of the inking bars. The cams actuate the inking roller frames, bringing the roller in contact with the set of bars of corresponding color, while holding off the roller of different color.

Claim.—1. The combination of the central hub B, a series of adjustable inking bars, D E, and a clamp for securing the bars at the ends without the intervention of any intermediate lateral supports, substantially as set forth.

2. Interposing rubber, or other yielding material, between the inner surface of the hooks or bars D and E and their point of contact with cylinder B and longitudinal bars *e* and *e′*, for the purpose set forth.

3. The cams *b* and *b′*, in combination with bars I and I′ and rollers C and C′, substantially as described, and for the purpose set forth.

79,889.—Charles Becker, John A. Ross, and Jacob Steuernagel, Allegheny City, Pa.—*Fruit Can.*—July 14, 1868.—The recess receives the sealing cement.

Claim.—The arrangement of the corrugated lip D, shoulder *o*, flange *i*, and recess *s*, constructed, arranged, and operating as herein described, and for the purpose set forth.

79,890.—Charles Becker, John A. Ross, and Jacob Steuernagel, Alleghany City, Pa.—*Manufacture of Fruit Can.*—July 14, 1868.—The inner flange is for supporting the lid, and is formed upon the can by means of grooving or swaging tools.

Claim.—The method herein described for forming and providing fruit cans with an inner flange, for the purpose set forth.

79,891. — Henry M. Beecher, Plantsville, Conn., assignor to H. D. Smith, & Co., same place. —*Thill Coupling.*—July 14, 1868.—The lips or lateral projections receive the screws, whereby the base of the coupling is secured to the carriage.

Claim.—The improved shaft connection, as made with the lips *a a* to its base, and in other respects, substantially as described and represented.

79,892.—Léon Bémelmans and Laurent De Give, Atlanta, Ga.—*Manufacture of Glass.*—July 14, 1868.—In this machine the melted glass is spread by pressure until it reaches the sides of a frame, which determines the size of the plate thus formed.

Claim.—1. The process, broadly, of manufacturing window and mirror glasses, of whatever thickness and size, by pressing the melted glass between two parallel and polished plates, whatever may be the mode of pressing employed.

2. The machine to carry said process in operation, called window and mirror glasses manufacturing machine, heretofore described, or any other substantially the same, and which will produce the intended effect.

79,893.—Léon Bémelmans and Laurent De Give, Atlanta, Ga.—*Manufacture of Glass.*—July 14, 1868.—The melted glass is spread within a limited space under the influence of its own weight, as well as by pressure applied to the inclosing plates.

Claim.—A machine, called window and mirror glasses molding machine, heretofore described, or any other substantially the same, and which will produce the intended effect.

79,894. — William J. Biggar and John C. Blood, Conneaut, Ohio.—*Circuit Closer.*—July 14, 1868.—This device is actuated by the heat of a fire that may occur at the place where it is situated, and gives alarm through the agency of the magnetic signal.

Claim.—The combination of the board A, the brass and iron strips *m n*, the sliding bolt *e*, the spring lever *c*, and the posts *b b'*, with the insulated wires *a a'*, arranged and operating substantially as and for the purpose herein described.

79,895.—William J. Biggar, John C. Blood, and Del M. Griswold, Conneaut, Ohio.—*Electro-Magnetic Burglar Alarm.*—July 14, 1868.—Copper wires running through the house are connected with a battery, and have circuit connections attached to the doors and windows, so that when a door or window is opened the armature is released from the magnets, and causes a bell to strike, and lights a fluid lamp or candle.

Claim.—The combination and arrangement of the magnets B B, armature C, pivoted frame D, wheel E, provided with pins *d*, and catch *r*, hinged lever-catch *b*, bell K, hammer H, handle *m*, spiral springs *s e*, catch *p*, swinging holder N, rubber O, stand M, lamp L, weight F, cord *j*, shaft G, wires *g*, and circuit connections and breakers, all substantially as and for the purpose herein shown and described.

79,896.—Samuel C. Bishop and William W. Marks, New York, N. Y.—*Apparatus for Insulating Telegraph Wires.*—July 14, 1868.—By this arrangement a plurality of wires may be simultaneously coated and insulated, within the same core, without any tendancy on the part of the incoming insulating material to bring the wires in contact.

Claim.—The combination of the dies B C with the feed orifice *a*, when the back or male die B is perforated for the passage, in a separated manner, of duplicate wires, and so arranged, relatively to the feed of the insulating material through the orifice *a*, as that the wires, in their passage to and through the front die C, are caused to travel in a plane which is transverse or at right angles to the feed orifice *a*, substantially as and for the purpose herein set forth.

79,897.—Charles W. Blakeslee, Watertown, Conn., Ebenezer B. Beecher, Westville, and Anthony G. Davis, Watertown, Conn.—*Knitting Machine.*—July 14, 1868.—Relates to the class of knitting machines in which two straight rows of needles are used, the same yarn or thread being delivered first to one row and then to the other, for knitting tubular goods. The arm which is combined with the cam-operating belt or chain, reciprocates the yarn-delivering guide. One of the ways or guides which supports the traveling cam, also serves to keep the needles in position within the grooves in which they reciprocate. The narrowing and widening stops perform the additional duty of intermittently connecting and disconnecting the thread guide and its actuating arm. The thread guide, spool and stops, with their supporting bar, may be removed without disturbing other parts of the mechanism, so as to give access to the needles in setting up the work. A removable attachment automically lessens, stitch by stitch, the length of the courses in knitting a stocking heel, or similar portion of work.

Claim.—1. The combination, with the needle-actuating cam, of an endless belt or chain for driving it, substantially as set forth.

2. The combination, with an endless chain or belt, of an arm, which, whether revolving continuously or reversing its movements around the machine, substantially as set forth, will impart a reciprocating motion to the thread guide.

3. The combination of the traveling needle-operating cam with the guide bars M M, with which it engages and disengages, substantially as set forth.

4. The narrowing and widening stops, constructed with cam surfaces, as described, for insuring the connection of the thread guide with its driver, and its disconnection therefrom, substantially as set forth.

5. The combination of the thread guide, spool, and stops with the removable bar which supports them, constructed substantially as and for the purpose set forth.

6. The combination, with a knitting machine, of a detachable automatic traveler for narrowing and widening, actuated by a traversing finger or projection substantially as described.

7. A narrowing and widening device, constructed and operating substantially as set forth.

79,898.—Erastus S. Clapp, Montague, Mass., assignor to himself and Isaac Chenery, same place. —*Spectacles.*—July 14, 1868.—A supplemental frame, with glasses, is attached to a main frame which has no glasses, so that the glasses may be raised above the eyes without removing the main frame from the nose.

Claim.—In combination with a spectacle frame, the rod D, with glass rings and glasses attached thereto, and made adjustable, substantially as and for the purposes herein shown and described.

79,899.—Nathan F. Clark, Lawrence, Mass., assignor to himself and George H. Cook, same place.—*Machine for Making Roving.*—July 14, 1868. —An anti-friction tube of brass encompasses the spindle, and extends through the bolster. It supports the bobbin gear on the bolster, and serves as a bearing for the spindle, while giving support to the bobbin, and preventing the latter from being worn by the spindle.

Claim.—The combination and arrangement of the tube F and bobbin-rest D, constructed as described, with the bolster A, the tube F, having the oil passages *b* and *c*, for conveying the oil to the surface of the spindle and to the interior of the bolster, substantially as and for the purpose set forth.

79,900.—Richard Colburn and George W. Gould, Norwich, Conn.—*Journal Box.*—July 14, 1868.—Designed as a means for uniformly lubricating the entire bearing part of the shaft.

Claim.—1. The combination, with the bottom A, and top B, of the box, of the end grooves C C, longitudinal grooves *b g*, cross groves *c c*, and the wicks *m h*, with or without grooves 4 4, substantially as and for the purposes set forth.

2. The combination, with the parts A and B, of

the end grooves C C′, longitudinal groove b, cross grooves $c\ c'$, and wick m, substantially as and for the purposes herein set forth.

3. The combination, with the metal part e and groove b of the box, of the groove covering and Babbit supporting plate 1, substantially as and for the purposes set forth.

79,901.—Jacob Einhorn, New York, N. Y., assignor to himself and Jacob Eugster, same place.—*Embroidering Machine.*—July 14, 1868.—The machine is for embroidering gauze, or other suitable fabric, the devices by which the stitches are made being fitted in a swinging frame, and the fabric to be embroidered being stretched on a sliding carriage, so that the stitches can be made to follow any desired pattern. The invention refers also to the arrangement of the needle and hook which produce the stitches, and the devices for operating and adjusting the same.

Claim.—1. The arrangement of embroidering mechanism, substantially as described, in a jointed swinging horizontal frame, D E, so that ornamental designs may be produced without moving the fabric after each stitch, substantially as herein shown and described.

2. The longitudinally adjustable frame B, in which the fabric is held, in combination with the jointed swinging needle frame D E, made as set forth.

3. The rotating cam M, rod k, and lever l and hook L, in combination with the tube J, and with a spring on or within the same, all made and operating substantially as herein shown and described.

4. The oscillating lever $n\ o$, in combination with the crank shaft I and reciprocating holder N, all made and operating substantially as herein shown and described, for the purpose of operating the needle in the manner specified.

5. The longitudinally adjustable oscillating lever n, in combination with the levers P P and the spring catch Q or its equivalent, all made and operating so as to allow the needle to be easily thrown in or out of gear.

6. The application of the hook L and needle O, operated by the mechanism described for working a chain stitch, for the purpose specified.

79,902.—C. A. Foster, Fitchburg, Mass., assignor to himself and Harlan P. Derby.—*Meat Cutter.*—July 14, 1868.—By this arrangement the turning of the crank imparts to the knife the desired concomitant motions, to wit, forward, upward, backward, and downward.

Claim.—1. The combination of the chopping knife, its slotted arm H, and sliding blocks 4, with the grooved wheel, in which said blocks move, and the pin, upon which the said arm is hung, substantially as and for the purposes shown and set forth.

2. The combination of the chopping knife, its vibratory arm, and the grooved or slotted wheel for actuating the same, with their supporting frame arranged to overhang or extend across the revolving meat tub, substantially in the manner and for the purposes shown and described.

3. The combination with the cross-piece C and stands B B′, and F, of shaft B, wheel G, stand D, stud c, and arm H, substantially as and for the purposes set forth.

79,903.—Charles Gaudin, Zoé Granier, and Jules Granier, San Francisco, Cal.—*Fire Kindling.*—July 14, 1868.—A ball of sawdust, mixed and saturated with inflammable materials, is rolled or formed upon the end of a wick impregnated with camphene.

Claim.—Forming a fire-kindling ball upon the end of an inflammable wick for the purpose of ready ignition, as herein shown and described.

79,904.—William Hayward and John Lees Danville, Pa.—*Fagot or Pile for Manufacturing Railroad Rails.*—July 14, 1868.

Claim.—The "pile," as represented in the drawing, either with or without the part A, substantially as shown, and for the purposes set forth.

79,905.—Emil T. Hertle and Richard Thompson, New York, N. Y.—*Machine for Making Wire Heddles.*—July 14, 1868.—The cylinders and jaws, which grasp the heddle at each side of the pincers that form the warp eye, are caused to move toward the pincers while the operation of twisting the wires and forming the eye is going on, the object being to avoid subjecting the wires to longitudinal strain.

Claim.—1. Arranging the head stocks $b'\ b'$, which support the inner or adjacent ends of the cylinders $a\ a'$, in the manner described and for the purpose set forth.

2. The combination of the movable cylinders $a\ a'$, the rods $i\ i'$, bars $h\ h'$, and cam pieces $g\ g'$, substantially as described and for the purpose set forth.

79,906.—Leander Hotchkiss, Torrington, assignor to Elisha Turner, Wolcottville, Conn.—*Fruit Picker.*—July 14, 1868.—This device is designed to dispense with the pull-wire or cord of fruit pickers.

Claim.—A fruit gatherer formed of a jointed segmental ring, that closes upon the fruit in the act of pulling or cutting the same off, substantially as set forth.

79,907.—George A. Huggins, Mannsville, N. Y., assignor to himself and H. W. Shepard, same place.—*Milk Can.*—July 14, 1868.

Claim.—The sheet-metal body A, and cast or malleable bottom B, when the latter is grooved so as to form a seat for the former, and at the same time furnish an outer rim for the protection of its lower edge, when the same are combined and attached, substantially as described as and for the purpose specified.

79,908.—John P. Humaston, New York, N. Y., assignor to himself and Hamilton E. Towle, same place.—*Loom.*—July 14, 1868.—The shuttle carriers are operated about a vertical axis, having a central position in relation to the curve of the shuttle race. The jogs come in contact with each other, and promptly start the receiving carrier by an impulse from the delivering carrier.

Claim.—1. The combination of the lay and the pivoted and vibratory shuttle carriers with connecting rods and levers, receiving and imparting their movement from a single revolving cam shaft directly to said lay and shuttle carriers, substantially as herein shown and described.

2. The construction of the two shuttle carriers, vibrating on an axis common to both, when the same are provided with shoulders or jogs, acting in the manner and for the purpose set forth.

79,909.—Almon Hunt and C. C. Chapman, Macomb, Ill.—*Wagon Seat.*—July 14, 1868.—The hooks of the lower springs rest upon the sides of the wagon. The upper springs are fastened to the cross pieces of the seat by the headed pins, whose upper ends are threaded, to receive fastening nuts.

Claim.—The springs B B¹, cross pieces $b\ c$, hooks b^1, pins d, and seat C, the whole being combined and arranged as described.

79,910.—Joshua Hunt, Richmond, Ind., assignor by mesne assignments, to the American Patent Chromatic Printing-Press Company.—*Inking Apparatus for Color Printing.*—July 14, 1868.

Claim.—The combination of the type bed B, the two forms, and the type-inking rollers E′ G′, and the adjustable cam tracks I I′, when so constructed and arranged in relation to the ink-distributing rollers, that different colored inks, first disposed in bands on the type-inking roller, or on part thereof, shall be transferred simultaneously to the lines of type, and a single color be also transferred to the other form, so that by two impressions, the sheet or the form being reversed, two completed jobs may be printed in which the letter press is printed in more than two colors, and the border in one color, substantially as set forth.

79,911.—Thomas S. Huntington and A. Fulton, Bellefontaine, Ohio.—*Passenger Register.*—July 14, 1868.—The levers are raised by their inner ends coming in contact with the fixed cam, each lever being held up by it until moved far enough to allow a person to pass in, when it falls and assumes the position of the other levers. Devices are employed to register the movements of the levers, and cause a hammer to strike a bell.

Claim.—1. The hinged or pivoted levers or arms D, when used for operating a register or indicator, in connection with the rotating disk C, and cams d d', substantially in the manner and for the purpose herein set forth.

2. The combination of the revolving disk C, the fixed cam F, and the levers or arms D, substantially in the manner and for the purposes set forth.

3. The combination of the cap E, and the fixed cam F, for the purpose of operating the arms D, in the manner and for the purpose set forth.

4. The combination of the cams d and the disk C, for the purpose set forth.

5. The combination of the levers J K L, the spring M, and the register, substantially in the manner and for the purposes set forth.

6. The register ring g, with its cylinder k and slot l, when constructed in the manner and for the purpose specified.

7. The combination of the register rings, the slot l, and the pawls g' k' i', in the manner and for the purpose specified.

8. The arms D, when constructed and operated by means of the fixed cam F on the cylinder E, in the manner and for the purpose specified.

9. The register rings, so constructed that, on their outer surfaces, figures, letters, &c., may be placed, and on their inside a ratchet and flange, as and for the purpose herein described.

10. In combination with the rotating rings, the reciprocating shaft I, and pawls g' h' i', when constructed and operated substantially as described.

79,912.—MICHAEL A. LANAGAN, Brooklyn, N. Y., assignor to himself, JOHN DAILEY, ROBERT RUSSELL, and ANDREW MERCIEN.—*Machine for Punching and Shearing.*—July 14, 1868.—For punching and trimming the edges of boiler plates. The plate is intermittently fed forward along with the bed to which it is clamped, and made to pass under the punch; subsequently, as it moves forward, the edge of the plate is trimmed by a pair of shears working in connection with the punch.

Claim.—1. In combination with the punch C, the plate-carrying bed A, arranged to slide crosswise of the punch, and provided with racks or teeth i j on opposite edges of it, reverse pawls g h, connected by arms g^1 h^1 with a vibrating shaft H, slotted levers g^2 h^2, in connection with said pawls, and beam lever g^3 for throwing either pawl in gear with the bed, or disconnecting both therefrom, to reverse or stop the motion of the bed without changing or arresting the movement of the punch, essentially as specified.

2. The combination, with the punch C, of the intermitently-fed bed A and shears M N, arranged, as described, for operation together automatically to punch the plate in a regular or uniform manner, and to trim or dress its edge as it is passed through the machine, substantially as herein set forth.

3. The combination, with the shears M N and intermittently-fed bed A, of the double pawl m^3 and accompanying mechanism for giving a reverse action to the bed, or arresting its motion without changing or stopping the shears, essentially as specified.

79,913.—SAMUEL LEWIS, Brooklyn, N. Y., assignor to WILLIAM H. CAMMEYER, same place.—*Snow Plow.*—July 14, 1868; antedated July 6, 1868.—Apparatus for clearing snow from the surface of skating ponds and ice lakes. The device is drawn by a horse, and the handle and axle enable the driver to raise the body so as to deposit the gathered snow in a pile.

Claim.—The combination of the lever 9, axle 10, gearing 7 8, chains 11, 12, 13, pulleys 6 6 6 6 6, legs 14 14 15, and guides 17 18 19, as set forth, to the body of a "snow plow," as ordinarily constructed, all as explained and specified.

79,914.—JOHN G. MCCORMICK, Louisville, Ky., assignor to himself and M. W. FERGUSON.—*Apparatus for Feeding Fuel to Furnaces.*—July 14, 1868; antedated July 3, 1868.—An apparatus for carrying coal, saw-dust, and other fuel from a bunker to the furnace, and feeding it regularly and evenly upon the grate under the boilers. It is worked by the engine.

Claim.—1. The arrangement of the double-acting screw c'' within cylinder C′, when constructed and used substantially as and for the purpose specified.

2. The arrangement of the concaves e' e' and wheels e e within the spout E, through which fuel is fed to a furnace, substantially as and for the purposes indicated.

3. The arrangement of the bifurcated spouts E E astride of the boilers A A, substantially as and for the purposes described.

4. The instrument i, when used in a feeding spout for the purpose of directing the fuel to its proper destination, and constructed and operated as above described.

5. The vibrating plates m m, substantially as and for the purpose specified.

6. The arrangement of the vibrating grate G with the horizontal boilers A A A, in such a position that it vibrates back and forth transversely under them, for the purpose of levelling the fuel beneath them, substantially as described.

79,915.—GABRIEL NATCHER, Sidney, Ohio, assignor to himself and I. MARKS & CO.—*Railroad Telegraph Alarm.*—July 14, 1868.—The spring guards cover and protect the tappets. The train not only sounds the gongs in passing the posts having signal boxes, but compels the hand on the indicator to move one degree, thereby indicating to the attendants at the station the location of the train.

Claim.—1. A telegraphic alarm for railroads, which is capable of indicating at each station the progress of the train along the track, and also of giving a suitable alarm along the entire track both in front and rear of said train, by means of the signal boxes F, gongs G, hammers H, levers J, tappets K K′, and rods O, or their mechanical equivalents, the whole being arranged and operating substantially as herein described, and for the purpose set forth.

2. In combination with the elements F, G, H, K, K′, and O of the preceding clause, the spring guard L, for the object set forth.

3. In combination with the elements F. G. H. J, K, K′, and O of the first clause, the indicator P, for the purpose herein described.

79,916.—BENJAMIN M. PEARNE and LEROY COVILLE, Oxford, N. Y.—*Axle Box.*—July 14, 1868.—The bands are of leather or other material suitable to prevent noise and avoid friction.

Claim.—The combination of the metallic box B and bands C C with the axle A, when said box has a central depression, and is enlarged at each end for the bands, as set forth.

79,917.—JOHN F. PORTER and ALONZO NORTON, Tidioute, Pa.—*Gang Plow.*—July 14, 1868.—The colters of the adjustable plows serve to sever roots, weeds, &c., and afford points of attachment for the draught chains.

Claim.—1. The hinged colter I, attached to the plow, and operating as described.

2. A plow so constructed and operating that the draught is mainly or wholly upon the point, as herein set forth.

3. The combination of the hinged standards K K′ with the plow D, substantially as described.

4. The combination of the rack n, socket S, cam o, lever p, standard K, and plow D, substantially as described, and for the purpose set forth.

79,918.—AUGUSTUS POTOTSKY, New York, N. Y., assignor to FISK, CLARK and FLAGG, same place.—*Buckle for Suspenders.*—July 14, 1868.—The pantaloons may be disconnected from the shoulder strap of the suspenders without unbuttoning the short straps or tags. The device also affords a ready means of varying the effective length of the shoulder strap.

Claim.—1. The combination, in a buckle, of the two members thereof with a spring stud upon one member, and with the slotted stop plate upon the other member thereof, substantially as before set forth.

2. The combination of the stock of the buckle, constructed with a toothed slot, with a turning bar clamp, substantially as before set forth.

79,919.—Peter Rink and James Docherty, Wertsville, N. J.—*Adjustable Barrel Head.*—July 14, 1868.—The head may be secured in a barrel and removed therefrom without disturbing the hoops, and in case of shrinkage the head may be expanded.

Claim.—The beveled wedge C, grooved upon each side to receive the edges of the parts *a b* of the barrel head, the short beveled wedge D, rebated upon its under side to fit between the said parts and rest upon their upper sides, both wedges secured together and tightened in the head by means of the beveled wedge E, all constructed, arranged, and operating as herein described, for the purpose specified.

79,920.—John K. Sax and George W. Kear, Kingston, Pa.—*Railroad Car Stove.*—July 14, 1868.—This construction of the stove is intended to prevent the egress of fire therefrom in case of accident. Provision is made for readily discharging the ashes.

Claim.—1. The door M, provided with the eccentric spring latch O, and sunk in from the surface to protect it from breaking in time of accident, substantially as and for the purposes above set forth.

2. The combination of the base A, pan B and its valve, revolving grate F and its cog gearing, perforated cylinder C, and its perforated dome N, and the door M, all constructed and forming a cylindrical stove for railroad cars, and operating as specified.

79,921.—Bernard Smith, Cincinnati, Ohio, assignor to American Burial Case Company, same place.—*Coffin.*—July, 14, 1868.—The upper part of the body is set in so that the flange by which the body and lid are united shall not project outward farther than the sides of the body, compactness and durability being the purposes thus subserved.

Claim.—Constructing a burial case substantially in the manner herein described, with the outer edge of the flange D flush, or nearly so, with the sides B B′ of a body, A, whose upper portion is set in, as and for the objects designated.

79,922.—E. J. Smith and F. B. Perkins, Chicago, Ill., assignors to E. J. Smith.—*Scoop and Sifter.*—July 14, 1868.—The sifter is moved in one direction by means of the rod and retracted by a metallic spring.

Claim.—The combination of the sifter J, rod E, coil spring H, and curved rod G, substantially as and for the purpose herein set forth.

79,923.—John C. Smith, Chicopee, assignor to himself and L. D. Hills, Amherst, Mass.—*Loom for Weaving Palm Leaf.*—July 14, 1868.—The leaf is first split and cut into thin strips, of uniform width, thickness, and length, those composing the woof being of length equal to the width of the web to be woven. This machine obviates the placing of said strips in the shed by hand, provision being made for introducing them automatically.

Claim.—1. In combination with a reciprocating weft carrier, the feed trough and oscillating box, constructed substantially as and for the purpose set forth.

2. In combination with the feed trough and oscillating box, the sliding weights D′, substantially as and for the purpose described.

3. In combination with the feed trough and weft carrier, the hooks *e e*, operating substantially as and for the purpose specified.

4. In combination with the feed trough, weft carrier, and hooks *e e*, or their equivalents, the sliding bar *v*, substantially as and for the purpose set forth.

5. The mechanism, substantially as described, for causing the cloth beam and harness to stop when the pincers fail to make a successful pick.

6. The slotted arm *y*, attached to the lay to receive the strip of palm leaf, and prevent it from turning or twisting, substantially as described.

7. The lever N, so arranged that it will bear against the lower side of the strip of woof while the same is being drawn into the shed, and thereby tend to prevent it from twisting or turning.

79,924.—David M. Smith, Orange, N. J., assignor to Benjamin F. Small, New York City.—*Lamp.*—July 14, 1868.—The tube is wound into a conical coil, one of the ends being turned up in the interior, to form the wick chamber and receive the burner. The object is to retain contents when overturned, present a large surface to be cooled by the air, and secure superior strength.

Claim.—The safety lamp body, formed of a tube, and constructed substantially as hereinbefore set forth.

79,925.—Charles E. Stone, Amesbury, and Alfred Herbert, Salisbury, Mass.—*Tool for Fitting Bands on Hubs.*—July 14, 1868.—A clamping lever is combined with the ordinary tool in such a manner that a continuous shaving may be pared from the hub by turning the wheel on its axle and holding the instrument properly upon the hub.

Claim.—The handle B, curved at *c c c*, and adjustably pivoted to the extension C of the handle A, by means of the set screw *a* fitted into either one of a series of holes, *b b b*, formed in said arm C, substantially as and for the purpose herein shown and described.

79,926.—Hiram Vaughn, Thomas Chadwell, E. H. Childress, and G. A. Webber, Nashville, Tenn.—*Apparatus for the Manufacture of Whisky.*—July 14, 1868; antedated July 2, 1868.—This arrangement of stills, pipes, pumps, hydrometers, &c., has been devised with a view to enable the distiller to regulate the quality of the whisky or spirits manufactured, without infringing the restriction which renders the same inaccessible in order that the quantity manufactured may be ascertained by government officers.

Claim.—1. The process hereinbefore described of manufacturing whisky, or any kind of spirit whatever, by the employment of pipes, pumps, hydrometers, gauges, padlocks, substantially as described.

2. The manner herein described of employing pipes, pumps, hydrometers, gauges, padlocks, as set forth.

3. The method of working said pumps, pipes, hydrometers, either by steam or other power whatever, and using them in combination with gauges and padlocks, in the manner and for the purposes set forth.

79,927.—Charles F. West, Boston, assignor to J. F. Tapley & Co., Springfield. Mass.—*Paper Ruling Machine.*—July 14, 1868.—Mechanism for determining the length of lines ruled upon the paper, by automatically moving the pens into and out of contact with the surface of the paper at proper times.

Claim.—1. Combining, with a ruling mechanism, the wheel *o*, provided with lifter surfaces or pieces, for effecting the rise of the pens at the proper times, when the wheel is arranged in relation to the ruling cylinder, substantially as described.

2. Making the lifter pieces *w* adjustable within the circular grooves *v*, when held in position, substantially as set forth.

3. Arranging the wheel *o* with its axis at right angles to that of the ruling cylinder or bed, so as to be driven by frictional contact therewith, substantially as set forth.

4. Combining, with the wheel *o* and cylinder *b*, arranged in relation to each other, substantially as described, mechanism for arresting the rotation of the wheel, and for effecting its release, substantially as and for the purpose specified.

79,928.—John B. Wilder, Mannsville, N. Y., assignor to himself, H. W. Shepard, and George A. Huggins, same place.—*Clinching Nippers.*—July 14, 1868.—The cutters and jaws are respectively employed for cutting off and clinching the ends of nails, bolts, or rivets; and the instrument is particularly serviceable in shoeing horses.

Claim.—1. The cutters *b* and b^1, when the same are so applied to a pair of clinching nippers that they can be operated substantially as described, as and for the purpose specified.

2. The cutters *b* and b^1, jaws *a* and a', and shoulder *e*, when the same are arranged substantially as described, as and for the purpose specified.

79,929.—Charles Winterburn and William Kent, Cincinnati, Ohio.—*Electrical Bath.*—July 14, 1868.—The object in exhausting the air is to induce energetic capillary action.

Claim.—The application of electricity to the human body while the latter is *in vacuo.*

79,930.—A. B. WOODWARD, Alfred Centre, N. Y., and SAMUEL A. WOODWARD, Hornellsville, N. Y., assignors to themselves and ORSON MOSHER, Hornellsville, N. Y.—*Hames Fastener.*—July 14, 1868.—The bodies of the hooks or straps which connect the ends of the hames are formed with apertures to receive the locking catches, provision being made for maintaining the relative positions of the parts when locked.

Claim.—An improved hame fastener, formed by the combination of the strap A, strap B, lever catch D, lever catch C, and spring E, or equivalent, with each other, said parts being constructed and arranged substantially in the manner herein shown and described.

79,931.—JOHN AGATE, Pittsford, N. Y.—*Beer Cooler.*—July 14, 1868.—The beer flowing through the tanks successively is cooled by water flowing through the apartments in an opposite direction.

Claim.—Box B, divided into several compartments H, in combination with the tanks C, and connecting pipes *f*, operating conjointly, substantially as and for the purposes shown and described.

79,932.—C. M. ALEXANDER, Washington, D. C. —*Check and Driving Line.*—July 14, 1868.—The bit pertaining to the driving rein is drawn backward thereby, but the reining rein, which is a continuation of the other, draws in a direction at about right angles to the driving rein and may have a special bit, so that two bits may be made to act simultaneously.

Claim.—The check lines A and A′, made continuous, and connected to or forming a part of the driving line B, and operating upon the mouth of the animal with one or two bits, substantially as specified.

79,933.—GEORGE M. ALLERTON, New York, N. Y.—*Inflated Rubber Goods.*—July 14, 1868.—The covering supports the rubber, and sustains the same against the internal, inflating pressure.

Claim.—The separate covering of cloth, felt, or similar material, in combination with the inclosed India-rubber article, as and for the purposes set forth.

79,934.—GEORGE M. ALLERTON, New York, N. Y.—*Life Preserver.*—July 14, 1868.—A tubular, annular, elastic life preserver, which being put on over the head and shoulders, clasps the person sufficiently to retain its place.

Claim.—An annular inflatable elastic rubber life preserver, substantially as specified.

79,935.—J. E. ANDREWS, Coeyman's Hollow, N. Y.—*Machine for Washing Paper Stock.*—July 14, 1868.—The stock is drawn into the water from the hopper by the floats of the agitating wheel, and then delivered to the elevating apparatus. Means are provided for supplying fresh water and discharging foul water, without carrying off the stock. A screen is employed to separate grain, gravel, &c., from the stock.

Claim.—1. The combination, with the tank A, of the wheel C, provided with the floats C^1, screen C^2, and hub *a′*, substantially as and for the purpose described.

2. The combination, with the tank A, of the chute E, cylinders D and D′, and endless chains, provided with the rakes, substantially as and for the purpose described.

3. The combination, with the endless chains, provided with rakes, of the guides or ways F, substantially as and for the purpose described.

4. The combination, with the water tank A, chute E, and rakes *b*, of the screen G, substantially as and for the purpose described.

79,936.—WILLIAM H. ANDREWS, New Haven, Conn.—*Rose for Door Knobs.*—July 14, 1868.—Relates to the plate upon which the neck of the knob rests, and which is commonly called the "rose."

Claim.—The combination of the plate *d*, constructed with the flange *a*, with the plate A, formed from tin, or similar hard metal, as described, and when the flange *a* extends up through the central perforation of the plate A, substantially as and for the purpose set forth.

79,937.—B. T. BABBITT, New York, N. Y.—*Propelling Vessels.*—July 14, 1868.—The expanding air or gas in rushing out of the jet orifices of the smaller tubes drives the body of water in the larger tubes toward and out of one end of the latter, and establishes a suction or draught from the opposite open end thereof. The effect of this action in the longitudinal tubes is to propel the vessel, while that in the transverse tubes is to steer or turn the same.

Claim.—The combination of the tubes *c b*, open at both ends, with the jet tubes *d*, arranged to project within the former intermediately of their length, and with their jet orifices facing either open end of said larger tubes, substantially as shown and described.

79,938.—B. T. BABBITT, New York, N. Y.—*Gas Explosive Engine for Condensing Air.*—July 14, 1868.

Claim.—1. A motor or power generator, operating to compress or force air or gas by the reciprocating action, in an automatic manner, of a weighty and independent piston or projectile, free from constant connection with outside working parts, the same being started or set in motion by any suitable explosive force or expansion of gas or vapor under heavy pressure, within a tube or cylinder provided with suitable openings for producing the necessary explosion or starting impetus to the piston, and for reception and discharge of the fluid which it serves to compress, substantially as specified.

2. The combination of intermittently revolving or other equivalently operating many-chambered magazines at opposite ends of the tube or cylinder A, suitable powder-feeding vessels or chambers thereto, and wires or conductors *s s′*, for operation in connection with the wire or wires from a battery, to explode the charges at opposite ends of the cylinder alternately, essentially as and for the purpose or purposes herein set forth.

3. The combination, with the loose or independent piston E, operating as described, of rods I I, or their equivalents, and suitable mechanism for giving in an automatic manner, or by the action of said piston, the necessary impetus to the latter at starting, by gaseous expansion or explosion, substantially as specified.

79,939.—B. T. BABBITT, New York, N. Y.—*Gas Explosive Engine for Condensing Air.*—July 14, 1868.—On the closing of the abutment a spring-actuated pawl urges a ratchet wheel forward so as to temporarily open a valve for the admission of the impelling fluid or gas, or rotate a cylinder, having powder chambers, thus bringing one of the latter opposite the inlet passage, in which position it is fired by an electic current, or otherwise.

Claim.—1. A motor or power generator, operating to compress air or gas by the rotary travel or action, within a cylinder or annular chamber, provided with one or more abutments and suitable inlet and outlet passages, of a loose or detached and independent piston, having imparted to it at intervals power to establish and continue its momentum by any suitable explosive force or expansion of gas or vapor, substantially as specified.

2. The combination of a loose or independent piston operating within a cylinder or annular chamber, substantially as described, with a sliding abutment or abutments in such manner, and said parts or devices being so constructed, as that the piston in its rotation is caused to open and operate the abutment or abutments by contact with the same, essentially as and for the purpose or purposes herein set forth.

79,940.—GILBERT L. BAILEY, Portland, Me.—*Switch for Street Railroads.*—July 14, 1868.—In passing from one track to another, the friction rollers and levers act in conjunction with the car wheel and a guide rail, said levers being depressed by the foot of the driver.

Claim.—The construction and arrangement of the spring S, levers 7 and 8, friction rollers 5 and 6, and treadle 11, all substantially as and for the purposes described.

79,941.—AUGUST BERTRAM, New Albany, Ind. —*Boot and Shoe Shank.*—July 14, 1868.—The piece of hickory or other elastic wood imparts the desired curve to the shank. It does not blunt the awl during the process of manufacture.

Claim.—The right and left shoe shanks A B, of the form shown, when the same are made entirely of wood, and are inserted between the upper and lower surface of the sole, so as to be embedded in the leather, substantially as herein described and for the purpose specified.

79,942.—BENOIT BLOCH, Soultz, France.—*Aniline Dye.*—July 14, 1868. — Aniline oil and arsenic acid are mixed and boiled, after which the mixture is purified by adding muriatic acid, and again boiling, then filtering and washing in water; the dry mixture is then dissolved in alcohol and sulphuric acid, boiled in a water bath and passed through a filter.

Claim. — A dye, composed of the ingredients herein named, and treated in the manner substantially as set forth.

79,943.—BENJAMIN BOARDMAN, Malden, Mass. —*Coffee Pot.*—July 14, 1868.—When the coffee has nearly reached the boiling point, the surmounting chamber is filled with cold water, so as to condense the vapor and save the aroma.

Claim.—The cup or condensing chamber D, constructed and applied to an ordinary coffee pot A, in the manner substantially as and for the purpose herein set forth.

79,944.—WILLIAM H. BOUSER, Paris, Ill.—*Snap Hook.*—July 14, 1868.—A leather shield is applied to the snap to protect the spring. The thumb piece, which is a part of the shield, enables the spring to be readily bent backward.

Claim.—A snap hook for harness, having hook A, spring B, shield D, and thumb piece E, constructed, combined, arranged, and operating substantially as specified.

79,945.—JAMES BRAGDON, Boston, Mass.—*Glue Pot.*—July 14, 1868.—The object is to adapt the glue pot to the use of kerosene and similar oils, it being impracticable to use the same under the common construction of glue pots on account of the smoke, and the heating of the cap of the lamp from confinement of the blaze, and consequent drawing up of the oil, causing it to overflow and inflame upon the top and sides of the lamp.

Claim.—1. In combination with the glue pan or vessel *d*, the water-containing vessel *c*, made with the conical bottom *i*, and the steam chamber *j*, and having beneath it the inclined flue *l*, for escape of the smoke from the lamp, all substantially as shown and described.

2. In combination with the conical bottom *i* and flue *l*, the vertical flue *m*, substantially as shown and described.

3. In combination with the conical bottom *i*, and flue *l*, the lamp *b*, having a packed tube, *g*, substantially as described.

79,946.—JAMES L. BRANSON, Cincinnati, Ohio. —*Hand Loom.*—July 14, 1868.—As the batten is drawn forward the dog falls and the latch drops below a tooth in the ratchet wheel. As the batten is thrown back the outer end of the dog is raised, the ratchet wheel moved and one of the trips brought in contact with the trigger on that side of the batten, thus releasing the picker The wire operates to throw back the picker block as the picker is retracted.

Claim.—1. The swinging dog E, in combination with the ratchet wheel and trips, substantially as and for the purpose described.

2. The rigid connecting wire S, combined with the strap O, and picker block T, substantially as and for the purpose described.

79,947.—ISAAC N. BUNKER, Weymouth, Mass.—*Steering-Wheel Stop.* — July 14, 1868.—When the bracket is thrown against the wheel its notch fits around one of the spokes, and thus the wheel is locked. The springs hold the bracket to the post when not required to lock the wheel.

Claim.—1. Arranging a notched, hinged bracket D, in combination with the steering wheel A, substantially as and for the purpose herein shown and described.

2. Providing the bracket D, when the same is made and operating as described, with springs *c c*, substantially as and for the purpose herein shown and described.

3. The bracket D, when provided with a lip, *d*, substantially as and for the purpose herein shown and described.

79,948.—EDWIN L. BUSHNELL, Poughkeepsie, N. Y.—*Harvester-Cutter Sharpener.*—July 14, 1868. —Differs from the ordinary rifle or whetstone in that the sides meet one another at acute angles.

Claim.—As a new and improved article of manufacture, the rhomboidal-shaped cutter sharpener, substantially as described, and for the purposes set forth.

79,949.—W. P. CALLAHAN, Dayton, Ohio.—*Force Pump for Hydraulic Presses.*—July 14, 1868.—A small pump is provided for each press and a large one for all, so that a number of presses may be used at the same time. The water can be forced from the large pump to any one of the presses under the check valves of the other presses, while the pressure is on them.

Claim.—1. The combination of the pumps, as shown, with check blocks and valves, arranged to operate in connection with hydraulic presses, substantially in the manner set forth.

2. The pump F, in combination with the pumps D and E, the stop valve J, and the check valves P P′, substantially as and for the purposes described.

79,950.—JAMES H. CARKEET, Montgomery, Ala. —*Double-Acting Hinge.*—July 14, 1868.—The bar or arm may be raised and lowered and the clutches clasp the respective wings to the plate and prevent the unfolding thereof when required.

Claim.—The pivoted arm *h*, provided with two clutches, J J, so arranged that either one side or the other of the hinge may be clasped, while the opposite side is free to operate, thus allowing the door or shutter to swing in or out as may be desired, substantially as described.

79,951.—A. H. CASTLE, Ann Arbor, Mich.—*Insulator.*—July 14, 1868.—The projections of the notch prevent the rain from running down on to the hook which supports the wire.

Claim.—The insulating bracket A, with a core, E, formed solidly, with said bracket, and the angular transverse notch B, by which the hook is covered by the projections C D, in the manner as and for the purpose specified.

79,952.—ROBERT A. CHESEBROUGH, New York, N. Y.—*Elevated Railway.*—July 14, 1868.—The car is raised from the foot of one inclined plane to the head of the next, and progresses under the sole influence of gravity.

Claim.—An elevated railway, composed of inclined planes or sections, arranged substantially as described, in combination with the elevating platforms at the junctions of the sections, and operated by stationary motive power to establish continuity of the sections, as herein set forth.

79,953.—WILLIAM CLINE, Boston, Mass.—*Luggage Supporter for Saddles.*—July 14, 1868.—An arm is attached to the bow of the saddle tree, and adapted by a folding joint or otherwise, to be contained within convenient compass when not in use. Packs may be so secured to said supporting arm that they shall not touch the horse's back or neck.

Claim.—In combination with a saddle, an adjustable supporting arm, substantially as and for the purpose set forth.

79,954.—JOHN A. COLLINS, Virginia City, Nevada.—*Ore Crusher, Grinder, and Amalgamator.*—July 14, 1868.—The ore is crushed in the annular trough of the bed plate by the wheels which encircle the barrels or cylinders, into which the crushed ore, after passing through screens, is introduced, for the purpose of being ground and amalgamated by the action of the rollers therein.

Claim.—1. The combination and arrangement of the cylinders C, crushing wheels D, axle E, and central plate F, with arms projecting downward, and supporting said axle, substantially as described.

2. The combination and arrangement of the driving plate G, on the shaft H, the friction rollers N, on the arms of the revolving plate L, and the stationary plate K, above it, substantially as described.

3. The combination and arrangement of larger rollers S with smaller S′, within the cylinders C, the former rolling upon the latter and upon the cylinder, but the latter or smaller rubbing and grinding against the cylinder, as described.

79,955.—Elizabeth A. Combs, Monroe, Wis.—*Bleaching Apparatus.*—July 14, 1868.—Brimstone is introduced through a cap guarded tube, and a pipe carries off the vapors from the close box containing the articles to be bleached, the object being to prevent the diffusion of the noxious fumes.

Claim.—The fire pot or furnace D, in combination with the box described, all constructed substantially as and for the purposes specified.

79,956.—George W. Cook, Macon, Ill.—*Cultivator.*—July 14, 1868.—An arrangement whereby the attendant may ride or walk while operating the shovels and managing the team.

Claim.—The connecting of the standards F F of the plow beams E E, by cross bars *c c*, as shown, in combination with the crank shafts I I, chains *d*, pulleys *f*, and treadles H H, all arranged and applied to mounted frame A, substantially as and for the purpose set forth.

79,957.—John Cowell, Ansonia, Conn.—*Toothed Wheel.*—July 14, 1868.—The teeth are inserted after the wheel is cast. The key firmly secures the tooth in the mortise.

Claim.—1. The combination of a detachable tooth with the corresponding mortises in the rim of the wheel, when constructed with a recess in one face of the tooth, so as to lock on to the corresponding face of the mortise, and secured by the key *d*, substantially as set forth.

2. The combination of the plate C and its set screw *f* with the key or keys *d*, so as to secure the keys, substantially in the manner herein set forth.

79,958.—Robert R. Crosby, Boston, Mass.—*Lamp Chimney.*—July 14, 1868.—The enlargement of the chimney produces an expanded flame, and causes the light to shine downward around the cone.

Claim.—The abrupt or nearly right-angled enlargement of the chimney, as represented in Fig 3, arranged in relation to the lamp burner, substantially as and for the purpose herein specified.

79,959.—Rufus W. Crouse, Westminster, Md.—*Pump.*—July 14, 1868.—A double-acting cylinder pump, having an arrangement of valves designed to economize available power and simplify construction.

Claim.—The combination and arrangement of the cylinder A, plunger D, induction I, and eduction E, when connected by the apartments C C^1 C^2 C^3, and the passages F F′, provided with the valves *c c′ c″ c‴*, all the said parts being constructed, arranged and operating together, substantially in the manner and for the purposes set forth.

79,960.—James P. Cummings, Newport, Ky.—*Fire Plug.*—July 14, 1868.—The valve has four legs connected at top by a ring. It is depressed and opened by turning the nut at the top of the stock. The stuffing box, guide, &c., maintain the rod in vertical position and prevent it from turning. The stop and waste hole at the bottom admit of the escape of the water remaining in the stock after the valve has been closed, but prevent the escape of water at the waste hole while the valve is open.

Claim.—1. The stuffing box, guide, and stop *k*, in combination with the block *n* and rod *g*, substantially as described.

2. The stop *d* and waste hole *e*, formed in one of the legs of the valve in the manner explained, and arranged relatively to the waste opening *f* in the stock, and the valve seat *b*, to operate in the manner and for the purpose specified.

3. The stuffing box, guide, and stop *k*, and block *n*, as arranged in relation to the valve *c*, substantially as described.

79,961.—Milton Day, Baltimore, Md.—*Corn Sheller.*—July 14, 1868.—The palms are ribbed metallic plates between which the ear of corn is introduced while the device is rotating.

Claim.—The combination, in a corn sheller, of two palms, B B, each having three or more fingers or tines, *b b*, to embrace the cob, with the springs C C and shanks *d d*, when the latter are permanently secured to the rim, all constructed and arranged substantially as described, and for the purpose specified.

79,962.—Milton Day, Baltimore, Md.—*Corn Sheller.*—July 14, 1868.—The ribs of the expanding and collapsing plates constitute, in their combined relation, a screw, whose action is to feed the ear of corn through the device as well as to detach the grains from the cob.

Claim.—A corn sheller, having a series of palms, B B, each having feeding threads, b^2 b^2, on their inside, when the same are so arranged that they afford projecting tines, *b b*, to receive the cob, and are in combination with the fingers and springs C, and the whole are made to operate substantially as described.

79,963.—Jacob J. Detwiller, Greenville, N. J.—*Rocket Signal Device.*—July 14, 1868.—The cups are constructed so as to be interchangeable at will, for exhibiting various colored lights in any consecutive order desired.

Claim.—1. A metallic signal cup, A^1, grooved spirally for attachment to a staff or suspension cup, as and for the purpose set forth.

2. The combination of two or more cups, A^1 A^2 A^3, tapered and grooved, as herein described, to make them relatively interchangeable, for the purposes specified.

3. The spiral socket C′, constructed and adapted to receive and hold the cups A^1, as and for the purposes described.

79,964.—Isaac Estell, St. Louis, Michigan.—*Saw Set.*—July 14, 1868.—Attachable, removable, and adjustable parts adapt the instrument for setting saws of different sizes, whether straight or circular.

Claim.—The arrangement of the slotted bottom plate A, arm H, screws I and G, gauge D, and rod *e*, constructed as described, and operating substantially as and for the purposes herein set forth.

79,965.—Alvin J. Fellows, New Haven, Conn.—*Tape Measure.*—July 14, 1868.—Relates to the manner of fitting the spring click which holds the main or primary spring to the central part of the main-spring barrel, so as to hold the tape at any desired point.

Claim.—The combination of the case A with the plate *b′*, click spring *d d′*, and the arm *e*, and knob *f*, when the whole is constructed, arranged, and fitted for use, substantially as herein described.

79,966.—Richard Flynn, West Brookfield, Mass.—*Steak Masher.*—July 14, 1868.—The top roll tends to roll the steak in one direction, while the other roll acts upon it in like manner in the opposite direction; the fibers are thus twisted and rolled while being mashed.

Claim.—The employment, in a steak-mashing machine, of the rolls A A, the teeth of which are arranged so as to form a continuous spiral from one end to the other of each roll, the said rolls being geared together so as to move in opposite directions, while their spirals run in the same direction, as shown and set forth.

79,967.—James S. Fowler, Davenport, Iowa.—*Discharging Apparatus for Harvester.*—July 14, 1868.—As the grain is cut by the reaper it falls upon the slatted gates until sufficient has accumulated to form a gavel, when by the action of a sliding bar it is thrown upon the rack, whence it is delivered upon the stubble so as to be out of the way of the reaper in making the ensuing trip.

Claim.—1. The slatted gates G G G, constructed and operating substantially as and for the purposes set forth.

2. In combination with the slatted gates G G G, the rack H, sliding bar K, and levers F and I, constructed and operating substantially as specified.

79,968.—Marshall N. Frederick, Elgin, Ill., assignor to himself and Charles S. Mosely, same place.—*Watch.*—July 14, 1868.—The stud or post is held by means of a screw, the end of which is so shaped that when it is screwed into the stud, it draws it down and tightens the drive wheel. The double, auxiliary wheel, which gears with the drive wheel, is also geared by its finer set of cogs with the wheel that turns the hand post. The hollow spindle of the spur wheel receives the stem key, and is mounted in such a manner that when the box is removed from the post plate, the spur wheel can be lifted out of said box.

Claim.—1. The stud or post B, having a bearing through the plate C and box D, thereby holding the drive wheel A firm and steady, substantially as described.

2. In combination with the stud or post B and drive wheel A, the screw T, constructed substantially as described.

3. The double wheel K, in combination with the wheels A J, and the vibrating bar E, provided with spindles *b*, arranged to operate substantially as specified, and for the purposes set forth.

4. The spur wheel H, in combination with the box D and post plate C, when arranged so that the bearing of the spur wheel is partly in the box and partly in the plate, substantially as set forth.

5. The plate R, in combination with the wheel L and main-spring arbor, when arranged substantially as specified.

79,969.—Frank H. Fuller, South Boston, Mass.—*Lamp Burner.*—July 14, 1868.—By connecting the cap with the perforated ring, jets of air are caused to pass upward around the flame, affording an extra supply of oxygen.

Claim.—1. The wick tube D made in two sections, when the upper section is fitted over the lower, as at *i*, whereby the separation of the parts of the burner for cleaning is facilitated, as herein set forth.

2. The lamp burner, constructed as described, and consisting of the perforated conical ring B, and cap A, supported on stands C, projecting from the upper section of the wick tube, and the concave perforated disk F, rim E, and part G attached to the lower section of the wick tube, all arranged as herein shown and described, for the purpose specified.

79,970.—William Walker Gibson, Edinburg, North Britain.—*Apparatus for Decorticating and Cleaning Cereals.*—July 14, 1868.—As the grain passes between the surface of the drum and wire gauze casing, the triturating action to which it is subjected decorticates and cleans it, the husks and cleanings being blown out through the meshes of the gauze.

Claim.—The employment of a revolving drum for decorticating cereals, upon the surface or periphery of which strips or blades of glass, porcelain, or like material are fixed and arranged, substantially in the manner shown and set forth.

79,971.—Ezra Gould, Newark, N. J.—*Screw Threading Machine.*—July 14, 1868.—The bolt to be cut, or the nut to be tapped, is secured in a sliding head, which is forced toward the chuck containing the dies or the tap by a clutch lever. The two concentric spindles are caused to turn together by the engagement of their respective projections, but the inner spindle is allowed a limited independent motion, in order that the dies may be thereby gradually forced toward the common axial center of the spindles or moved outward therefrom.

Claim.—1. The arrangement, herein described, of the driving wheel F, concentric spindles G C, and projections *a b*, for the purpose set forth.

2. The combination of the lever K and slide L, secured one to the other by a pivot, *h*, which moves in a slot, *l*, with the lever jaw *m*, frame A, and head block J, all constructed, arranged, and operating substantially as and for the purpose described.

79,972.—John H. Guest, Brooklyn, N. Y.—*Electro-Magnetic Temperature Alarm.*—July 14, 1868.—The spring axis throws the armature off of the electro-magnet when the circuit is broken. The circuit breaker is adjustable to suit the length of the current. The thermometer closes the current and causes an alarm to be sounded when the temperature rises to a certain extent.

Claim.—1. The spring axis, on which the armature swings, in combination with the hammer and bell, as and for the purposes set forth.

2. The spring circuit breaker *i* and adjusting screw *n*, provided with a head or button, in combination with the armature and spring axis *h*, for the purposes and as set forth.

3. The alarm thermometer, formed with the horizontal circuit closer and its adjusting arm, in combination with the case inclosing the adjustable parts, as set forth.

79,973.—John H. Guest, Brooklyn, N. Y.—*Electro-Magnetic Burglar and Fire Alarm.*—July 14, 1868.—The apparatus is arranged upon the general plan of giving an alarm by a bell whenever the circuit of a galvanic battery is closed, by the movement of anything that should remain stationary, thus indicating the occurrence of a fire or a burglarious attempt.

Claim.—1. A pair of magnets and armatures, arranged and acting in the manner specified, in combination with a hammer and bell, the former being attached to the lever of the armature, for the purposes and as set forth.

2. An expansive, corrugated disk and hinged arm, forming a thermal circuit closer, substantially as set forth.

3. The adjusting screw 7, in combination with the thermal circuit closer, as and for the purposes set forth.

4. The pendulum and spring, in combination with the circuit wires and notched sash or slide, to close the circuit, as specified.

5. The two springs 13 14, connected with the circuit wires, in combination with the pusher *q*, for the purposes and as set forth.

6. The plates *r*, screw studs *s*, and nuts *t*, constructed substantially as specified, in combination with the circuit wires, to form a designating or disconnecting apparatus in a fire or burglar alarm, substantially as set forth.

79,974.—Jacob W. Haskell, Boston, Mass.—*Tool Holder.*—July 14, 1868.—The boxes which fit upon the tool holder are clamped by a screw in the rectangular hole of a lathe slide. The spline and feather prevent the tube from turning in the boxes. The boring arbor can be set with the cutting tool projecting as far from the post on the lathe slide as may be required.

Claim.—The combination of the tube *e*, bearing the mortise-headed bolt *d*, with half boxes *h i*, when the tube and boxes are connected with a feather and spline, and are otherwise arranged, substantially as and for the purposes set forth.

79,975.—Charles E. Hendrick, Chicopee, Mass.—*Feather Renovator.*—July 14, 1868.—The valves are opened by turning the nut on the connecting rod, when steam is admitted to the box containing the feathers. When the valves are closed the steam receiver radiates heat to dry the feathers. The valves may be modified.

Claim.—1. Three or more valves D D D D, rod E, nut N, in combination with the receiver C, the whole arranged and operated substantially in the manner herein shown and described, for the purpose set forth.

2. The swinging valve D, with the spiral spring *t*, substantially as described and for the purpose set forth.

79,976.—Levi Heywood, Gardner, Mass.—*Machine for Shaving Rattan.*—July 14, 1868.—A knife or scraper planes down the joint portion of the rattan after it has been cut into strips. Knives are also employed for shaving the strip on the inner side, together with a pair of knives against which the edges of the strip are brought after being shaved on the under side.

Claim.—1. The arrangement of the knife M, constructed and operated substantially as described.

2. The arrangement of the knives *d*, in combination with the presser rolls I I'' and operating screws *h*, all constructed and operating substantially as set forth and for the purpose stated.

79,977.—A. L. Hill, Decatur, Ill.—*Breast Strap.*—July 14, 1868.—A breast strap is attached to the hames of each collar, the hooks being fitted in the harness rings, and the ring of the neck yoke encircling the metallic plate which connects the leather straps. The ribs sink into the leather and relieve the rivets of strain.

Claim.—1. The breast strap, constructed as described, and consisting of the strap C, to which the plate D, having ribs *d*, is rigidly secured, when said strap is provided at each end with a hook, B *b*, all arranged and operating as and for the purpose described.

2. The ribs *d* on the exterior surface of the bar D, when used in combination with and applied to the strap or straps C, for the purpose substantially as set forth.

79,978.—Henry Hise, Chicago, Ill.—*Trace Buckle.*—July 14, 1868.—Employed to attach traces to harness, one part being secured to the end of the trace, and the other fixed adjustably upon a strap connected with the hames or passing around the breast of the horse. The device dispenses with the loops commonly employed to retain the hanging ends of the trace.

Claim.—1. The combination of the plate B, provided with one or more inclines, *a*, with a clasp, C, arranged and operating substantially as set forth, and for the purposes specified.

2. A plate, B, when constructed so as to be secured upon a trace, and provided with one or more inclines *a*, in the manner described.

79,979.—Charles W. Hubbard, Pittsburg, Pa.—*Saw Handle.*—July 14, 1868.—The back end of the saw blade is fitted in a groove in the forward part of the handle. The bolt is made to occupy a slot of the saw blade, and the nut is turned so as to cause the bolt to draw and hold the handle and blade firmly together.

Claim.—A new article of manufacture, to wit, a saw handle, consisting of the part J, provided with a recess, *f*, for the nut of the bolt B, and with a groove adapted to the end of the saw blade, said handle and its part J being made substantially in the form herein described and represented.

79,980.—Charles W. Hubbard, Pittsburg, Pa.—*Machine for Grinding Saws.*—July 14, 1868.—The metallic apron, in connection with the feed rollers, moves the saw blade to the action of the grindstone with a force that does not exceed the grinding capacity thereof. The flange or collar at the eye of the grindstone may be set in position, or at an inclination corresponding with that of the side of the grindstone.

Claim.—1. Providing a saw-grinding machine with an unjoined thin metallic belt or endless apron, substantially as herein described and for the purpose set forth.

2. Pivoting the bearing roller A' so that it can be deflected to correspond to the desired taper of the saw blade, substantially as herein described and for the purpose set forth.

3. Providing the shaft of a grindstone with a flange provided with a socket joint, substantially as herein described and for the purpose set forth.

79,981.—Saunders Hubbell, Jr., West Salem, Ohio.—*Catch for Money Drawers.*—July 14, 1868.—The outer lever being depressed by the foot lowers the remote end of the inner lever, which carries with it the vertical rod, and thereby disengages a catch from the money drawer. The spring on said rod throws the latch to fasten the drawer.

Claim.—The combination and arrangement of the levers A and B, the fulcrum support C, and spring *m*, or its equivalent, in the manner substantially as described and for the purpose specified.

79,982.—Frederick A. Hull, Belvidere, Ill.—*Car Coupling.*—July 14, 1868.—The draw bars are tubular, and inclose springs to the inner end of which the forward draught of the car is applied. When the cars are backed said springs act as buffers. Auxiliary links may be employed.

Claim.—The combination of the tubular draught-iron B, the bars D E, the spring S, and the link *l*, and pin *b*, arranged and operating substantially as specified and shown.

79,983.—George M. Isbell, Torrington, Conn.—*Needle for Sewing Machines.*—July 14, 1868; antedated July 3, 1868.—A needle for use in machines for sewing boots and shoes. The object of the improvement being to so shape the needle that it shall, while possessing the needed strength, pierce as small a hole as possible.

Claim.—A sewing machine needle, formed as specified, with the flattened body, the circular edge to the hook, the lengthened opening in the hook, and the curvature or swell at the back of the hook, as and for the purposes set forth.

79,984.—Horace K. Jones, Kensington, Conn.—*Attachment for Balancing Polishing Wheels.*—July 14, 1868.—The weights are movable and may be fastened at any desired point in a groove which is at the side of the wheel and concentric with the latter.

Claim.—The combination of the ring A and weights *a*, constructed and arranged as herein described, with a polishing wheel, for the purpose of balancing it, substantially as specified.

79,985.—William J. Keim, New York, N. Y.—*Spiral or Winding Stairs.*—July 14, 1868.—The steps are perforated at the center and secured upon a central post, so that the respective ends of the steps belong to separate adjacent staircases, at opposite sides of said central post.

Claim.—An arrangement of winding steps, constructed in such a manner as to give two or more flights within the same space, substantially as described.

79,986.—L. J. Knowles, Warren, Mass.—*Belt Shipper for Looms.*—July 14, 1868.—These devices adapt the loom to be conveniently started and stopped by the attendant while standing at either end of the same.

Claim.—1. The combination with the shipping lever D, applied to one end of the shipping rod C, of the inclined guide rod *c*, substantially as and for the purposes set forth.

2. The combination with the shipping lever, and slotted and notched guide piece in which it moves, of the dog and ears for actuating said lever, and the rotating and longitudinally sliding rod upon which the same are mounted, together with the spring *f* and lever D, the said parts being arranged for joint operation, as herein specified, so that the movement of the lever D shall cause the shipping lever to be drawn in either direcion, as required.

79,987.—A. T. Latta, Camden, S. C.—*Animal and Bird Trap.*—July 14, 1868.—The weighted door and hinged platform are nearly balanced, and connected by a cord passing over a pulley. The animal's weight springs the trap, and peculiar resetting devices are applied.

Claim.—1. The weighted and pivoted door *e*, cord *d*, pulley *c*, platform *a*, and catch *f*, all constructed as described, and combined and operated in the manner set forth.

2. In combination with the above, barrel *g*, arm *h*, bent lever and catch *f*, the whole being operated in the manner and for the purpose set forth.

79,988.—Charles H. Lawrence, New York, assignor to himself and N. P. Tyler, Barrytown, N. Y.—*Printers' Galley.*—July 14, 1868.—The wooden frame is cut along the center from the inner side, to receive the metallic tongue, which is soldered to the lining. The screws which secure the bottom pass through the tongue. The object is to prevent the galley from shrinking.

Claim.—The lining *c*, having the metal tongue *b*, in combination with the frame *a*, bottom *d*, and screw *e*, applied in the manner and for the purpose substantially as herein shown and described.

79,989.—H. Y. Lazear, New York, N. Y.—*Gas Heater.*—July 14, 1868.—The double-walled upright cylinder is arranged over a gas stove containing a wire contrivance for supporting the steak. The heated air or gas ascends in the inner chamber, passes through the upper orifices into the annular chamber, descending in which it escapes at the lower orifices.

Claim.—1. The V-shaped trough E and the filling E′, by which the flame is divided, and the grease protected from burning, and smoke thereby prevented, substantially as described, in combination with a gas steak broiler.

2. The annular space B and the orifices *h* and *i*, substantially as and for the purposes set forth.

3. An apparatus for broiling steak by gas, whereby the steak is broiled or cooked simultaneously on both sides, or where the sides are equally exposed to the flame and heat, substantially as shown and described.

79,990.—Philip Leonard, Sharon, Pa.—*Machine for Dressing Grindstones, Minerals, &c.*—July 14, 1868.—The tool stock may be moved in a direction parallel with the axis of the stone to be dressed, as well as toward and away from the stone.

Claim.—The adjustable frame B, fitted in a frame, A, as shown, in combination with the sliding frame C, provided with the tool stock C′, arranged for a lateral movement, substantially as and for the purpose set forth.

79,991.—Thomas J. Lindley, Medora, Ind.—*Truss Pad.*—July 14, 1868.—The central prominent part of the pad is of lead, and hence may be of greater or less diameter to suit the size of the rupture.

Claim.—The wooden pressure pad B, having an inserted lead center, C, and attached to the strap A, all arranged substantially as and for the purpose set forth.

79,992.—James C. Loup, Galveston, Ind.—*Stove Pipe.*—July 14, 1868.—A plate of cast iron or other fire-proof material is suspended from the rafters and forms a base upon which to build the flue, and supports the appliances for connecting the stove pipe therewith.

Claim.—The sliding pipe B, for making connection of stove pipes to the flue, and shutter H, for closing the aperture in the rest, when the pipe is not in use below the rest, as described.

79,993.—Elijah Lucas, Winslow, Ind.—*Grain Separator.*—July 14, 1868.—A fan and smut cleaners revolve inside of the sieve. The grain can be discharged at either side of the machine by means of the reversible chute. The metallic strips act as a fan to blow cockle, cheat, &c., through the wire sides. The rows of wire projecting at right angles from the shaft operate in conjunction with similar wires on the adjacent slats to remove the smut.

Claim.—1. Polygonal-shaped wire sieve B, provided with shafts *d d*, metal strips *e e*, and wires *i i*, constructed and operating substantially as and for the purposes herein set forth.

2. The reversible chute F, in combination with the rod *f* and the lever G, substantially as and for the purposes herein set forth.

79,994.—William J. Lyman, East Hampton, Mass.—*Portable Chamber Closet.*—July 14, 1868.—Designed as improvements on the chamber closet for which letters patent No. 74558 were granted same party February 18, 1868.

Claim.—The arrangement and combination, with each other, of the box A, cover B, seat C, platform E, vessel F, additional seat H, and receptacles I, all made and operating substantially as herein shown and described.

79,995.—James M. Mayhew, Providence, R. I.—*Chafing Roller for Wagons.*—July 14, 1868.—The concave iron roller constitutes a means for protecting the sides of wagons from chafing or wearing when the front wheels are turned.

Claim.—The construction of the concave chafing roller C upon the longitudinal rod *a*, having its bearings in the ends C′ of the side pieces A, which are recessed to receive the elastic cushions *c c*, bearing against the ends of said roller, all operating as described for the purpose specified.

79,996.—John W. Mayhew, San Francisco, Cal.—*Shackle Bearer.*—July 14, 1868.—The object is to afford a rest whereby to relieve a criminal of the constant weight of his gyves.

Claim.—The manner of supporting and bracing the bearer ring A, by means of the back brace C, formed and shaped as herein described, and secured to the tread of the shoe in the manner set forth, in combination with the side braces D, of the particular shape and construction described, having forked-shaped ends.

79,997.—S. B. McCorkle, Greenville, Tenn.—*Horse Collar Stuffing Machine.*—July 14, 1868.—This machine places the straw in the collar in such manner that its elasticity is preserved and utilized.

Claim.—1. A machine for stuffing horse collars, so constructed and operating that as the plunger enters the collars, its fork, *a*, will have its prongs in a horizontal plane, for the purpose described.

2. A machine for stuffing horse collars, so constructed and operating that the plunger partially rotates as it moves back and forth, in order that its prongs, *a*, may lie in a vertical plane as it catches the straw, and in a horizontal plane as it delivers the straw into the collars, substantially as described.

3. The combination of the plunger A, having the fork *a*, with the arm *e*, and bent guide rod H, when the several parts are constructed to operate in the manner described.

79,998.—William McLucas, Reinersville, Ohio.—*Double Corn Planter.*—July 14, 1868.—The seed-dropping mechanism within the hopper consists of a tube and an inclosed arm or roller having a lever actuated by projections on the driving wheel. By depressing a lever the hind part of the machine is raised and the weight thrown upon casters to facilitate turning.

Claim.—1. The tube H, when the same is constructed with angular openings and supplied with a plug *h*, in such manner that the same can be actuated by the driving wheel D′, or controlled by the upright lever or needle *h′*.

2. The foot lever G′, when in combination with suitable mechanism, and the universal casters *f′ f′*, when the same is so constructed and arranged substantially as described and for the purpose specified.

79,999.—N. H. Mead, Waterport, N. Y.—*Tire Frame Attachment.*—July 14, 1868.—The wheel may be detached and turned readily, and reclamped upon the frame before the tire can cool.

Claim.—The combination of the pivoted lever C, adjustable toothed bar E, slotted cap plate F, and toothed bar G, with each other and with the frame A, substantially as herein shown and described, and for the purpose set forth.

80,000.—Cyrus Milner, Des Moines, Iowa.—*Washing Machine.*—July 14, 1868.—A screw adjusts the pivoted, corrugated board, to vary the space between it and the roller, in conformity with the bulk of material to be washed.

Claim.—The box A, cylinder D, and adjustable board E, when said cylinder is provided with a series of corrugated staves and brushes, as described, and the board E with corresponding brushes, to operate substantially as set forth.

80,001.—David Morris, Bartlett, Ohio.—*Churn Motion.*—July 14, 1868.—The dasher plunges and rises twice at each revolution of the wheel.

Claim.—The frame, consisting of the upright A, foot B, and screw-threaded stem *a*, the latter serving the double purpose of a guide for the dasher shaft, and means of attachment of the frame to the lid of the churn vessel, in combination with the grooved wheel G, slides *g g′*, pitman F, and dasher shaft D, the whole arranged and operating in the manner and for the purpose specified.

80,002.—C. E. Murray, Sugar Valley, Pa.—*Horse Hay Fork.*—July 14, 1868.—When the pivoted teeth are turned inward and upward, they are made to sustain the load by turning upward the arm of the eccentric, which is also pulled down by the trip cord when the load is to be discharged.

Claim.—The frame, composed of the diverging prongs *a a* and head *b*, in combination with the pivoted or jointed teeth *e e*, rods *f f*, and eccentric *h*, all arranged for joint operation, substantially in the manner as and for the purpose set forth.

80,003.—Benjamin W. Ogburn, Whittle's Mills, Va.—*Calculating Balance.*—July 14, 1868.—Indicates either the weight of an article or its gross price, and may be made to indicate how many pounds, at any given price, it will take to amount to any given sum.

Claim.—The combination of the sliding fulcrum M and pea L, when working upon a graduated beam I, in connection with a balance frame B, the parts being constructed and arranged as described, so as to operate together in the manner and for the purpose set forth.

80,004.—Paul A. Oliver, New York, N. Y.—*Powder for Blasting and other Purposes.*—July 14, 1868.—The blasting powder is made of common peat, instead of charcoal, combined with saltpeter, sulphur, and chlorate of potash. The gunpowder is made of peat, sulphur, and saltpeter or nitrate of soda.

Claim.—1. The use of peat in the manufacture of gun and blasting powder, substantially as set forth.

2. As an improved article of manufacture, the powder, made substantially as herein described.

80,005.—Thomas Payne, Detroit, Mich.—*Railroad Station Indicator.*—July 14, 1868.—These devices are for indicating to passengers the names and distances of stations, and the movement of the parts, necessary to effect the changes in the position of an indicating ribbon or drum, is caused by the projecting arm on the car coming in contact with an arm on a post which is planted a little beyond each station.

Claim.—1. The arms N N, arranged as described, on the roof of a car, and provided with ears *r r*, to guide them along the circular rods *s s*, in combination with the spiral springs *h h*, on said rods, to prevent any wabbling or lost motion, substantially as and for the purposes herein set forth.

2. The slotted bars E E, forming a frame, and placed on the shaft *a*, on each side of the circular disk B, in combination with the shoes *b b* and levers F F, for the purpose of turning the shaft in either direction, substantially as and for the purpose herein set forth.

3. The arms I I, pivoted at one end, one having a weight or spring, L, attached to the other end, and the other attached to a bell or alarm, M, by means of a spring, *c*, and both provided with adjustable corrugated clamps K K, in combination with the cog wheels *c c*, when arranged and operating substantially as and for the purposes herein set forth.

4. The slotted stays H and T, when arranged so as to regulate the movement of the cog wheels *c c*, substantially as and for the purposes herein set forth.

5. A drum, constructed as described, for the purpose of indicating names, figures, or characters, suspended in a car, and operating substantially as set forth.

6. The cylinder *d* and roller *o*, in combination with the spring *p* and ribbon *e*, when arranged as described, so that when said cylinder is revolving in one direction, the spring winds up the ribbon on the roller, and when revolving in the opposite direction, the ribbon unwinds from the roller and winds up the spring, substantially as and for the purposes herein set forth.

7. The arms S S, when attached to the posts R R in the manner described, with spring *n n*, to soften or lessen the blow, and used for the purpose of making the station indicator self-operating from any station or direction, substantially as herein set forth.

8. The arrangement of the circular disk B and its cog wheel C, the bars I D, lever F, bars E E, and shoes *b b*, when constructed and operating substantially as set forth.

9. The arrangement of the arms N N, and their springs, when operated by the arms S S upon the posts R R, substantially as specified.

80,006.—C. C. Peirson and George F. Peirson, Philadelphia, Pa.—*Apparatus for Condensation of Vapors in Lard Boiling, &c.*—July 14, 1868.—A constant shower, through the shower pipes, is produced whenever the process of boiling is going on, and hence offensive vapors from the substance boiling become condensed and united with the water that passes off through conduits.

Claim.—1. The shower pipes R and S, constructed and operating substantially as and for the purposes specified.

2. A condensing and deodorizing apparatus, having cover B, condensing boxes D and E, shower pipes R and S, chimney K, and conduit pipes, as described, constructed, arranged, and operating substantially as described.

80,007.—Samuel Pierce, Boston, Mass.—*Base-Burning Stove.*—July 14, 1868.—The drum forming the lower part of the radiating drum constitutes a receptacle for any ashes, dust, &c., that may be brought over from the furnace and deposited.

Claim.—1. In base-burning stoves, making the walls, which divide the coal receptacle from the ignition chamber, double, and inclosing water, said water serving to preserve the said walls, and also for heating purposes.

2. The combination of the radiating drum C with the ash receptacle D, arranged and operating as described.

80,008.—Nathaniel F. Potter, Providence, R. I.—*Clay Mill.*—July 14, 1868.—The connection between the driving shaft and the mechanism which causes the wheel to traverse its axle, may be readily thrown into or out of gear, and when the disconnection is made the tempering wheel continues to travel in one track so as not to interfere with the scraper. Means are employed for connecting the main line of shafting with the special machinery for tempering the clay, whereby the latter may be started gradually.

Claim.—1. Combining the rack and pinion mechanism *k b* (for giving a radial movement on its axle to the tempering wheel) with its driving gear, L, by means of the adjusting screw *c*, or equivalent device, for breaking the connection between the two at pleasure, substantially as herein described.

2. Combining the driving shaft, D′, of a tempering mill with the driving gearing by means of the friction strap P, applied and operating in the manner substantially as shown and described.

80,009.—L. A. Powers, Meriden, Conn.—*Table Fork.*—July 14, 1868.

Claim.—Making the socket for the guard of a carving fork solid with the bolster, or with a portion of said bolster, and independent of the tang or body of the fork, substantially as and for the purpose set forth.

89,010.—David R. Reed, Tekonsha, Mich.—*Apple Corer and Slicer.*—July 14, 1868.—The apples are successively placed on the cutters and cored and quartered by depressing the hand lever, the quarters falling into a pan, and the cores being forced through the tube into the box.

Claim.—The arrangement and combination of the flange coring-tube, C, presser P, hand lever D, arm E, with the receiving box A, substantially in the manner and for the purpose specified.

80,011.—Thomas Reese, St. Louis, Mo.—*Steam Engine.*—July 14, 1868.—An arrangement for supporting the cross head and pitman of horizontal engines, and producing a parallel motion without employing the ordinary guides or ways.

Claim.—The cross head G suspended by links J from a rock shaft I mounted in pivoted standards K, said standards being so connected with the reciprocating cross head as to receive an oscillating motion therefrom, in the manner and by the means substantially as herein described, for the purpose specified

80,012.—Henry Seymour Robbins, Newton Falls, Ohio.—*Device for Strawberry Culture.*—July 14, 1868.—These plates form an earthen covering or pavement for the strawberry bed, obviate weeding and prevent creepers from taking root. Holes are provided for the upward passage of the plant and for ventilation, and the projections support the plate above the ground.

Claim.—A plate for strawberry culture, constructed in the form herein shown and described, and having apertures B and C, and projections D, combined and arranged substantially as specified.

80,013.—William H. Rodeheaver, Miamisburg, Ohio.—*Machine for Dressing Felloes.*—July 14, 1868.—The inside of the felloe is dressed as it is fed along over the convex rest.

Claim.—The convex and flanged rest or bed V, adjustable in height in the manner described, in combination with the cutter head D and adjustable feed and pressure rollers P, or their mechanical equivalents, the whole being arranged and adapted to operate substantially as set forth.

80,014.—Isaac Rogers, West Chehalem, Oregon.—*Apple Corer and Slicer.*—July 14, 1868.—The apple is placed upon the fork, the coring apparatus is forced forward by the foot bar, the tube perforates the apple, the knives are forced about half-way through the same, and the coring device is then withdrawn, carrying the apple with it. Another apple being then placed upon the fork, the coring apparatus is advanced, the first apple is divided by the pressure of the second, into which latter the knives are forced.

Claim.—1. The combination of the slide bars F, cross-bar H, tube M, knives N, and rim O, with each other and with the guides or slides G and parer fork Q, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the adjustable guide P with the rim O and slide bars F, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the cross or foot bar J and levers I with the bottom board A and cross-bar H of the sliding bars F, substantially as herein shown and described, and for the purpose set forth.

80,015.—A. P. Routt, Liberty Mills, Va.—*Cultivator.*—July 14, 1868.—A device attached to the plow standards for the purpose of eradicating weeds and grass between the rows.

Claim.—1. The instrument, consisting essentially of the standard M, loop *s*, point *m*, and blades *n n*, having sharp front cutting edges, when the several parts thereof are constructed and arranged as above described, and for the purpose set forth.

2. The combination of said instrument with the plow standard B B and wedge W, substantially as described.

80,016.—Abraham K. Sanders, Brooklyn, N. Y.—*Base Burning Stove.*—July 14, 1868.—The object is to have a circulating current of air warmed upon one side of nearly every plate and pipe, with the other side of which the products of combustion are in contact, insuring the warming of the air and cooling of the products before ultimate escape.

Claim.—1. The descending smoke flue between the casing *m*, opening into the base of the heater, in combination with the air flues 3, 5, and 6, arranged and acting substantially as specified, so that the air to be heated comes in contact with one side of the flue plates or tubes, and the products of combustion on the other side, as set forth.

2. The magazine *g*, supported by the cylinder *f'* and top plate *f*, in combination with the fire pot *a* and combustion chamber formed between the said magazine *g* and the casing *e*, in which chamber are the air heating pipes 5, as and for the purposes set forth.

3. The doors 8, between the plates *d* and *n*, and at the end of the air flue 5, for the purposes and substantially as set forth.

4. The doors 9, between the cylinder *f'*, top plate *f*, and grate or mantel frame *t*, and opening into the hot air inclosure, for the purposes and as set forth.

5. The descending flue *m*, conveying the products of combustion from the fire chamber to the base of the heater, in combination with the air flue 3 5, that exposes the air to be heated to the wall of the ash pit, the fire pot, and said descending flue *m*, substantially as specified.

6. A fireplace heater, in which the magazine for the fuel extends to the top of the heater, and is provided with an opening in front of the mantel frame for the introduction of fuel, substantially as set forth.

80,017.—Aaron C. Sanford, Plymouth, Conn.—*Renovating and Dressing Feathers.*—July 14, 1868.—When the feathers within the cylinder have been washed and cleansed by the direct flow of the steam from the inner tube, the valve is shifted, cutting off steam from the inner tube and admitting it to the outer, its action within the latter being to dry the feathers.

Claim.—The combination and arrangement of the outer tube D with the inner tube E and respective openings *f* and *g*, provided with the valve *d*, and having tubes *a* leading from the inner tube into the cylinder, and constructed so as to operate in the manner and for the purpose herein specified.

80,018.—Christian Schmitz, Philadelphia, Pa.—*Machine for Stretching and Softening Skins.*—July 14, 1868.—The hide is laid upon the edges of the blades and stretched by depressing the rollers between said blades while the ends of the skin are held.

Claim.—1. An instrument having a set of parallel, or nearly parallel, stationary blades or supports, and a set of parallel rollers, operated by a lever or otherwise, for the purpose of stretching leather, as set forth.

2. The arrangement of the blades D D D upon the supporting head C, so as to adapt them for adjustment by means of the set screws *c*, substantially as set forth.

80,019.—Joseph Seaman, Chicago, Ill.—*Mangle and Ironing Machine.*—July 14, 1868.—A device for actuating the lower roller upward to exert the requisite pressure upon the clothes between it and the upper roller.

Claim.—The combination of the rollers A A′, levers D, eccentric disks E, pillow block wheels F, and weight W, or their equivalent devices, substantially as shown and described, for the purpose specified.

80,020.—John W. Shaeffer, Red Wing, Minn.—*Furnace for Roasting and Smelting Gold and other Ores.*—July 14, 1868.—The furnace is provided with lofty domes, into which the gases ascend, and which prevent them from again uniting with the matrix, so that the formation of a sulphuret is obviated.

Claim.—A furnace for smelting and reducing gold, silver, copper, and other ores, constructed substantially as herein shown and described.

80,021.—Eugene F. Shaw, Wyoming, Mich.—*Churn.*—July 14, 1868.—The wound-up weight and the gearing constitute a power for swinging the churn back and forth.

Claim.—The oscillating vessel D, provided with the cross-bar E and dasher F, in combination with the gear wheels K M O, and their shafts and pinions, and the spool I, cord G, and weight W, all arranged and operating substantially in the manner specified.

80,022.—George V. Sheffield, Worcester, Mass.—*Manufacturing Screws.*—July 14, 1868.—By the operation of this machine the screw thread is gradually formed by a drawing process, in contradistinction to cutting the metal out to form the thread, as in the common mode.

Claim.—1. The combination, with the reciprocating rods H H, the frame marked I, J, and K of the shafts L L, and wheels 5 and 6, pins 8 8, and arms M, for operating the same, as and for the purposes stated.

2. The combination, with the reciprocating frame I J K and shafts L, of the sliding boxes of the wheels 5 and 6, hinged connections *f*, arms M, and pins 8, substantially as and for the purposes set forth.

3. The combination, with the stationary frame A, tubular shaft B, spindle F, and jaws *b* of the reciprocating frame, the rods H, cross piece G, wheels 5, 6, connections *f*, arms M, and pins 8, the said parts being arranged for joint operation, as and for the purposes set forth.

80,023.—THOMAS J. SLOAN, New York, N. Y.—*Mode of Operating Shutters.*—July 14, 1868.—The geared hinged sectors, together with the sliding and rotating spring shaft and the button and rim, form a means of operating the shutters from within, and retaining them in the desired position. A mechanism is also employed for locking the shutters at their point of juncture when closed.

Claim.—1. The bevel gears K H, in combination with the spring shaft F, retaining button *i*, and rim *m*, when the said shaft is arranged to drive the gear K, and slide longitudinally through it, as and for the purpose set forth.

2. The employment, in connection with a mechanism for opening and closing blinds from the inside of the window, of a positive lock mechanism, composed of the locking shaft O *r* and spring-retaining mechanism *q* R *s t*, all as specified.

80,024.—H. K. SMITH, Norwich, Conn.—*Friction Clutch Pulley.*—July 14, 1868.—The pin and nut are made to raise the end of the lever and force outward and in opposite directions the segmental ends of the friction pieces, thus causing them to bear firmly against the inner periphery of the pulley rim, and effect the simultaneous rotation of the pulley and shaft.

Claim.—1. The pin E and nut J, in connection with the levers D.

2. The friction pulley, constructed and arranged substantially as described and for the purpose specified.

80,025.—SAMUEL STANTON, Newburg, N. Y.—*Cut-Off Valve Gear.*—July 14, 1868.—When the fly-wheel shaft increases its speed by reason of a diminution of duty, or from other cause, the governor arms are thrown out, and the flange and ring turned so as to cause the valves to be more quickly closed, and the speed reduced to the standard.

Claim.—1. The combination of the bent levers H H, rollers upon the pins *j*, and the cams *g g'*, for opening and closing the valves, as herein shown and described.

2. The sleeve G, wheel F, flange *c*, and ring *e*, in connection with the governor and the valve levers H H, all arranged to operate in the manner as and for the purpose set forth.

80,026.—D. M. STEWARD, Dayton, Ohio.—*Car Coupling.*—July 14, 1868.—The tongue of the T-shaped pin falls into a slotted bar, and engages the coupling link.

Claim.—The pin C, with handle D, fastened by the eye bolts *a a*, in combination with the slotted bar B, which forms the coupling chamber, all constructed and arranged substantially as described and for the purposes specified.

80,027.—JAMES SWAN, Seymour, Conn.—*Manufacture of Auger Bits.*—July 14, 1868.—The formation of the point, lips, and spurs is accomplished by means of a pair of dies, an ordinary drop press being used. One of the dies is formed with recesses or cavities, which preserve the material of which the spurs are formed, and leave the blank, when pressed, with the lip and the cutting edge between the latter and the screw point.

Claim.—1. As my improvement of the dies B and C, the cavities *e e*, for preserving the material for the spurs *c c*, as described.

2. As my improvement in auger blanks, the projecting portions *b c d'* of metal, of which to form the lip and spur of the form, and arranged relative to the screw point and cutting bit, as described.

80,028.—W. H. TEAL, Weyauwega, Wis.—*Machine for Forming Sheet-Metal Pans.*—July 14, 1868.—The dies grasp the metal plate, and the formers bend it so as to form square corners. A single movement of the apparatus produces a square metal pan.

Claim.—A machine for forming sheet metal pans, consisting of an upper die, H, hinged to a lower die, E, provided with formers *g*, so that both dies may be firmly locked together, and the whole operated simultaneously with the lever B and actuating guides D C, substantially as herein described.

80,029.—H. M. TEASDALE, Dansville, N. Y.—*Compound for Roofing.*—July 14, 1868.—Coal tar, sand, ashes, plaster of Paris, white lead, and salt.

Claim.—The combination of the within-specified ingredients, when compounded in or about the proportions described, for the purpose set forth.

80,030.—WILLIAM R. THOMAS, Catasauqua, Pa.—*Steam Pump.*—July 14, 1868.—An arrangement whereby the steam is made to actuate the valve without the intervention of valve gear.

Claim.—The arrangement of the ports *e e'*, with relation to the cylinder A, the chambers *a a'*, valve G, induction ports *b b'*, and the eduction ports *d d'*, all operating as described, for the purpose specified.

80,031.—NATHAN THOMPSON, Brooklyn, N. Y.—*Cutting Nippers.*—July 14, 1868.—The supporting pieces applied to the jaws, which effect the double connection between the jaws and the handle, and enable wire to be cut without twisting or fracturing the nippers.

Claim.—Constructing cutting nippers, so that the cutting edges thereof shall be as close as possible to the knuckle which surrounds the pivot on which the jaws turn, or shall be even closer to the pivot, with the knuckle projecting between the divided edges, as described, and so also that there shall be a double connection between the jaws and the handles, one part of each connection being embraced by the parts of the other, in the manner substantially as herein described.

80,032.—CHARLES TITUS, Union, Me.—*Dressing Barrels.*—July 14, 1868.—This machine is intended to chamfer and croze, at one operation, an entire set of staves, when set up and hooped to form a barrel. The series of staves is placed endwise in the guide ring, to be acted upon successively by the chamfering, hollowing, and crozing cutters.

Claim.—The arrangement and combination of the separate levers or treadles *r s*, the collars *p q*, and bent levers *n n'*, with one another and the shaft B, the cutter head A, and the cutter carrier E G, such head and carriers being provided with cutting and a guide ring, D, as set forth.

80,033.—JOHN S. TOAN, King's Ferry, N. Y.—*Horseshoe.*—July 14, 1868.—The rubber sole relieves the horse from the shocks and discomfort commonly experienced in traveling upon pavements. It also prevents slipping. One of the walls of the groove may be removable to facilitate the removing and replacing of the sole.

Claim.—1. A horseshoe, provided with a nail flange, D, and an India-rubber sole, substantially as described.

2. The clamps F F, for the purpose of readily securing and removing the India-rubber sole E, substantially as described.

80,034.—A. N. TOWNE, Chicago, Ill.—*Lock Nut.*—July 14, 1868.—The contiguous faces of the nut and washer are corrugated, to prevent the nut from being turned off by jars, concussions, or vibrations.

Claim.—The corrugated nut D and washer E, constructed as described, when used in combination with an elastic packing or washer.

80,035.—A. J. TRUXELL, Salem, Va.—*Lard Press and Sausage Stuffer.*—July 14, 1868.—The latch fastens the cup to the bench. The sausage meat is forced by the follower through the strainer and into the skin or sack which is drawn over the spout.

Claim.—The combination of the removable cup E formed with a concaved bottom and spout F, and provided with a perforated plate, G, with the bench A, lever C, follower D, and pivoted latch H, all constructed and operating as set forth.

80,036.—R. J. TRYON, La Crosse, Wis.—*Compound for Welding.*—July 14, 1868.—Borax, sal-ammoniac, black oxide of manganese, prussiate of potash and red oxide of iron.

Claim.—The welding flux or compound, substantially as described.

80,037.—BAKER VAN AUSDALL, Keokuk, Iowa.—*Boot Sole.*—July 14, 1868; antedated July 6, 1868.

Claim.—As a new article of manufacture, a flexible wooden boot sole and heel, formed of independent sections of wood riveted to the leather inner sole, as herein described, for the purpose specified.

80,038.—ACHILLES J. VAWTER, Indianapolis, Ind.—*Office Bed.*—July 14, 1868; antedated July 10, 1868.—The construction of the hinge permits the shutter to be readily detached from the case when desired. The legs or supports for the outer ends of the shutter, when turned down, also serve to fasten it when closed.

Claim.—The case A, having a front, B, which is hinged at the bottom in the manner specified, the inner face of said front being provided with a bed, C, which is supported either in a horizontal or vertical manner, by means of the legs I I, the various parts being constructed and operating as specified.

80,039.—GEORGE WHARTON, Jerseyville, Ill.—*Gang Plow.*—July 14, 1868.—Devices to facilitate the raising and lowering of the plows, and adapt the machine to undulations and sloping surfaces.

Claim.—1. Constructing the axle of two parts, H I, connected by a joint, *c*, in combination with the two levers J J′, all arranged and applied substantially in the manner as and for the purpose set forth.

2. The foot lever M, connected with one of the beams A, and to the post *h* of the axle, as shown, in combination with the shaft L^x, secured to the axle, and having the front ends of the beam A fitted loosely to it, all arranged to operate substantially as and for the purpose specified.

3. The treadle platform D, draught pole E, and the lever F, connected to the draught pole by chain *b*, all combined and arranged substantially as and for the purpose set forth.

80,040.—ANDREW WHELDEN, South Dennis, Mass.—*Lantern.*—July 14, 1868.—The gas burns at the edge of the deflector. The base has a register to regulate the admission of air, and the burner is inclosed within a jacket having a perforated top surmounted by the deflector. The arrangement reduces liability of casual extinguishment of the flame.

Claim.—The perforated base B and band F, in connection with the jacket D, provided with a perforated top, *a*, and the plate or deflector E, all being constructed, arranged, and applied to a lantern, substantially as and for the purpose set forth.

80,041.—ALBERT M. WHITE, Thompsonville, Conn.—*Railway Car Seat.*—July 14, 1868.—The grooves of the end frames or standards, and the pins on the ends of the back enable the back to be readily reversed.

Claim.—The studs *a a′* and grooves *f f* and *g g*, in combination with a car seat, substantially as described, and for the purposes herein set forth.

80,042.—HENRY G. WILLIAMS, Providence, R. I.—*Die and Plunger.*—July 14, 1868.—A method of forming tin and other metallic boxes, and covers for the same.

Claim.—The die A, when its upper inside edge is fluted or serrated as described, whereby the tin or other metal to be struck up is crimped evenly to prevent the uneven lapping and consequent breaking of the metal as herein set forth.

80,043.—THOMAS WILSON, Birmingham, England.—*Breech-Loading Fire-Arms.*—July 14, 1868.—The rotating handle or collar is employed for locking the closing plug prior to the discharge of the gun. The jointed catch or sere holds the hammer in cocked position.

Claim.—1. The combination, with the breech shoe or shoe cap, of the breech plug, and a spring-locking collar or handle, attached to but having a rotary movement independent of said plug, together with the self-engaging lugs, or their equivalents, for holding the collar to the breech shoe in the manner specified, so that when the breech plug is pushed up to close the breech, the said collar shall be first partially rotated in one direction by the action of the said lugs in entering the openings or recesses in which they are held, and then, by the action of its spring, rotated in the opposite direction, to effect the engagement of the lugs, and the consequent interlocking of the collar and breech shoe, substantially as set forth.

2. The rotating locking collar, with its lugs and inclosed spring, constructed and combined with the breech plug, upon which it is mounted in the manner specified, and arranged to operate in connection with the rear of the breech shoe or shoe cap and the beveled openings and annular space formed in said shoe for the reception of the lugs, substantially as and for the purposes set forth.

3. The combination, with the breech plug and sliding hammer, of a spring stop and guide, h^3, for guiding the said plug and hammer and for holding and releasing said hammer, substantially as shown and set forth.

4. The combination, with the slotted tubular breech plug and the spring stop and guide, h^3, of the inclosed sliding hammer and its jointed, catch and sere, both the said stop and the catch or sere being arranged so as to lie partly within the slot in the tubular breech plug, substantially as herein shown and set forth.

5. The safety slide or bolt *v* under the breech shoe or shoe cap, for preventing the accidental retraction of the detent or stop h^3, constructed and arranged to operate in connection with the locking handle or collar, in the manner shown and specified.

6. The combination and arrangement, with the rotating locking handle or collar, of the locking check bolt for preventing the movement of the trigger until the collar and the breech plug are securely fixed or locked in their places, substantially in the manner set forth.

7. The combination of the trigger check bolt, and the safety slide for locking the detent, with the sliding breech plug and its rotating locking handle or collar, under the arrangement and for operation as set forth.

80,044.—PETER WINNEGARD, Coldwater, Mich.—*Device for Sharpening Horseshoe Calks.*—July 14, 1868.—The square projection of the block is inserted in the hole of a common anvil, and the oblique opening receives the horseshoe whose calk is hammered upon the block.

Claim.—The block A, constructed substantially in the manner and for the purpose specified.

80,045.—CHARLES WRIGHT, Newark, N. J.—*Friction Clutch Pulley.*—July 14, 1868.—In the act of adjusting the set screw the eccentric is turned so as to bring the line of pressure between its pin and the screw to the point which best enables the ready and effective action of the combined leverage, thus maintaining the most favorable distance which would otherwise be constantly varying from wear.

Claim.—1. The set screw X, when employed in a friction clutch, substantially in the manner and for the purposes specified, the nut being in the stem of the block C.

2. The sliding arm E, link *w*, and eccentric, D, in combination with the adjustable block C, when constructed, combined, and arranged in the manner and for the purpose hereinabove set forth.

80,046.—HENRY W. ADAMS, Philadelphia, Pa.—*Kiln.*—July 21, 1868.—This invention consists of a covered air-tight kiln in which a powerful draught is produced by means of a jet of steam made to draw alike from all parts of the kiln, together with a means of introducing large or small quantities of air and steam into the fireplaces so as to promote perfect combustion and impart a uniform degree of heat to all parts of the kiln.

Claim.—1. The peculiar arrangement of the numerous and narrow heat-distributing flues *y*, at right angles to and in combination with the covered fireplaces C C, for receiving, dividing, and conveying their heat underneath the entire bottom of the bricks, when set in the kiln to be burned, substantially as described.

2. The air flues H H D D, in combination with the openings G G F F into the fireplaces C C, substantially in the manner and for the purposes set forth.

3. The steam pipes R S T T in Fig. 1, and passages F F and flues E E in Fig. 2, in combination with the fireplaces C C, for the objects indicated, and substantially in the manner shown.

4. The arrangement of the pipes p o^2 o^2, o^1 o^1, o^3, and o, in combination with a covered brick kiln, for exhausting the smoke and gaseous products of combustion and superheated steam, in an equal and uniform method, from all parts of the kiln, for the objects described, and substantially as represented.

5. The use of a jet of steam to create a draught at the top or end of the brick kiln, substantially as shown and for the ends proposed.

6. The combination and arrangement of the exhaust pipe o, when supplied with a jet of steam, the fireplaces C C, and with the air flues H H D D, and with the openings G G F F, and with the steam pipes E E in Fig. 2, when they severally supply those vehicles of heat to the bottom of the kiln, which the steam jet, issuing from o, pumps from its top, as herein substantially shown and described.

7. The construction and operation of the brick kiln, substantially as shown and explained, and for the purposes set forth.

80,047.—James Albertson and Sample C. Byers, Richmond, Ind., assignors to James L. Haven and James L. Branson, Cincinnati, Ohio.—*Hand Loom.*—July 21, 1868.—Outside the forward sprocket wheel is a compound crank to the wrist of one portion of which is connected a pitman having its opposite end pivoted to the batten. On the shaft which carries the rear sprocket wheel is a series of cams so arranged as to operate the treadles in regular order or in any order desired, so as to produce a variety of cloths.

Claim.—The combination of the driving shaft, having the sprocket wheel B mounted thereon, and having the batten connected thereto by pitmen E, with the cam shaft, having the sprocket wheel C and the cams *n* secured thereto, when said parts are all constructed and arranged to operate substantially as described.

80,048.—Stephen M. Allen, Woburn, Mass.—*Artificial Leather Belting.*—July 21, 1868.

Claim.—1. The attaching, cementing, gluing, stitching, or uniting together of sheets for artificial leather belting or banding made from pulped animal fiber, tanned or untanned, used alone or in combination with other vegetable fiber, or with other further combination with resinous or gelatinous substances.

2. Attaching, cementing, gluing, riveting, or stitching sheets or strips of artificial leather paper for belting, made from pulped animal fiber, tanned or untanned, alone or mixed in further combination with other pulped vegetable fiber, to sheets of common leather for belting, whether the sheets of leather are laid upon either one or both sides, or between sheets of artificial leather.

3. The combination of sheets of artificial leather for belting, with sheets of leather, canvas, cloth, wood, yarn, iron, or wire, when properly attached together for the purpose, by gluing, cementing, riveting, or stitching the same.

4. The overlapping and strengthening of joints in leather, artificial leather, or other belting, by the use of artificial leather sheets, set on and over the laps or joints in belting, by cementing, gluing, riveting, or stitching the same, substantially as within described.

5. A belting made of pulped artificial leather, as described, by combining sheets made of the same to the other substances named, or any of them, as described, such as leather, canvas, cloth, wood, yarn, iron, or wire, properly set together in the manner and for the purposes substantially as described.

6. The application of artificial leather paper to veneer and increase the thickness and strength of leather belting by applying the same to the softer and thinner parts of leather belting, making them of uniform thickness, and nearly non-elastic either when applied outside or between strips of leather, and confined substantially as herein described.

80,049.—William B. Allyn, Boston, Mass.—*Key Board for Telegraph Instrument.*—July 21, 1868.—A separate key is provided for every character used, each key being so constructed that one depression will produce its respective letter or character complete.

Claim.—1. The wheels E, the uprights D D, one or two to each key, the roller H, when constructed and operating as herein shown and described.

2. The rod M, in combination with the arms N or their equivalents, substantially as described, for the purpose set forth.

80,050.—Truman S. Angel, Watertown, N. Y.—*Machine for Sharpening Hop Poles.*—July 21, 1868.

Claim.—A tool for sharpening sticks, stakes, and poles, consisting of a hollow frustum of a cone, having inserted longitudinally in its shell conical rollers, and an adjustable oblique cutting knife, all constructed and arranged to operate substantially as described.

80,051.—Philipp Bantel, New York, N. Y.—*Chronometer.*—July 21, 1868.—The propelling part of the gearing is so arranged as to obtain a very slow, steady, and constant initiatory movement, the instrument being designed to keep correct time for years, without adjustment, or regulating, or even winding up.

Claim.—1. The combination of the shafts B and O, one or both, and large gear wheel D, said parts being constructed, as described, with the ordinary clockwork of a chronometer, substantially as and for the purpose set forth.

2. The combination of the self-adjusting screw pulley G and stationary screw H with cord C and shaft B, substantially as herein shown and described, and for the purpose set forth.

3. The swiveled pulleys I and K in combination with the cord C, weight bar J, and pulley L, or its equivalent, substantially as herein shown and described, and for the purpose set forth.

80,052.—Benjamin F. Brattain, Noblesville, Ind.—*Portable Fence.*—July 21, 1868.—The yoke is so constructed as to serve at once as a key and a hinge, and admits of each panel of the fence being used as a gate.

Claim.—The yoke herein described, when the same is constructed as aforesaid, in combination with a panel of fence, the rails of which are notched, as described and for the purpose specified.

80,053.—Joseph Brett, Geneva, Ohio.—*Mode of Mulching Strawberry Beds.*—July 21, 1868.—Mulch is grown upon the ground in the fall, and when winter-killed, will fall upon and protect the plants, and serve as a covering for the earth during the spring.

Claim.—The mode of mulching strawberry beds by sowing thereon the seeds of plants, the stalks or blades of which are intended to serve as a mulch therefor, substantially as set forth.

80,054.—R. W. Brockway and Henry Frederick, Akron, Ohio.—*Fence.*—July 21, 1868.—Two uprights are fastened to a bed piece and between the uprights the ends of the rails are fastened. The upper ends of braces fit under cross-ties in the uprights.

Claim.—1. A crooked or angular rail fence, the joint of which rests upon a bed piece, A, with the uprights C C fastened at or near one end of the bed piece, while the long end of the bed piece projects into the hollow of the angle of the fence, substantially as shown and described.

2. The combination of the bed pieces A, uprights

C C, braces G H, and stubs or legs B B, substantially as and for the purposes set forth.

80,055. — EDMUND D. BROWN, Battle Creek, Mich.—*Pole for Vehicles.*—July 21, 1868.—The bow is made elastic, and so connected to the arm braces as to be readily adjusted to correspond with the coupling clips of any vehicle.

Claim.—The arrangement and combination of the spring bow C and slotted arm braces B with each other, and with an ordinary vehicle pole, A, substantially in the manner and for the purpose of adjustability, as set forth.

80,056.—JOHN DICKINSON BRUNTON, London, England.—*Machine for Sinking Shafts.*—July 21, 1868; patented in England January 5, 1867.—The parts are so arranged as to combine orbital and planetary motions, together with another spiral motion, which cause the cutters, as they revolve, to cut or split the face of the rock into a spiral form, having a pitch or angle of progress dependent, in some degree, on the nature of the rock acted on.

Claim.—The construction and application of machinery or apparatus for sinking shafts and pits, and for driving or excavating tunnels, galleries, or adits, wherein one or more cutting disks are caused to revolve on their own axis or axes, such axis or axes revolving round a center, which also revolves round another fixed center, substantially as hereinbefore described.

80,057.—LOUIS CHRISTOPH, Paris, France, WILLIAM HANKSWORTH, Gartness, North Britain, and GUSTAVUS PALMER HARDING, Chiswick, England.—*Apparatus for Drawing Metals.*—July 21, 1868; patented in England, April 10, 1862.—This invention consists in the employment of a hydrostatic or hydraulic cylinder and ram, the griper bars being secured to the end of the ram, while the draw plates are fitted into a suitable support or flange cast on the cylinder.

Claim.—The combination of the hydraulic or hydrostatic press, the collars or flanges K G thereof, and drawing apparatus, substantially as hereinbefore described.

80,058.—ZACHARIAH T. CLAGETT, Washington, D. C.—*Corn Planter.*—July 21, 1868.

Claim.—1. The diagonal shaft F and scraper F^2, in connection with the cog wheel E, constructed as described, the lever O, spring O′, slide A^2, axle D, wheels D^2, H′, D^1, C and H, and also the bar B, constructed as specified, Also, in connection with the wheels H′ and H, I claim the support I, with lever K and catch K′, and spring T attached, working in the manner and for the purpose described. Operating together with slide A^3 I claim slide R and lever S, arranged as and for the purpose set forth. In connection with the scraper F^2, the bow V, for the purpose set forth.

2. The arrangement of the arms L, constructed with wheels L^2, bars L^3, wheels M, and cranks M^1, substantially as and for the purpose set forth.

2. The levers Q, with cords or chains, as described, in connection with the drill-teeth P^1, tube P^2, and corn-coverers P^3, joined to bars P by a joint, as shown in drawings, and supports U, substantially as and for purposes set forth. In combination with lever O, the catches Q′, arranged for the purpose set forth.

80,059.—A. M. CONNETT, Madison, Ind.—*Boring Machine.*—July 21, 1868.—The lower bar of the brace is formed with a rectangular section, and is connected with the crank at right angles, so that cutters or bits may be attached thereto, for cutting large circles in wood, &c.

Claim.—The locking-sleeve B, having the inner face of its under side beveled, to receive a bit D, in combination with the arm of a bit-stock, constructed to operate substantially as and for the purpose herein specified.

80,060.—GILES CRAMTON and PRATT A. SPICER, Marshall, Mich.—*Three Horse Equalizer.*—July 21, 1868.—The sheave is so constructed that when it is vibrating back and forth, by reason of the single horse in the middle, or the team of two outside getting alternately a little ahead, the relative leverage is constantly maintained.

Claim.—Providing the sheave A with a polygonal or other suitably shaped shifting eye plug, said plug to be inserted in a position either concentric or eccentric, with the equalizing rims of the sheave, and perforated with either one or all of the pivot holes *i m n*, substantially as and for the purpose herein set forth.

80,061.—WILLIAM CRANDELL, Philadelphia, Pa. —*Shaft Coupling.*—July 21, 1868.—By arranging the bars or links nearer to the shaft than the screws or bolts, the latter can be tightened by a comparatively slight force.

Claim.—1. A coupling, composed of two halves, connected together on one side of the shaft by bars or links B and B′, or their equivalents, and on the opposite side of the shaft by set screws or bolts, all substantially as set forth.

2. Arranging the said bars or links, or their equivalents, nearer to the shaft than the said screws or bolts, as and for the purpose set forth.

3. The bars B and B′, imbedded in the coupling during the process of casting the same, as specified.

4. In combination with a griping coupling, set screws F, applied to prevent the end play of the shafts, as set forth.

80,062.—EDWIN DAY, Chicago, Ill.—*Cutlery.*— July 21, 1868.—The tang is inserted in the handle and molten metal is poured in and fills the recesses left in the mold and handle, thus forming in a solid piece the bolster straps and the tie.

Claim.—The handle B, with the tang *a* inserted therein, and having the locking recess *e*, or its equivalent, with the molten metal cast on them, so as to form the bolsters *m*, straps *n*, and the cross-bar or tie *l*, of greater diameter than the slit in which the tang is inserted, all at one operation, substantially as described.

80,063.—ROBERT SEELEY EGBERT, Colfax, Cal. —*Manufacture of Ice.*—July 21, 1868.—A water pipe or pipes pierced with small holes, extend through a proper inclosure, through which perforations water drops in the form of spray, congealing as it falls.

Claim.—Forming artificial ice in houses or receptacles by spray, sprinkling or dropping water through a pipe or pipes, C, or vessels, pierced with holes *a a a*, or their equivalents, substantially as described.

80,064.—W. C. GAULT, Ruggles, Ohio.—*Stock Guard Gate.*—July 21, 1868.—As the water rises during a flood, the wooden weight will be elevated, and force a hook from a catch, when the gate will be released and fall down in the direction of the stream, to allow of the passage of drift wood, &c. As the flood subsides, the gate will be drawn back to a vertical position.

Claim.—The weight or float H, rope or chain G, lever F, and hook I, as arranged in combination with the gate A, substantially as and for the purpose set forth.

80,065.—ROBERT GEORGE, Mineral Point, Wis. —*Furnace for Roasting and Treating Ore.*—July 21, 1868.

Claim.—1. An oxidizing, desulphurizing, chlorifying, and disintegrating furnace, as shown in the drawings, and detailed in the specification.

2. A stirring machine, with all its parts, as illustrated and specified.

3. A water and heating apparatus, as illustrated, and for the purpose described.

4. The substitution of fire clay or porcelain tubes, or their equivalents, for the purpose of converting water into steam, and superheating the same.

5. The cooling of the stirring machine by air, steam or water, used separately or combined, in the manner and for the purpose as described and set forth.

80,066.—JOHN B. GIBSON, Cincinnati, Ohio.— *Valve Cock.*—July 21, 1868.—The valve stem is fitted in a screw-threaded cap, and terminates in a grooved collar encircled by a rubber band or ring. An upper and lower collar on the valve is encircled by a rubber ring. A rubber disk is placed in a cavity in the bottom of the valve, and the latter is secured to the stem by a recessed screw.

Claim.—1. The rubber rings G and J, as arranged, in combination with the valve H, stem E, and cap D, as explained.

2. The arrangement of stem E, valve H, recessed screw N, and rubber disk L, as and for the purpose set forth.

80,067.—Henry T. Goodling, York, Pa.—*Hoisting Machine.*—July 21, 1868.—Designed more particularly for hoisting and loading logs.

Claim.—The construction of a hoisting machine, arranged with a central post B, turning cross head K, provided with pulleys I, windlass, and a pivoted side lever, L, to base of post B, combined substantially in the manner and for the purpose specified.

80,068.—Matthew Gormley, Wilna, N. Y.—*Machine for Cutting off Nails.*—July 21, 1868; antedated July 7, 1868.—Designed more particularly for cutting off the heads of horseshoe nails. The shank or bar is clamped in the jaws of a vise and provided with uprights bent over flanges, between which a cutting tool is arranged to slide across the opening in the said bar.

Claim.—The shank B, having arms H H, flanges C C, and opening E, in combination with the sliding cutter D, rods G G, and springs, all constructed, arranged, and operating substantially as and for the purpose specified.

80,069.—Thomas J. Harrison, New York, N. Y., assignor to himself and George Allin, same place.—*Machine for Bending Pipe.*—July 21, 1868.—A pair of bifurcated hand levers are pivoted upon stationary formers, and are provided with rollers in their forked ends, both formers and rollers being formed with semicircular recesses corresponding to the contour of the pipe to be bent.

Claim.—The arrangement herein described of the formers C C, rollers E E, and bifurcated levers D D on the platform A, in the manner substantially as and for the purposes described and set forth.

80,070.—Micheal Henderson, Detroit, Mich.—*Potato Digger.*—July 21, 1868.—The scoop is secured to the front ends of longitudinal bars provided with transverse runners placed underneath the same. A series of brooms attached to endless chains clean the potatoes and carry them to the rear end of the apparatus.

Claim.—1. The scoop A, connected with the bars J and B, provided with transverse runners O, and openings 4, when arranged and operating substantially as and for the purposes set forth.

2. The cylinders H, bars K, and belts I, when operated by belts F from pulleys D, substantially as described, and for the purposes specified.

3. The combination of the above named parts with frame G, bars K, brooms or brushes 3, secured to endless belts I, axle N, and wheels D, when constructed, arranged, and operating substantially as and for the purposes set forth.

80,071.—Robert Heneage. Buffalo, N. Y., assignor to himself and Ira R. Amsden.—*Insole for Boots and Shoes.*—July 21, 1868.—The air cushion consists of a flat India-rubber or flexible bag overlying the whole length and width of the stiffener, which latter forms a support or base, and is perforated to make it lighter and to render it easily attachable by means of cement to the cushion.

Claim.—1. An insole for boots and shoes, attached or otherwise, consisting of an air cushion or chamber with suitable attachments, as a new article of manufacture.

2. Constructing the sole with a perforated base plate or stiffener, *a*, an overlying air cushion *b*, and an outer covering *c*, the cushion being united with the plate by cement or glue that passes through the perforations and holds on the opposite side, the whole arranged as described, and operating substantially in the manner and for the purpose specified.

80,072.—Michael Hennasy, Crawford, N. J., assignor to himself and John Adams, same place.—*Claw Bar.*—July 21, 1868.—To an ordinary claw bar is attached a short claw bar by means of lips pivoted to a pin. On the opposite is a projection serving as a fulcrum.

Claim.—The claw bar B and fulcrum E, in combination with the claw bar A, substantially as and for the purpose specified.

80,073.—Hiram Herrick, Boston, Mass.—*Piano Forte.*—July 21, 1868.—The iron frame, sounding board, wrest-pin block, strings, and action are arranged in two separate cases, hinged together so as to enable the said frame, sounding board, and strings to be turned up or off the action in order to gain ready access to either of the same. With each string and its tuning pin are combined one or more auxiliary adjusters, to enable the string to be turned to a nicer degree than by its tuning pins.

Claim.—1. The improved arrangement of the sounding board, the "wrest-pin" block, and the bridges with respect to the iron frame and the strings, such sound boards, strings, wrest-pin block, and bridges, under such an arrangement, being placed underneath the iron frame and above the strings.

2. The combination of the two separate cases A B, hinged together, as described, with the action arranged on the lower one, and the sounding board and strings placed in the upper one, as set forth.

3. The combination of the auxiliary adjuster with the string, the tuning pin, and bridge.

4. The improved arrangement of the tuning pins with the strings and the wrest-pin block, or the same and the iron frame, the tuning pin, under such arrangement, having its head to extend from one side of the said block, and having the string applied to the part which projects from the other side of the block, the whole being substantially as set forth.

80,074.—John A. Heyl, Boston, Mass., assignor to himself and John H. Wiggins, same place.—*Horseshoe.*—July 21, 1868.—The connector consists of two jaws which clasp the sides of the hoof and are provided with four catches, two of which are hinged together and extend under inclined edges in the recess of the toe, the other two catching in the heel recesses of the shoe. The catches are secured to the connector by a screw.

Claim.—1. The connector B, as described, that is, as consisting of the jaws and toe and heel catches, arranged, constructed, and combined substantially in manner and to operate with a hoof and with a shoe, constructed essentially as set forth.

2. The shoe as made or provided with toe and heel catch recesses to receive the catches of the jaws of the connector B, constructed as described.

3. The combination and arrangement of the standard *f* and its screw *g* with the shoe, provided with toe and heel recesses to receive the connector B, made substantially as described.

4. The combination of the standard *f* and its screw *g* with the shoe A and the connector B, made in manner and so as to operate together substantially as specified.

80,075.—James Maze Kilner, Chester, England.—*Apparatus for Towing Vessels.*—July 21, 1868; patented in England April 4, 1867.—A cleaver trunk extends down through the vessel from its upper deck through its bottom, the cleaver being suspended in the same by means of ropes, so that it may project beyond the keel, and serve to keep the tow chain free from contact with the keel and lower part of the hull.

Claim.—1. The combination and arrangement of the cleaver and its trunk with the hull of a vessel, so that the cleaver may be operated as described.

2. The cleaver, constructed as represented in Fig. 6, and as hereinbefore described.

3. The arrangement of the tow chain, viz, so as to be fastened to a vessel near or below its keel, as set forth.

4. The combination and arrangement of the tow chain and the cleaver of a vessel to be towed, such chain being passed through and out of the cleaver, as set forth.

80,076.—J. A. Lakin, Thompsonville, Conn.—*Stove Pipe Drum.*—July 21, 1868.—A series of cylindrical conically-capped chambers are connected to the main flue by means of pipes which conduct the smoke and heat to the upper portion of said chambers, the smoke, &c., escaping through pipes opening near the bottom of the chambers again to the main flue.

Claim.—The arrangement of a number of radiating chambers A, connected to the main pipe by means of the pipes B and C, and operated by means of a damper D, the parts being combined and arranged together in the manner herein shown, and for the purpose set forth.

80,077.—Clement Littlefield, Kennebunk, Me.—*Measuring Lumber.*—July 21, 1868.—The invention consists in adapting logarithms to a circular movable form or disk rotating around an iron disk.

Claim.—The application of logarithms to a circular movable form, with a double radius mathematically divided, so that one part works in conjunction with the other, substantially as and for the purposes specified.

80,078.—Milton Love, Corry, Pa.—*Machine for Saving Cream while Churning.*—July 21, 1868.—To the underside of the lid of the churn is attached a cylindrical piece of metal, perforated at the top. To the bottom of this is attached a ring having on its inside an inverted tunnel and with another ring at the bottom of the same.

Claim.—The combination of the air chamber *a a* and *b b* with the inverted tunnel *d d d d*, and the ring *g g*, for the purposes herein mentioned.

80,079.—Frederick S. Mack, Galesburg, Ill. *Floor Clamp.*—July 21, 1868.—The spring and slide are so arranged that the flooring may be clamped by the slide being forced against the flooring by the pressure of the lever on the roller, the spring forcing the slide back when the clutch is released.

Claim.—The arrangement of the coiled spring H, for forcing the slide or driver G back, and the roller *g*, for relieving the driver of friction when operated upon by the lever F in clamping the flooring, in the manner as herein shown and set forth.

80,080.—John Martin, Philadelphia, Pa., assignor to himself and Jacob Jamison, same place. —*Refrigerator.*—July 21, 1868.—A longitudinal V-shaped trough holds the ice, and the water is conducted to a closed vessel below. Boxes or dishes placed under the ventilators contain substances or chemicals for purifying or impregnating the air with gases.

Claim.—The ice box or refrigerator A, having the ice trough B arranged along its center, with an open space on each side, with the drip spout D located thereunder, and both connected with the reservoir G, and having the receptacles C, all arranged substantially as shown and described.

80,081.—John Matheis, Ottawa, Ill.—*Machine for Punching Leather Straps for Fly Nets.*—July 21, 1868.—The pulley or drum is composed of cast iron covered with a rim of sheet brass, upon which the strap is placed. Holes are made in the strap by hollow punches attached to a reciprocating head or frame.

Claim.—1. The pulley D, and brass rim E, the hollow punches M M, the rod L, the pitman J, and the crank I, when combined with each other in a machine for punching straps for fly-nets, and constructed substantially as and for the purpose described in the foregoing specification.

2. The ratchet wheel O, the pawl P, the lever Q, the rod R, the crank H, the pawl S, and the eccentric T, when combined with each other in a machine for punching leather straps for fly-nets, substantially as and for the purpose described in the foregoing specification.

3. The elastic guide V, when applied to the machine for punching leather straps for fly-nets, substantially as and for the purpose described.

80,082.—Frederick B. Miles, Philadelphia, Pa., assignor to Bement & Dougherty, same place. —*Valve Gear for Steam Hammers.*—July 21, 1868.—The parts are so arranged that such variable differential movements may be imparted to the valve from the lever that the valve will be operated quickly at each end of the stroke, and more slowly at the middle of the same, and that the quantity of steam used will be proportionate to the work required.

Claim.—The slotted lever G, arranged to slide and vibrate on an adjustable fulcrum, and constructed and operating in connection with the ram of a steam hammer, or with the piston-rod, or other reciprocating part of a steam hammer or engine, substantially as and for the purpose set forth.

80,083.—S. A. Millard, Clayville, N. Y.—*Machine for Rolling Hoe Blanks.*—July 21, 1868.—The rolls are provided with funnel-shaped dies into which the tongs are placed, and which serve as guides to adjust the blank laterally, so as to insure the passage of the shank properly between the dies.

Claim.—1. The construction of the projecting dies *o o*, together with their arrangement on the projecting portions of the revolving rolls B C, as described, said dies being for the purpose of spreading the blank laterally in the manner described.

2. The construction of the projecting dies *f f′*, together with their arrangement on the projecting portions of the revolving rolls B C, as described, said dies being for the purpose of spreading the blank laterally and giving form to the rib on the surface of the hoe in the manner described.

3. The construction of the projecting dies *t t*, together with their arrangement on the revolving rolls B C, as described, said dies being for the purpose of spreading the metal to form the ears of the hoe, in the direction and in the manner described.

4. In combination with the rotary rolls B C, a set of plating dies $m\ m^2$, constructed as specified, the whole arranged to operate as described, for the purpose set forth.

5. The employment, in combination with a set of rotary dies, of adjusting guides, arranged on the face of the roll, and operating to effect the adjustment and retention of the blank, substantially as hereinbefore described.

80,084.—John A. Moore, Providence, R. I.—*Roofing Cement.*—July 21, 1868.

Claim.—The manufacture of a roofing cement, by mixing with coal tar, or other similar substance, alumina, plumbago, asbestos, carbon, silica, iron, lime, and magnesia, in the proportions substantially as described, in the manner and for the purposes specified, whether found in nature or prepared by art.

80,085.—Maurice O'Connell, Boston, Mass. —*Apparatus for Checking Horses Attached to Vehicles.*—July 21, 1868.—An arrangement of gearing, in connection with a shaft, by which a check rein attached to the horse is brought into operation by means of a lever, to prevent a horse from running away.

Claim.—The combination and arrangement of the two gears 1 1, the two pinions 2 2, the shaft 4, the barrel 3, the yoke 5, and the slide 6, as applied to the two wheels and their axle, and as provided with a chain and hook, the whole being as and for the purpose specified.

80,086.—Bartholomew Oertly and Xavier Fendrich, Washington, D. C.—*Composition for Coating Metals, &c.*—July 21, 1868.

Claim.—A composition for coating stone, brick, iron, or wood, or for floor tiles, or similar articles, composed of soluble glass and marble dust, substantially as described.

80,087.—James T. Page, Rochester, N. Y.—*Scoops, Shovels, &c.*—July 21, 1868.—The scoop or shovel is made from a single piece of sheet metal, and formed by dies, so that the rear end constitutes a stiffened handle or a socket for the insertion of a wooden handle.

Claim.—The scoop A, or equivalent, made from a single sheet of metal, and combining with the blade *a* the tubular socket *b*, at the rear, constructed and arranged as described and for the purpose specified.

80,088.—James H. Prentice, Ashtabula, Ohio. —*Lamp Extinguisher.*—July 21, 1868.—A cap or extinguisher is so arranged and connected with a weighted rod, that in the event of the lamp being tipped or turned to one side, the cap will be forced by a spring upon the tube and extinguish the flame.

Claim.—1. The pendulum E, disk *b*, in combination with the stem *a*, yoke D, and extinguisher C, substantially as and for the purpose set forth.

2. The screw pendulum E, stem *a*, and lever K, in combination with the yoke D, extinguisher C, spring I, and tube B, substantially as and for the purpose set forth.

80,089.—WILLIAM RALPH, Utica, N. Y.—*Curd Mill.*—July 21, 1868.—The curd is forced between the ribs or grate bars by the teeth on the cylinder, without grinding it or reducing it to paste.

Claim.—The box A, cylinder B, armed with teeth, as described, and semi-circular grate bars C, so arranged as to form the bottom of the box A, all in combination, as specified.

80,090.—GEORGE REHFUSS, Philadelphia, Pa., assignor to AMERICAN BUTTON HOLE OVERSEAMING and SEWING MACHINE COMPANY.—July 21, 1868.—The under side of a bent and slotted plate is cut away to form a recess, and at one end of the same is a spring so arranged as to fold the edge of the fabric for hemming the same.

Claim.—The within-described hemming device, consisting of the plate A and the spring *d*, constructed as shown, and arranged and operating substantially as and for the purpose herein set forth.

80,091.—S. B. REPLOGLE, Martinsburg, Pa.—*Bee Hive.*—July 21, 1868.—The triangular form enables the hive to be used with different sides up at different seasons of the year, so that the bees will be concentrated in the upper or narrower portion of the hive when the honey has been eaten from the center.

Claim.—1. A bee hive, consisting of a triangular box, having one side removable at pleasure, and otherwise constructed, substantially as described.

2. In combination with the above-described hive, the triangular comb frame B, made of bars having their inner edges beveled from each side to the center, as shown at Fig. 3.

80,092.—W. REYNOLDS SELFRIDGE, Greensburg, Ind.—*Ditching Machine.*—July 21, 1868.—The operative portions are connected to a frame suspended upon windlasses in front and rear, so as to admit of the scoop, &c., being adjusted centrally or at either end. The wallower consists of a horizontal wheel having spades attached to its periphery.

Claim.—1. In combination with the excavator E, the wallower or earth remover H, substantially as set forth.

2. The combined arrangement of the gravitating frame D, excavator E, conducting scoop G, wallower H, and screen O, with the frame A and windlasses K K′, substantially in the manner and for the purpose specified.

80,093.—PATRICK M. SHEA, Chicopee, Mass.—*Attachment for Lamp Chimney.*—July 21, 1868.—A band of thin sheet metal is provided at one end with a slot, in which is fitted a stud having a thumb nut in the other end, by which the diameter of the band can be varied. Outwardly-projecting fingers are attached to the upper edges of the attachment as supports for a vessel to be heated.

Claim.—1. The combination and arrangement of the continuous band A, slotted at *a*, and having the stud *s* and thumb nut *s*′, fingers *f* extending outward, and small fingers *f*′ extending radially inward, substantially as and for the purpose specified.

2. An attachment for the tops of lamp chimneys, composed of two or more jointed sections B, arranged so as to be adjustable in diameter, and having projecting fingers *f*, and the small fingers *f*′, extending radially inward, substantially as set forth.

80,094.—J. H. SKELLY, Aroma, Ill., assignor to himself and J. C. DANFORTH, same place.—*Cultivator.*—July 21, 1868.—The forward ends of the shovel beams are attached to arms at the top of the main frame by means of pivot rods and braces, the object being to prevent the shovels from rising out of the ground when moved sidewise.

Claim.—1. The beam C, in combination with the pivot rod E, brace F, and arm D, the latter being arranged to swing with the beam C, and to travel on the track N by means of the roller M, substantially as shown and set forth.

2. The combination of the beam C, chain *c*, arm D, and the elbow lever H I, the latter being pivoted to the arm, and having a projecting nib for locking against its top, substantially as and for the purpose set forth.

80,095.—ASA T. SOULÉ Savannah, N. Y.—*Hay Rack.*—July 21, 1868.—The rack is constructed of straight beams or cross pieces, and secured to an ordinary wagon box by means of curved fingers and eye bolts.

Claim.—The crooked bolts *c c* and pins *c*′, in connection with the eye bolts *d*, box A, and rack B *b*, substantially as and for the purpose described.

89,096.—JOSEPH H. SPRINGER, Philadelphia, Pa., assignor to himself, JOHN M. HESS, and SMITH BOWEN.—*Steam Engine Governor.*—July 21, 1868.—The receiver is pivoted with a movable cover, and also with an outlet having an adjustable valve applied to it, for regulating the escape of fluid that is forced into the receiver by a supply pump, the parts being so constructed and connected with the throttle valve, and also with the slide valve rod, that, should the speed of the engine exceed or fall short of the prescribed limit, the fluid will be forced into the receiver faster, in one case, and slower in the other, than it escapes, and thus operate upon the throttle valve.

Claim.—1. The arrangement of the regulating discharge valve K, intermediate between the reservoir G and the receiver A, and in the relation specified to the supply pipes E of the force pump F, whereby the fluid or air which flows into the receiver is made to escape therefrom faster or slower than the supply, as the case may require, and pass back into the reservoir, to be used repeatedly, all substantially in the manner herein described.

2. The arrangement of the receiver A with reference to the connections of the throttle valve of the engine, central hollow column D H, intermediate valve K, pipes E E, valves *j j*, and force pump F, substantially as set forth.

80,097.—CHARLES STARRETT, Chicago, Ill., assignor to himself and EDWARD PRESCOTT, same place.—*Horse Rake.*—July 21, 1868.—Designed as an improvement upon the patent of A. H. Chaplin, of November 25, 1862. Solid wooden blocks are attached to the forward end of flat springs which are firmly fastened to the handles, by which the cutting or chafing of the teeth is prevented.

Claim.—The springs E E, applied as shown, in combination with solid wooden blocks D D, having each a rigid inclined face, the whole constructed and arranged to operate as and for the purpose set forth.

80,098.—REUBEN C. TURNER, Mendon, Mich.—*Machine for Cutting Leather Filling and for other Purposes.*—July 21, 1868.—A series of concave knives of different sizes are attached to a plate and used in connection with a roller, held in place by a spring, over which roller the leather to be operated upon passes.

Claim.—1. The roller E, when attached to the frame F, in connection with the concave knives C, plate D, screws B, frame A, the rod G, the set screws H, and the lugs I, when arranged and operating substantially as and for the purpose herein set forth.

2. The spring J, when operating as and for the purposes specified.

80,099.—ALFRED JOHN WALE, Philadelphia, Pa.—*Knitting Machine.*—July 21, 1868.—The thread guides and cams are so arranged in connection with a circular knitting machine, in which some of the needles project outwardly beyond the others, so that a supplementary thread or threads may be imbedded in the fabric to decrease its transverse elasticity and increase its density.

Claim.—The cylinder B, with its slides and its needles, some of which project outward beyond the others, in combination with supplementary thread guides F and cams *d*, the whole being constructed, arranged, and operating substantially as and for the purpose described.

80,100.—JAMES T. WALKER, Albany, N. Y.—*Dish Cloth Holder.*—July 21, 1868.—The cloth is drawn through the ring by the sliding hook and held securely, the object of the device being to clean the inside of a jar, pitcher, &c.

Claim.—The three rods *c c c*, the ring B, and grooved handle A, in combination with the sliding rod C, with the hook D, and loop E, the whole formed substantially as and in the manner shown and described, for the purpose set forth.

80,101.—SAMUEL GUY WALLIS, Waterford, Pa. —*Balm.*—July 21, 1868.—To a proper quantity of alcohol, containing capsicum, is added oil hemlock, oil cedar, oil sassafras, oil fireweed, oil pennyroyal, oil amber, oil rosemary, spirits terebinth, and tinctures of the following: camphor, opium, gum-guaiacum, myrrh, colchicum, blood root, iodine; also, aqua ammonia and chloroform.

Claim.—The improved magic balm, when composed of the above ingredients in the proportions above mentioned, for the purposes set forth.

80,102.—ISAAC WELTY, Olney, Ill.—*Sulky Cultivator.*—July 21, 1868.—An arrangement of devices for adjusting the plows for different depths and widths of rows.

Claim.—1. In combination with the outer shovels or plows H J, the lateral braces H', rendered adjustable by means of the slots h^3 and bolts h^2, in the manner shown and described, for the purpose set forth.

2. The combined arrangement, with the inner shovels G I S, of the perforations e e', for the reception of their attaching eye bolts *g*, the pulleys n n', for the reception of their elevating ropes or chains K, and the perforated bars T U U, as and for the purpose specified.

80,103.—JOHN WESTOVER, Taylor, Ill.—*Elevator.*—July 21, 1868.—The apparatus is designed for raising a wagon box or hay rack filled with grain, hay, &c., in the field, for building stacks, and for raising hay to the level of the bays, the whole being provided with adjustable wheels for ready transportation.

Claim.—1. The extension arms R^1 and R^2, in connection with any suitable hay rack or wagon box, when used for the purposes herein described and set forth.

2. The combination and arrangement of the frame A, platform B, standards C, provided with sheaves D and guide pulleys O, the side timbers E, pedestal K, wheels J, and pins L, the shaft F, drum G, pawl H, stop I, horizontal bars M, guides N, elevator ropes P, and drag ropes Q, in connection with the extension arms R^1 and R^2, when constructed, arranged, and operating substantially as described, and for the purposes herein set forth.

80,104.—JAMES G. WILBUR, Kilburn City, Wis. —*Hop Pole.*—July 21, 1868.—Two or more poles are attached to a stationary post so that they may be easily removed and replaced. The diverging tops allow of exposure to the sun and air.

Claim.—1. A hop pole, consisting of a stationary post, A, with removable diverging poles B, mounted in foot staples *a*, and held in position by cross-boards E and pins *f* and *g*, substantially as herein described.

2. A hop pole, consisting of a stationary post, A, with removable diverging poles B, and removable upright pole D, mounted in foot staples *a b*, the former held in place by the cross-boards E, pins *f* and *g*, and staple *e*, substantially as herein described.

80,105.—JAMES M. WILLCOX, Glen Mills, Pa.—*Manufacture of Paper for Collars.*—July 21, 1868.

Claim.—1. The employment of strips, B, of stronger material, applied to the paper after it is couched and while it is soft, and imbedded therein by subsequent pressure, at proper distances asunder, to impart greater strength to the required parts of the articles to be cut from the sheets or rolls.

2. Locally strengthening paper for collars by applying, either in the sheet or roll, strips of strong material, in such positions as to protect the ends of the fold.

80,106.—L. C. ABBOTT, S. D. TUTTLE, and M. L. HOLT, Eaton, Ohio.—*School Seat and Desk.*—July 21, 1868.—The seats and desks are attached to grooved standards by means of bolts, &c., in such a manner as to enable the parts to be put together without nails and screws, and readily taken apart.

Claim.—The standards A A, provided with grooves, substantially as described, arranged in combination with seat C, desk F, and shelf D, with these projections, operating as and for the purpose set forth.

80,107.—ONOFRIO ABBRUZZO, St. Margherita, Italy.—*Aerial Car.*—July 21, 1868; antedated July 15, 1868.—The body of the balloon is of the form of a spindle or "cigar shaped," and has a reservoir provided with two pumps attached at one side. Under the body are suspended wings or paddles provided with valves which are made to open when the wings make a forward motion and close when the wings return.

Claim.—1. The reservoir B and pumps *a b*, arranged in relation to the body A, so as to increase or decrease the pressure of gas therein, all substantially as and for the purpose described.

2. In arrangement with the car and safety-rocket discharge, the propeller D mounted on crank shaft *e* and applied to the body A, substantially as and for the purpose described.

3. In combination with the balloon, a breech-loading rocket chamber attachment, with safety guard, substantially as and for the purpose described.

4. The wings or oars F, having valves *g*, operated by the engine, all substantially as described, for the purpose described.

5. The combination of the conical or acutely-formed body A, propeller D, rocket chamber H, and wings F, substantially as described, for the purpose specified.

6. An inclined parachute, arranged to co-operate with the screw or rocket, as and for the purpose described.

80,108.—EDWIN R. ADDISON, Wheeling, W. Va. —*Machine for Making Nuts.*—July 21, 1868.—The dies in this machine are arranged circumferentially of the table or bed, which latter consists of a large hollow or chambered roller mounted horizontally in the frame, the punches being arranged radially above the table. The dies are provided with perforated bottoms actuated by suitable mechanism to discharge the finished nuts from the dies previous to their immersion, and are connected with the interior of the table by suitable perforations to allow of the discharge of the punchings.

Claim.—1. The combination of the several punches herein described, and the dies on the periphery of the wheel B with the cavity B^1, for the discharge of the punchings, all arranged and operating substantially as described.

2. The arrangement, in a die wheel or shaft, which rotates in a vertical plane of the cavity B^1, passages *b*, and dies C c c^1, all substantially as set forth.

3. The combination of the disk O, having a cam periphery, o^1, and a friction roller, *o*, the radial arms P, notched disk Q, and pawl R, with the table B, substantially as and for the purpose specified.

80,109.—BENJAMIN F. ALLEN and J. R. RYERSON, St. Albans, Me.—*Fastening for Boots and Shoes.*—July 21, 1868.—The heel is hollow and made of metal with an opening on the front side. The adjustable bottom is secured by a staple driven through flanges in the inside of the heel.

Claim.—The heel, consisting of the drum C, the adjustable bottom K, with the staple *d*, for fastening on the heel, all constructed substantially in the manner described.

80,110.—THOMAS G. ARNOLD, New York, N. Y. —*Malt Kiln Tile.*—July 21, 1868.—The tiles are made of malleable cast iron, strengthened on their under side by ribs crossing each other at right angles and uniting with a marginal ledge surrounding them, so as to be bolted together to form the floor.

Claim.—The cast-iron, malleable malt-kiln tiles, having a marginal ledge, and cross bars or ribs on their under sides, as a new article of manufacture, constructed substantially as hereinbefore set forth and for the purposes described.

80,111.—Lewis J. Atwood, Waterbury, Conn., assignor to himself and Holmes, Booth and Haydens, same place.—*Lamp.*—July 21, 1868.—The draught plate is arranged within the lower end of the glass chimney and is provided with a flame slot and springs, with a foraminous inclosure below the draught plate and within the chimney.

Claim.—1. The draught plate *e*, formed with a flame slot and springs around its edges, in combination with a foraminous casing, that extends from said draught plate to the coupling *g* or ratchet cap *d*, substantially as set forth.

2. The coupling *g*, removable from the wick tube *b*, and ratchet cap *d*, in combination with the foraminous casing *f*, draught plate *e*, spring *i* and chimney holder *l*, substantially as set forth, whereby the entire draught regulator and chimney can be removed from the wick tube or ratchet cap, and replaced, as specified.

3. The coupling *g*, concave clips 5, and notch 4, in combination with the wick tube *b*, and ratchet cap *d*, substantially as and for the purpose set forth.

4. The spring hooks *l*, (Figs. 1 and 2,) receiving and sustaining the chimney, and clamping said chimney both inside and outside, in combination with the draught plate *e* and spring *i*, as and for the purposes specified.

80,112.—Ephraim Ball and Milton Ball, Canton, Ohio, assignor to John F. Seiberling.—*Dropping Platform for Harvester.*—July 21, 1868.

Claim.—Combining a bail or rod with a tilting platform of a reaping machine, in such manner that when the front edge of the platform is elevated above the plane of the finger beam, said bail will simultaneously become elevated above the finger beam and platform, for the double purpose of arresting the falling grain and facilitating the discharge of the gavel, substantially as described.

80,113.—Philip Ballard, Texas, Ohio.—*Drain Plow.*—July 21, 1868.—Adjustable wings are attached to the rear of the share so that they may be moved up after each cut and so as to push the ground raised by the plow back from the edge of the drain. The gauge wheels are arranged to be conveniently adjusted so that the plow may be run at any desired depth.

Claim.—1. The cutters C and D, share B, and adjustable wings E, constructed and arranged substantially as herein shown and described, in combination with the beam A, as and for the purpose set forth.

2. The combination of the gauge wheels F, curved arms G, lever H, support I, and curved adjusting arm or bar J, with each other, and with the beam A, substantially as herein shown and described, and for the purpose set forth.

80,114.—Silas Barker, Hartford, Conn.—*Washing Machine.*—July 21, 1868.—A central partition divides the box into two water-tight compartments, in each of which is a washboard, the two being connected together at the top by means of bars.

Claim.—The double washboard G G, connected over the top of the partition E, when constructed and operating substantially as described.

80,115.—David J. Barnett, Albion, Ind.—*Saw-Gumming Device.*—July 21, 1868.—A sliding die post is provided with removable dies, and is operated by a cam, the saw being held between removable plates so that a circular or straight saw may be readily gummed by merely changing the die and plates.

Claim.—The saw-gumming device consisting of bed plate A, bed B, slide C, die block D, removable dies E, removable slotted plates H I, screw plates F G, and cam J, constructed, arranged, and operating substantially as represented and described.

80,116.—Henry H. Barstow, Chicago, Ill.—*Nutmeg Grater.*—July 21, 1868.—The grater is supported upon springs, and the nutmeg, when to be grated, is attached to the end of a stem passing through a vertical slot in the case.

Claim.—1. Supporting an abrading or grating plate, A, upon one or more springs, *b*, substantially as shown and described, in combination with the case B, as and for the purpose set forth.

2. The stem or wire *m*, or other equivalent device, for holding the nutmeg or article to be grated, substantially as shown and described, in combination with grater A, springs *b*, all as and for the purpose set forth.

80,117.—David S. Beals, Adrian, Mich., assignor to himself and John J. Young, same place.—*Car Coupling.*—July 21, 1868.—The couplings consist of spring clutches provided with barbed ends so arranged that the cars will couple automatically when brought together. The clutches are opened by means of cams attached to vertical shafts.

Claim.—1. The combination of the hinged jaws or bars G G′, H H′, the spring draw bars I J, springs K L, and cams M, all constructed, arranged, and operating as described, for the purposes specified.

2. The combination, with the cams M, for operating the spring couplings G G′ and H H′, the arms *n n′*, for holding said cams in their different positions, and the pins Q R, and cam arms S, for returning the couplings to their closed position, as the cars separate, all arranged and operating substantially as described.

3. The buffers D, stems *d d′*, thimbles C, springs E, and rods F, all constructed and arranged substantially as described, and employed in combination with a self-locking car coupling, for the purpose set forth.

80,118.—Henry T. Beam, Palestine, Ill.—*Plow.*—July 21, 1868.—The sheth or post is made of cast iron so formed as to allow of the convenient attachment thereto of the mold-board, share, landside, beam, and handle, at the same time allowing of the chilling of the same, where it is most exposed to wear. The cast-iron head on the front of the beam is so formed as to allow of any desired change from one side to the other of the point of draught, for vertical or lateral adjustment.

Claim.—1. The cast-iron sheth, made as shown and described, with scarfs formed thereon for the reception of the bar of the share and the landside, as seen at C and D, Fig. 1, and the mold board, as seen at Fig. 3, substantially as and for the purposes set forth and specified.

2. The share, as constructed by turning up a small triangular piece to the anterior part thereof, as seen at Fig. 7, which is an end view of the share at *l*, Fig. 2, which piece forms a support for the mold board B, and also welding on a small triangular piece on the top of the share, as seen at *r*, Figs. 1 and 3, which protects the anterior part of the sheth, substantially as and for the purposes shown and described.

3. The landside, formed of the part D of the share, and the cast iron anterior part C, all constructed and attached, as shown in Figs. 1, 2, and 3, and described, and for the purpose specified.

4. The cast-iron head on the front end of the beam, with its pins *m*, key *n*, clevis *o*, and groove *t*, all as shown and described, and for the purposes specified.

80,119.—C. Beatty and G. Beatty, Portsmouth, Va.—*Apparatus for Cutting Ice.*—July 21, 1868.—A reciprocating plane moves under a hopper in which is a block provided with a rod for pushing the ice against the plane. Under the hopper and below the plane is a spring for holding a tumbler into which the cut ice falls.

Claim.—The case A, plane B, spring C, hopper D with cover *d*, block E with rod *e*, the whole being combined and arranged substantially as described.

80,120.—William Berner, Pottsville, Pa.—*Manufacture of Tile for Flooring, &c.*—July 21, 1868.—The ingredients in the white composition are calcined pebbles, alum clay, white potters' clay, china clay, and of the black composition, manganese, calcined copper, and red potters' clay, all ground, pulverized, and thoroughly mixed.

Claim.—1. The mosaic inlaying of the tile, of whatever color or design they may be, each of the different parts being cast into a mold or molds at the proper time, so as to unite and form into a solid mass, substantially as and for the purposes above set forth.

2. The composition, both white and black, or whatever color may hereafter be given to it, one of which, when burned, partakes of the hardness of iron, substantially as and for the purposes above set forth.

80,121.—DANA BICKFORD, Boston, Mass.—*Knitting Machine.*—July 21, 1868.—The cam groove by which the needles are actuated is so arranged that the machine may be rotated in either direction, in connection with which is a cam or cams which may be made to slide for the purpose of adjustment.

Claim.—1. A longitudinally-grooved needle cylinder, in combination with a rotary cylinder, having an endless cam groove with two equal and similar bends, and two sliding cam pieces, one for each bend, and each supported in side bearings or walls, so that proper adjustments may be made to tighten or loosen the stitches, and yet which will permit the revolution of the machine in either direction, to knit either a tubular or straight fabric at will.

2. The combination, with the needle cylinder, of a ring nut and detents or projections *d*, for raising or lowering and sustaining in position the needle cylinder relatively to the cam cylinder, substantially as and for the purpose set forth.

3. The combination, in the same machine, of devices substantially such as described, for varying the cam groove, with devices substantially such as described for raising or lowering the needle cylinder.

80,122.—DANA BICKFORD, Boston, Mass.—*Afghan.*—July 21, 1868.

Claim.—An afghan, blanket, or similar article, composed of tubular knitted strips, united together edge to edge, and with the seam concealed by a knitted or other cord or welt, and the whole finished with a border or fringe, substantially as shown and described.

80,123.—SAMUEL T. BOND, Edenton, N. C.—*Compound for Destroying Pain.*—July 21, 1868.—The compound consists of chloroform, sulphate ether, spirits camphor, spirits ammonia, and oil origanum.

Claim.—The combining the ingredients named in the specification, substantially as therein described, or in any similar proportion to produce the same results.

80,124.—OLPHA BONNEY, Jr., San Francisco, Cal.—*Harvester.*—July 21, 1868.—A device to be attached to a harvester for elevating the grain stalks which have been forced down upon or toward the ground by the wind or rain.

Claim.—1. A helper, of substantially a triangular form, having the upper inclined edge *c* and ribs *d*, for elevating the grain or stalks, as herein recited.

2. The wheel *j*, adjustable bar *k*, and box *l*, for the purpose set forth.

80,125.—SYLVESTER BOWERS, Penn Yan, N. Y.—*Broiler.*—July 21, 1868.—An annular dish-shaped rim, open at the bottom, is arranged within a metal band or hoop, and upon the same rests a grate. Inside the cover is a reflector.

Claim.—The hoop A, the annular rim B, the grate D, and the reflector E, all constructed and arranged substantially as herein shown and described and for the purpose set forth.

80,126.—GEORGE W. BRADFORD, Brooklyn, N. Y.—*Stove Pipe Suspender.*—July 21, 1868.—Designed to supersede the use of pieces of wire for supporting stove pipes.

Claim.—The flexible band A, provided at its ends with the slot and set screw, or other equivalent fastening, for securing the band on the stove pipe, and also provided with loops or eyes *f f*, at opposite sides, to receive wires, by which the stove pipe is suspended from the ceiling or other fixture, substantially as shown and described.

80,127.—SELAH S. BREWSTER, Manchester, Mich.—*Apparatus for Removing Boxes from Wagons.*—July 21, 1868.

Claim.—The described arrangement, in the frame of a building, of the shaft D, drums C E, and cords D F, all as herein shown for the purpose set forth.

80,128.—R. M. BROOKS, Griffin, Ga.—*Scrubbing Brush.*—July 21, 1868.—A water chamber and a sand chamber are so combined with a scrubbing brush that the water and sand will be discharged and sprinkled over the floor by the movement of the brush.

Claim.—The head A, of a brush when constructed as described, so as to form two chambers, *a* and *b*, for the purpose of holding sand and water, and a recess, *d*, for inserting the brush, substantially as and for the purposes herein set forth.

80,129.—ANDREW J. BROWN, New Castle, Del.—*Combined Wash Stand and Water Closet.*—July 21, 1868.

Claim.—The box C, divided into separate apartments, each having its appropriate lid or cover, with the central stool-pan H, having conical sides *h*, neck h^1, flaring saucer top h^2, stopper h^3, constructed and arranged with the washstand A, having slide grooves and doors, all substantially as and for the purpose described and shown.

80,130.—GEORGE M. BULL, New Baltimore, N. Y.—*Tobacco Box.*—July 21, 1868.—A hinge strap has its ends soldered to the swaged edge of the cover and passes around a pivoting wire in the concavity of the swage in the hoop or body of the box.

Claim.—The hinge D E, constructed and connected with the swaged hoop C and cover B, substantially as herein shown and described, and for the purpose set forth.

80,131.—THOMAS L. BURK, Greensburg, Ind.—*Fence.*—July 21, 1868.—The posts are beveled on one side to receive the ends of the rails, which latter are also locked by nailing strips on the panels. A wire is fastened to the top of each panel.

Claim.—The arrangement of the notched rails E, strips F, beveled posts A, and wire G, all constructed, arranged, and operating substantially as and for the purposes set forth.

80,132.—HENRY A. BURR, Brooklyn, N. Y.—*Table for Compresses.*—July 21, 1868.—The table or platen of a compress is so constructed that with it cotton and other goods that have been previously pressed or put up in bales, can be again compressed without removing the hoops or bands from the bales.

Claim.—The combination of the bottom piece A, having the inclines *a a a*, with the bearing pieces C C C, having the inclines *c c c*, when the parts are constructed to operate substantially in the manner and for the purpose set forth.

80,133.—CHARLES W. CAHOON, Portland, Me.—*Lamp.*—July 21, 1868.—At a point on the interior of the chimney, where the deflector meets the same, is an interior shoulder, which is so formed as to receive and securely hold the outer edge of the deflector.

Claim.—1. In combination with a lamp burner, to which the chimney is held by interior chimney fastenings, a chimney having an interior shoulder, substantially as and for the purposes described.

2. In combination with a lamp burner, to which the chimney is secured by means of an interior shoulder, the horizontal joint *n*, as and for the purposes described.

3. A lamp chimney, as described, with an interior shoulder in the same, for the purpose of fastening it to the burner, substantially as set forth.

80,134.—WILLIAM CANTER, New York, assignor to SAMUEL BERNSTEIN and ALEXANDER BERNSTEIN, Brooklyn, N. Y.—*Machine for Manufacturing Chenille.*—July 21, 1868.—A circular knife is mounted on a shaft having movable bearings, so as to be raised and lowered at regular intervals. By shifting the endless belt or cord from one to another of the pulleys, a proper draught or tension may be maintained on the chenille as it is delivered, and it is also drawn away and twisted uniformly. A portion of the coils of the silk, for a certain length at intervals, is left uncut.

Claim.—1. In chenille machines the alternate raising and sinking motion of the knife or cutter G, substantially as herein specified.

2. In chenille machines, the traversing twister herein described, having the belt or cord T running on the change pulleys R^1 R^2, &c., arranged to impart both the rotatory motion and the requisite draught or tension under all conditions, substantially as herein specified.

3. The alternate cut and uncut chenille Y Z, constructed substantially in the manner and for the purpose herein set forth.

80,135.—Joseph F. Carroll, South Boston, Mass.—*Artists' Stretching Frame.*—July 21, 1868.—A right and left-hand screw is applied to each of the corners of the frame, so as to move the sides simultaneously.

Claim.—Spreading or expanding artists' frames by a right and left-hand screw, substantially in the manner herein shown and described.

80,136.—D. W. Case, Garden City, Minn., assignor to himself and John Stilley Smith.—*Water Wheel.*—July 21, 1868.—The gates are held open in any desired position by means of a pinion gearing in the teeth on the outer ring, to which the gates are attached.

Claim.—The fixed rim D, composed of a series of sockets or chambers, *d*, in combination with the gates E, provided with flanges *f*, and attached to the ring F, all arranged to operate in connection with the wheel B, pinion *g*, and the teeth *h* of the ring, substantially as shown and described.

80,137.—L. Chandor, St. Petersburg, Russia, assignor to Cassius M. Clay.—*Lamp.*—July 21, 1868.—Attached to a reservoir is a tube, in which is inserted an interior slotted tube, filled with cotton or other similar substance, and also inserting in the interior tube a tubular burner filled with cotton, for burning gasoline and other hydrocarbon fluids.

Claim.—1. In combination with the reservoir A, the tubes B, C, and G, constructed and arranged substantially as shown and described, for the purposes set forth.

2. The coupling *g*, removable from the wick tube *b*, and ratchet cap *d*, in combination with the foraminous casing *f*, draught plate *e*, spring *i*, and chimney holder *l*, substantially as set forth, whereby the entire draught regulator and chimney can be removed from the wick tube or ratchet cap, and replaced, as specified.

3. The coupling *g*, concave clips 5, and notch 4, in combination with the wick tube *b* and ratchet cap *d*, substantially as and for the purposes set forth.

4. The spring hooks *l*, (Figs. 1 and 2,) receiving and sustaining the chimney, and clamping said chimney both inside and outside, in combination with the draught plate *e* and spring *i*, as and for the purposes specified.

80,138.—Joseph Chase, Ripley, Ohio.—*Bee Hive.*—July 21, 1868.—Designed for keeping the hive at a uniform temperature, and admitting the interior to be seen.

Claim.—A bee hive constructed with a double case, the exterior one being provided with a door, C, at each side, and the interior one being provided at each side with a glass plate, D, all being constructed and arranged in the manner substantially as and for the purpose set forth.

80,139.—E. W. Clark, Tallahassee, Fla.—*Double Buckle.*—July 21, 1868.—Two pieces form the bows and the ends of the buckle, and the other two the tongues, which are bent so as to form bearings for the ends of the bow.

Claim.—A double buckle, with double tongues for each end, formed of four pieces, arranged substantially as herein shown and described.

80,140.—William E. Clarke, Attleborough, assignor to Henry F. Marsh, Boston, Mass.—*Pen Rack.*—July 21, 1868.—A pen rack is attached to a clasp made to spring on the neck of an ordinary inkstand.

Claim.—The device B, or its equivalent, for an adjustable pen rack, as and for the purposes specified.

80,141.—Hymen Clendenen, Beverly, Ohio.—*Saw-Filing Machine.*—July 21, 1868.—Above the pivoted frame is a horizontal guide way, provided with a pendent bar, so as to be adjusted vertically and at an inclination. On the guide way is fitted a slide provided with a plate, to which is attached an adjustable bar for keeping the file in a proper relative position with the saw teeth.

Claim.—The arrangement of the adjustable pivoted frame C, clamp base A, adjustable way G, slide K, plate L, and bars M, for holding the file, all constructed to operate in the manner and for the purpose substantially as herein set forth and shown.

80,142.—C. H. Cleveland, Selma, Ala.—*Suspender.*—July 21, 1868.—To each of the shoulder straps is applied a metallic slide, on one of which is a snap catch, and on the other a hook, for increasing the bracing properties of the suspenders when necessary.

Claim.—A suspender or shoulder brace, composed of two single straps B B, each passing from the attaching strap on the side over the shoulder to the attaching strap on the reverse side of the body, when the shoulder straps are provided with the slides C and C', having a catch and hook *c* and c', substantially as described, and for the purpose specified.

80,143.—Zebulon E. Coffin, Boston, Mass., assignor to Boston Machine Company.—*Hydrant.*—July 21, 1868.—The valve is made to close the water way at a point on a level with the top of the pipe, so that the water may be drawn, when the hydrant is not in use, much lower than when the common hydrant bend is used, thereby rendering the hydrant less liable to injury by frost.

Claim.—1. The combination of the base or bottom of the hydrant with the body of the hydrant, hook bolts, waste pipe or pipes, and waste valves, hydrant valves, and outside case, all constructed in the manner and for the purpose set forth.

2. The hook bolts L L, in combination with the body A and bowl C', having an annular projection, *a*, when the parts are constructed substantially in the manner and for the purpose set forth.

3. The nut G, in connection with the rod or valve stem K and body A, when the parts are constructed and arranged to operate substantially as described.

80,144.—Henry S. Cole, Pawtucket, R. I.—*Steam Generator.*—July 21, 1868.—Designed more particularly for boilers in which saline waters are used. Small jets of water are thrown through the perforated pipes upon the surface of the water to check the foam.

Claim.—The perforated pipe F, at or near the water line, substantially as described, for the purposes specified.

80,145.—J. L. Coles and D. H. Coles, New York, N. Y.—*Pencil Sharpener.*—July 21, 1868.—The side of the sharpener opposite to the cutter is rendered yielding, and is connected to a button so that by pressing the latter, the point of the pencil can be gradually worked down to the required sharpness.

Claim.—1. The arrangement, with the sharpening tube A, of the jaws *d*, at the receiving end thereof, and communicating with each other so as to act as a support and guide for the pencil while it is being sharpened, and also form a holder to protect its point while being carried, as set forth.

2. The button *b*, in combination with the movable side of the tube A, substantially as and for the purpose set forth.

80,146.—John C. Conklin, Yorktown, N. Y.—*Pick Axe.*—July 21, 1868.—A socket is provided for the insertion of the handle of pick axes.

Claim.—A pick axe D E, having a socket A, and shank C, substantially as described, and for the purpose set forth.

80,147.—C. M. Cooney, Washington, D. C.—*Perforated Bake Pan.*—July 21, 1868.

Claim.—A pan or vessel, perforated in its lower part or bottom with holes, and open or perforated with holes in its upper parts or sides, in combination with a smaller pan or vessel, substantially as and for the uses and purposes herein described.

80,148.—Frederick C. Curie, Lancaster, Pa.—*Manufacture of Steel, and in Converting Iron Articles into Steel.*—July 21, 1868.—Cast malleable or malleableized iron is packed in a wrought-iron box in which is placed a compound consisting of pulverized charcoal, soda or soda ash, and rock salt. The articles to be converted are then sprinkled with prussiate of potash. The box being filled with alternate layers of the compound, and articles to be converted, is then hermetically sealed and placed in a furnace which is also sealed.

Claim.—Converting cast malleable or malleableized iron into steel by the process substantially as described.

80,149.—J. P. Dake, Salem, Ohio.—*Apparatus for Evaporating Liquids.*—July 21, 1868.—A close cover is fitted upon an evaporating pan, so as to admit little or no air to the surface of the liquid, except through heated chambers or pipes arranged around or within the fire box, so as to obtain a strong current of dry heated air.

Claim.—1. The movable and close fitting cover A, when used upon the evaporating pan, tank, or kettle G, in combination with the hot-air chambers C D E, and the elevated flue or chimney F, as set forth and described.

2. The hot-air chambers C D E, when used in combination with the evaporating pan G, and the close fitting cover A, in the manner and for the purposes set forth and described.

80,150.—F. Davison, Richmond, Va.—*Nail Machine.*—July 21, 1868.—The machine is provided with an oscillating feeding apparatus, by which the plate, from which the nails are cut, feeds itself, and by its vibrating motion gives a proper taper to the nail, and also to the punch for making the head of the nail.

Claim.—1. The combination of the channeled plate holder M, slotted angular bar E, and vibrating arms N N, all constructed, arranged, and operating substantially as and for the purposes herein set forth.

2. The combination of the sliding inclines X X, adjusting screws *f f*, vibrating arms N N, and angular bar E, to adjust the plate at different angles, substantially as and for the purposes herein set forth.

3. The combination of the channeled plate holder M, slotted angular bar E, vibrating arms N N, and knives C *c*, to produce a wedge-shaped blank, in the manner specified.

80,151.—A. A. Dennett, New Brunswick, N. J.—*Fishing Tackle.*—July 21, 1868.—The socket block is provided with a shank, which is pivoted to the bar that supports the hook, the latter being secured to the block by a screw, so that it can be readily attached at any time.

Claim.—1. The socket block D and the screw *g* in combination with the fishing tackle, substantially as shown and described.

2. Fastening or adjusting the hook in the fishing tackle represented, by a screw instead of a rivet, substantially as shown and described.

80,152.—Lyman Derby, New York, N. Y.—*Thill Coupling.*—July 21, 1868.—An elastic strap packing is combined with the thill iron and jack, so as to prevent accidental separation of the thill, and also to prevent rattling.

Claim.—The combination of the elastic safety strap H with the clip A and thill iron F, substantially as described, and operating as hereinbefore set forth.

80,153.—Alexander Dickson, Meadville, Pa. *Uterine Supporter.*—July 21, 1868.

Claim.—A uterine supporter, constructed in five parts, the same being joined together by the elastic bands C C C C, in combination with the pads B B and A, constructed as described for the purposes set forth.

80,154.—Jacob Dobbins, Litchfield, Mich.—*Machine for Cutting Hoops for Barrels.*—July 21, 1868.—Two knives, inclined in opposite directions, cut a corner from each end of the board from which the hoops are cut before it reaches the knives for cutting the hoops. A beveled flange on the lower feed roller serves to bring the outer end of the board in contact with the cutter on the standard, to cut the bevel.

Claim.—The arrangement of the inclined knives I J and the flange *f* of the feed roller F, substantially as described, for the purpose specified.

80,155.—E. B. Driskell, Paris, Ill.—*Road Scraper.*—July 21, 1868.—The scraper is elevated from the ground, or brought in contact with the same, by bringing the bent arms of the axle to a vertical position, or depressing them through the agency of the handles.

Claim.—The combination of the axle F, having the bent arms I I, with the wheels H H, the handles J J, the pivoted draught pole A, and the scraper B, when said parts are constructed and connected, so as to operate together substantially in the manner and for the purposes set forth.

80,156.—James K. Dugdale, White Water, Ind.—*Washing Machine.*—July 21, 1868; antedated July 15, 1868.—By turning the knob the pins are moved back, the spring pressing them out and fastening the wash board to its position. A movable fluted board is held down upon the clothes by means of a spring bolt fitting in notches in the rod attached to the said board.

Claim.—1. The knob K and wire *c*, in combination with pins *a* and spring *b*, as and for the purpose specified.

2. The bolt *g*, in combination with spring *i*, notches *f*, and clothes holder L, as and for the purpose described.

80,157.—Pierre Du Rieux and Edouard Roettger, Lille, France.—*Cylindrical Filtering Press.*—July 21, 1868.—The filtering chambers consist of a circular rim, the central portion of which is provided with a series of bars cast with the rim, so as to form two series of chambers, the one composed of gratings and the other of hollow spaces between the gratings. On each side of the gratings are attached perforated metal plates over which is a filtering medium. Channels through the rims of the circular frames communicate with each other throughout the machine, and also with the spaces within and between the said frames.

Claim.—1. The construction and arrangement of the grated circular frames and end plates, and the mode of introducing the semi-liquid substance to the filtering chambers, through apertures made in the rims of each frame, the said apertures forming a continuous channel throughout the length of the press, in communication with each filtering chamber, substantially as described and represented.

2. In combination with the removable frames B and movable head A^2, the pivoted block D^2 and central screw *d*, all constructed and arranged to operate in the manner and for the purpose substantially as herein set forth.

3. The arrangement of cooks H M, the latter having removable plug M', at the opposite ends of the channel formed by the spaces I^1 in the frames B, as herein shown and described, for the purpose specified.

4. The provision of each frame B with a channel, N, having a cock, G G^1, at its outer end, and a movable plug, N^1, at its opposite extremity, substantially as described.

5. The side supports C C' and cross bars D D^1, arranged as described, with relation to the stationary end piece A^1, movable piece A^2, and removable circular gratings B, substantially as represented.

80,158.—Milton B. Fraser, Steuben, N. Y.—*Cheese Press.*—July 21, 1868.—A series of cheese hoops, each furnished with a pressing follower, is arranged between an adjustable foot block and a screw, by which a large number of cheeses are pressed at one operation.

Claim.—1. The employment of a series of separated hoops, in combination with a series of removable bottoms $J\ J^1\ J^2\ J^3\ J^4$, a series of removable followers, $K\ K^1\ K^2\ K^3\ K^4$, and a screw or other press, the devices named being applied within and upon a frame, A, B B B′, or any equivalent frame, all substantially as and for the purpose described.

2. The combination of an adjustable piece, C, with said cheese hoops, their bottoms and their followers, and with the screw or other well known pressing device, and with a suitable frame, A, B B B′, substantially as and for the purpose specified.

3. The combination of the adjustable nut G, with the cheese hoops, their bottoms, their followers, and with the screw F, substantially as and for the purpose described.

80,159.—ADOLPH FALLER, New York, N. Y.—*Lounge, Bureau, and Table.*—July 21, 1868.

Claim.—The combined lounge, table, and bureau specified, the same being formed with the inclined cushioned end *c* against the bureau portion, with the table *e* above the bureau, and with draws in and below such lounge, substantially as set forth.

80,160.—R. A. FILKINS, North Adams, Mass.—*Steam Engine Globe Valve.*—July 21, 1868.—The valve is made in two sections fitted around a downwardly tapering stem, and of two fingers pivoted between the sections. The fingers catch under a shoulder of the stem, but when the valve is on its seat, they release the stem, and allow it to be forced down between the sections so as to spread them apart.

Claim.—1. A sectional valve, E, fitted around a stem, C, and provided with pivoted fingers, *d d*, substantially as herein shown and described, all made and operating as specified.

2. The valve E, when made in sections, as described, and when provided with swinging fingers, *d*, which work in grooves, *e e*, in combination with the conical reciprocating stem C, carrying the head *c*, all made and operating substantially as herein shown and described.

80,161.—WILLIAM T. FISHER, Roane County, Tenn.—*Shoemakers' Tool.*—July 21, 1868.—The jaws of a plier are provided on either side with projections for holding a punch, eyelet set, hammer, and nail cutter.

Claim.—Constructing the sides A A with jaws or projections, *b b′* and *d d′*, for the purpose of combining with the pliers any suitable tool or device, substantially as described.

80,162.—LORENZO FULTON, Edinburg, Ind.—*Low Water Indicator for Steam Generator.*—July 21, 1868.—In addition to indicating the height of the water in the boiler by this device, the careening of the boat will also be indicated, and, besides sounding an alarm at the time, will correctly record the same by means of a dial, index, and marking pencil.

Claim.—1. The combination, with a low water indicator or any equivalent therefor, of a marker, of any suitable form, and recording plate, or its equivalent, when all combined and arranged together, substantially as and for the purpose described.

2. The combination of the dial J, index K, pencil *p*, pawl *n*, and ratchet wheel *m*, whereby to register successively the occurrence of an inadequate amount of water in the steam generator, substantially as set forth.

3. The combination of the pipes A and B with the valve *b*, water space C, pipe D, vessel E, piston F, rod G, lever H, pawl *n*, ratchet wheel *m*, index K, and dial J, substantially as described.

4. The combination of the vessel E, having the ledge L, and the glass walls *e e*, with the piston F, substantially as described.

80,163.—C. R. GORGAS, Brooklyn, N. Y.—*Pessary.*—July 21, 1868.—An India-rubber bag or cap is provided with a rubber tube, which is to be distended by a flat spiral spring, and inserted into the vagina by means of a peculiarly-formed instrument.

Claim.—1. The herein-described improved pessary, consisting of the wrapper A, provided with the tubular portion B and the spring C, substantially as and for the purpose described.

2. The improved inserting instrument, consisting of the parts *b* and *c*, provided with the pins *a* and *a′*, ratchet *d*, spring pawl *e*, and recess *d*, and otherwise arranged substantially as and for the purpose described.

3. The combination of the spring C with the inserting instrument D, substantially as described for the purpose specified.

4. The method herein described of inserting the spring C within the pessary, substantially as described, for the purpose specified.

80,164.—MICHAEL G. GROFF, Vogansville, Pa.—*Horse Power.*—July 21, 1868.—The parts are designed to be so arranged that the horse in pulling on one lever arm, also pushes, so that the same force applied to move the one pinion in pulling, exerts the same leverage on the other end of the shaft and pinion by pushing.

Claim.—1. The peculiar arrangement of the main wheel A and jack O, with the horizontal or inclined shafts T B, having each two pinions, the gear connected by the shaft M, which is provided with universal joints, substantially combined in the manner and for the purpose specified.

2. In combination with my arrangement in the gearing aforesaid, the stationary platform, supported substantially in the manner specified.

2. Attaching the spokes or arms *z* on the outer circumference of a wheel O, which wheel has cogs on both sides, when said spokes or arms are so curved as to admit the free action of a pinion *t*, on each side of the face of said wheel, in the manner shown and for the purpose specified.

80,165.—GEORGE GUY, Bay City, Mich.—*Steam Generator.*—July 21, 1868.—A valve and seat are arranged on the crown sheet of the fire box and in the steam space of the boiler, and are operated by a weight. When the water falls to a dangerous point, the valves will be opened, one of which will discharge steam into the fire box, and the other will discharge steam into the atmosphere.

Claim.—1. The aperture *i* in the crown sheet *n*, and the valve J, when arranged and operated substantially as and for the purpose described.

2. In combination with the valve J, arranged as described, the valve *k*, substantially as and for the purpose set forth.

80,166.—EPHRAIM HACKETT, Concord, N. H., assignor to himself and R. WEST, same place.—*Chafe Iron.*—July 21, 1868.

Claim.—A chilled iron chafe-iron for vehicles, substantially as set forth.

80,167.—EMONS HAMLIN, Winchester, Mass., assignor to the MASON & HAMLIN ORGAN CO., Boston, Mass.—*Melodeon.*—July 21, 1868.—The regulator-valve or gate is operated by the bellows, and causes the orifice for the entrance of air to enlarge as the stress or intensity of the bellows spring decreases, thus effecting a uniform action in the tremolo.

Claim.—In combination with a tremolo attachment and an exhaust bellows, a regulator valve or gate, operating substantially as and for the purpose set forth.

80,168.—HENRY S. HANNEN, Philadelphia, Pa.—*Manufacture of White Lead.*—July 21, 1868.—Designed to avoid the inconveniences resulting from the use of heating coils within the chamber, and to bring the gas more intimately in contact with the lead.

Claim.—1. Subjecting metallic lead, after it has been treated in a chamber with acetic acid, to the action of carbonic acid gas, introduced near the bottom of the chamber, and at such a temperature that the proper degree of heat is maintained within the chamber without the use of heating apparatus.

2. Subjecting metallic lead, during the process of its conversion into carbonate of lead, to the action

of solutions of chloride of soda and carbonate of soda, substantially as and for the purpose described.

80,169.—SANDY HARRIS, Philadelphia, Pa.—*Weighing Scale.*—July 21, 1868.—The weighted platform rests on projections on a curved beam, through which latter extends a pointer. To the under side of the platform is fastened a rod having a hooked end which catches in a recess in a swinging frame below.

Claim.—1. The beam D, constructed substantially as described, in combination with the platform E.

2. The platform E, provided with the connecting rod *j*, in combination with the swinging frame or bail J, operating substantially as and for the purpose set forth.

3. The pedestal A, constructed substantially as and for the purpose described.

4. The platform E, beam D, pointer F, weight G, connecting rod *j*, frame or bail J, pedestal A, neck B, and plate L, all combined for the purpose of forming a responding scale.

80,170.—WILLIAM O. HARRISON, Chittenden, Vt.—*Harvester.*—July 21, 1868.—As the shaft is revolved, the cutter bar will receive reciprocating motion, so as to work easily in any position of the finger bar without exerting any strain on the connecting rod.

Claim.—The arrangement of the gear wheel G, constructed as described, hinged block *g*, extension *i*, bearing *h*, pinion *f*, and shaft H, pivoting the finger bar to the machine, all constructed and operating as herein described.

80,171.—ANDREW C. HARTSOCK, Douglas, Ill.—*Millstone Dress.*—July 21, 1868.—The dress consists of peculiarly-formed teeth, so that the grain will be cut and ground on the sides and edges of the same, instead of upon plain surfaces and straight or circular cutting edges.

Claim.—The millstone dress, composed of the distributing teeth A, grinding teeth B, circle furrows *a*, and short angular furrows *b*, constructed and arranged in relation to each other, in the manner and for the purpose substantially as described.

80,172.—MOSES M. HATCH, Portland, Me.—*Apple Corer.*—July 21, 1868; antedated July 8, 1868.—A scoop-shaped piece of metal is attached to the back of an ordinary knife.

Claim.—The corer *b*, when attached to the knife *a*, substantially as and for the purposes set forth.

80,173.—JOHN W. HAYES, Kittery, Me., assignor to himself and JOHN G. CROCKETT, Portsmouth, N. H.—*Governor.*—July 21, 1868.—The throttle valve is operated by means of a sleeve on the governor spindle, the sleeve having inclined planes and wings, and being free to revolve with the spindle within a cylindrical cup.

Claim.—1. In combination with a governor spindle, the sleeve K, when constructed with the inclined planes *m m* and wings *o o*, substantially as described.

2. The interior cylinder R, with its inclined bottom and the balls *p p*, arranged substantially as described, in combination with the sleeve K.

3. The transverse bar *i* on the spindle C, in combination with the inclined planes *m m*, substantially as and for the purposes set forth.

80,174.—WILLIAM H. HENDERSON, West Point, assignor to WILLIAM H. SNIDER, Lena, Ill.—*Churn.*—July 21, 1868.—Hinged leaves are made to oscillate on a horizontal axis, and are provided with perforations on their outer edges for the escape of air, which enters below the leaves on the upward stroke of the dasher, and is forced through the cream on the downward stroke.

Claim.—The combination of the vertically reciprocating cross head F, and end boards *f*, with the oscillating perforated dasher leaves and stops *g'*, all these parts being constructed, arranged, and operating as described.

80,175.—S. B. HILES and J. A. DANNER, Saltilloville, Ind.—*Straw Cutter.*—July 21, 1868.—As the frame which holds the cutters is raised and lowered, the rake is caused at the same time to drag the straw forward to the cutters.

Claim.—The combination of the obliquely-placed serrated knives E E in the sliding frame D, with the horizontal stationary knife I, in the frame A, and the rake F, all constructed and operating as shown and described.

80,176.—PHILIP HINKLE, San Francisco, Cal.—*Bed Bottom.*—July 21, 1868.—Each slat is attached at its end by a hook to an elastic band secured to the end frames. A bridge or truss under the center of each slat rests on an elastic connection between two supporting wires.

Claim.—The combination of the rod *m* in the recess, bands *l* and *k*, suspenders *j*, bridge *b*, wires *h*, and slats *a*, as herein set forth.

80,177.—FRANKLIN G. HOLLAND, Washington, D. C.—*Metallic Paint.*—July 21, 1868; antedated July 8, 1868.—The ingredients consist of hydraulic cement, poco metallic paint, gum asphaltum, and Japan varnish, mixed in boiled linseed oil.

Claim.—The combination of the within-named ingredients, mixed in the several proportions as herein described, and for the purposes set forth.

80,178.—FRANKLIN HOYT and AARON DENIO, Montpelier, Vt.—*Water Wheel.*—July 21, 1868.—The inlet and outlet chutes are applied to the periphery of the wheel in reversed positions; the portion between the two chutes being nearly in contact with the wheel. Vent holes, with a regulating cover, admit air to, or free the same from, the buckets.

Claim.—The adjustable inlet chute B and the extended outlet chute C, provided with regulating vents *k g*, and arranged in relation to each other and to the wheel A, substantially as described, for the purpose specified.

80,179.—CHARLES E. L. HOLMES, Waterbury, Conn.—*Machine for Drying and Scouring Sheet Metal.*—July 21, 1868.—A series of rollers, covered with some elastic or fibrous material for holding sand, is so arranged as to pass the sheet metal alternately above and below a roller. A vibrating motion is given to two of the under rollers by connecting rods attached to crank pins peculiarly arranged on pulleys. A pivoted brush is made to reciprocate across the under surface of the sheet metal.

Claim.—1. The arrangement, in a machine for grinding, scouring, and drying sheet metal, of the rollers *f h*, revolving in a direction opposite to the direction of the passing sheet metal being operated upon, and rollers *g i*, having a vibratory motion, and all the rollers acting upon the surface of the metal while in a curved position, substantially in the manner described.

2. Operating the reciprocating brush *l'* by means of the lever *m*, cord 13, spring 14, and pivoted lever *l*, substantially in the manner and for the purpose set forth.

80,180.—WILLIAM HORROCKS, Poughkeepsie, N. Y.—*Mode of Attaching Carriage Tops.*—July 21, 1868.—The slat irons are each secured to the body or rail of a carriage by a separate pin or pivot, instead of by one common pivot, as in the usual manner.

Claim.—Securing the slat irons of a carriage top to the supporting pin A by means of the separate pivots *a a*, formed upon either of the disks *b c*, which fit over the pin A, both disks being clamped together upon the slat irons by means of the nut *d*, as herein described, for the purpose specified.

80,181.—SAMUEL HOWARD, Luton, United Kingdom of Great Britain and Ireland.—*Machine for Pressing Hats.*—July 21, 1868.—When pressure is required in the bag or diaphragm to press the hat or bonnet body, a tap, between the bag and upper cistern, is opened, and the downward pressure of the water rapidly fills the bag. To increase the pressure to the required extent, this tap is closed and water is injected from the lower cistern, and at the same time a second small pump is actuated by the same lever, forcing the same amount of water which was discharged from the bag into the upper cistern, thus dispensing with the usual air vessel or reservoir.

Claim.—The pump *h*, acting directly upon the diaphragm *g* of the dome *e*, and pump *l*, which fills the cistern *a*, in combination with cisterns *a b*, and their connecting pipes, the whole being arranged in the manner and for the purpose described.

80,182.—DANIEL W. HURST, Petersburg, Pa.—*Fly Net for Horses.*—July 21, 1868.

Claim.—Connecting the ribs of a fly net by lashes, each of which passes twice through one hole in each of the ribs, and forms two loops on the central rib, and one on each of the others, substantially as described.

80,183.—GEORGE JELLEY, Roxbury, assignor to CHARLES W. GRIFFITHS, Boston, Mass.—*Knitted Fabric.*—July 21, 1868.—Each of the ground yarns is run in a zigzag across three others of such ground yarns. At each angle of the zigzag there is a loop in the yarn.

Claim.—The arrangement and combination of the series of ground yarns, *a b c*, and the series of stripe yarns, *e e e*, in the manner substantially as described, so as to produce a knit fabric, on which the stripe yarns will appear on one side of the fabric, in right line parallel ranges, as set forth.

80,184.—AUGUR JUDSON, Newark, N. J.—*Sleeping Berth for Railroad Car.*—July 21, 1868.—A series of devices for suspending upper berths from the roof, so that they can be readily let down, lifted up, and locked in place.

Claim.—1. The combination, with the lower plate M and its guide, of the upper plate and its guide, substantially in the manner and for the purpose herein described.

2. The combination, with the berths, of the fixed hanging pieces F, having an opening, *f*, to receive the bolts which lock the berths to place.

3. The arrangement, substantially as described, of windlass, cords, and pulleys, in combination with the berths, whereby the latter may be raised and lowered.

4. The arrangement, substantially as described, of springs within the berths, when supported and held in position by the plates C C and M M.

5. The combination, with a car berth, of a folding case or closet, substantially as and for the purpose set forth.

6. The combination, with a car berth, of a hinged or pivoted curtain frame, and self-acting springs or catches to hold it in position for use, substantially as set forth.

80,185.—WILLIAM KEIL, Hastings, Minn.—*Game Table.*—July 21, 1868.—A central hollow stud is provided with a plunger, operated by levers, arranged radially in the table. A ball, placed on the said stud, is knocked off by the action of any one of the levers, and rolls down into a sectional groove, being deflected by pins in the table. Balls are also placed on the said pins to be knocked off by that from the central stud.

Claim.—The improved game table herein described, when constructed and arranged substantially as and for the purpose set forth.

80,186.—WILLIAM KENNEDY, New London, Pa.—*Water Wheel.*—July 21, 1868.—The upper rim is curved inwardly toward the axis, from the top downward, so as to contract its diameter at the bottom, and make it considerably less than the top diameter of the lower rim, in order that the water from both sets of buckets may be discharged downward.

Claim.—The above-described water wheel, having an upper and lower rim, and two sets of buckets, arranged in relation to each other substantially as described.

80,187.—WILLIAM KNOWLES, Rockville, Ind.—*Shawl Pin.*—July 21, 1868.—Three arms are united at the center by a band, and form sharpened hooks at each end.

Claim.—A shawl pin, constructed of the bent arms A, B, and C, attached to the band D, substantially as described.

80,188.—ISRAEL LANCASTER, Baltimore, Md.—*Harvester Rake.*—July 21, 1868.—The invention relates to a side-delivery harvester rake, applied to the platform of a reaping machine, and which discharges the grain in gavels suitable for binding. Motion is communicated from the driving wheel to the rake in such a manner as to regulate its speed to suit heavy or light grain.

Claim.—1. The spring O, rake head *m*, pin *n*, and strip T, acting in combination, when used to regulate the movement of the rake head when passing over the cutter bar, and when constructed and operating substantially as described.

2. The arm *g*, provided with the pin *h*, in combination with the pin *k* and block *i*, which supports the rake *m*, constructed and operating substantially as described and for the purpose mentioned.

3. The arm *g* provided with the pin *h*, the block *i* provided with the pin *k*, and the guide bar S, acting in combination, when used to effect the purpose mentioned, and when constructed substantially as described.

80,189.—JOHN LANE, Chicago, Ill.—*Plow.*—July 21, 1868; antedated March 31, 1868.—The point of the share is so constructed as to be capable of being renewed at small expense, and the share, landside, and point are secured together without welding.

Claim.—1. Forming a dove-tail, tapering, open-groove matrix on the side of a removable slip plow point, substantially as described and for the purpose shown.

2. The particular form and construction of the slip point, as arranged and described, and for the purpose shown.

3. Forming and constructing a slip point, as shown and described and claimed above, with a fin cutter, as arranged and shown.

4. The particular arrangement of the share C, flange E, and landside D, as shown, in combination with the above-described and above-claimed slip point, either with or without the fin cutter, as described and for the purpose shown.

80,190.—JOHN W. LATCHER, Albany, N. Y.—*Curry Comb.*—July 21, 1868; antedated July 18, 1868.—The teeth are formed from one block, which constitutes the back or blank, from which the said teeth are sawed.

Claim.—Forming a series of rows of teeth, *b*, from one block, substantially as shown and described, and for the purpose specified.

80,191.—JOHN P. LIPPS, Newark, N. J., assignor to himself and HENRY GUYER, same place.—*Car Replacer or Guide Rail.*—July 21, 1868.—The guides are not connected together, and the forward end of each is so constructed as to clasp the flanged edge of the rail. The rear ends of the guides are secured to a cross-tie.

Claim.—A railway guide rail or car replacer, constructed with a portion which embraces and clings to the rail, a groove for the car wheel, and a pin or pins for securing the device to the cross-tie, substantially as shown and described.

80,192.—HENRY C. LLOYD, Cincinnati, Ohio.—*Still.*—July 21, 1868.—The main still consists of a series of heating chambers or boilers placed one over the other and surmounted by a tank or reservoir, communicating with each other and with a doubler by pipes. From the first, communication is had to a second doubler, and to condensers, for effecting the continuous distillation of alcohol without the use of vats, pumps, &c.

Claim.—1. The arrangement of chambered still A, B, C, and D, doublers O and Q, condenser U U', and vapor pipes N, P, H, and E, substantially as and for the purpose set forth.

2. The condenser U U', or its equivalent, having the discharge cock X into the doubler below the inlets of the escape pipe V, as and for the purpose explained.

3. The provision of exhaust and live-steam injection pipes, I and J, in the lowest chamber of series

A, B, C, and D, with their described or equivalent accessories, as set forth.

80,193.—LUCIUS M. LULL and PHILANDER C. BOWEN, Altoona, Ill.—*Washing Machine.*—July 21, 1868.—To the frame is connected a concave bottom, and is provided with rollers, the frame being hung on spiral springs. A grooved cylinder has its bearings in the sides of the frame.

Claim.—The arrangement of the open frame A, provided with the screw bolt B, to which is connected the block C, with the frame E, concave bottom F, rollers G G, arms H H which are provided with pins K K, and spiral springs I I, the whole being used with the cylinder D, as and for the purpose herein set forth.

80,194.—JOHN MAGEE, Chelsea, Mass., assignor to MAGEE FURNACE COMPANY.—*Cooking Stove.*—July 21, 1868.—Designed for keeping cooked articles of food warm.

Claim.—1. A warming closet, B, placed under the hearth of a high-hearth stove, substantially as and for the purpose set forth.

2. The warming closet B, the top of which is provided with a movable lid or door, in the manner and for the purpose described.

80,195.—EDWARD C. MAYLOY, Rochester, N. Y.—*Skate Fastening.*—July 21, 1868.

Claim.—1. A clamp made with a flange on the upper edge, turned inward, and adjustable to any thickness of sole by means of the screw, or its equivalent, so that the flange will press tightly upon the upper edge of the sole.

2. The combination of the segmental arms with the T-headed bolt *t*, and clamp slide *b* with the thumb nut, constituting the sliding bar, by which all the clamps are adjusted and tightened at the same time, as shown in Fig. 2, or the two T-headed bolts shown in Figs. 2 and 3, and thumb nut, constituting a sliding bar, and connecting the segmental arms by which all the clamps are adjusted and tightened as before.

3. Forming a sliding bar, connecting the segmental arms by means of a bolt and nuts, as shown in Fig. 5.

80,196.—GEORGE MCFADDEN, Thomaston, assignor to himself and RICHARD AUSTIN, Plymouth, Conn.—*Dress and Satchel Holder Combined.*—July 21, 1868.—Metallic holders attached to a girdle, cord, or belt are made to grasp the dress, and are held in place by a sliding clasp or band.

Claim.—As a new article of manufacture, a combined dress and satchel holder, consisting of the hook G, eyes D, spring arms *a*, rings *b*, and sliding clasp E, all arranged and operating as set forth, when all said parts, excepting the slide E, are made of one piece of metal.

80,197.—LEWIS H. MEALEY, Alpha, Ohio.—*Paper Sack Knife.*—July 21, 1868.—The handle on which the cord is wound, serves to receive the tension of the cord in tying up packages. After the knot is tied, the cord is severed without waste, by the knife.

Claim.—The within-described device, consisting of a bobbin or spool-formed handle, C, upon which the cord is wound, in combination with a cutting blade, B, operating in the manner described.

80,198.—WILLIAM MELVILLE, Paterson, N. J. —*Machine for Heading Bolts.*—July 21, 1868.—The swinging holders cause the cutter to produce a drawing cut, and are made to move simultaneously with the die toward the bar, when the front end of the blank is cut off. The separated blank is then held by the holders and its rear end is within the dies, when the punch moves forward and heads the same. The holders and dies are then simultaneously drawn apart, and the finished bolt is released.

Claim.—The improved bolt and rivet-heading machine, consisting of the oscillating holder L L, carrying the cutter N of the stationary die G and reciprocating die E, and of the reciprocating punch I, all made and arranged substantially as herein shown and described, and combined with the two cam shafts B and C and springs *g*, F, and *s*, respectively, in the manner set forth.

80,199.—GEORGE B. MILLIGAN, Baltimore, Md., assignor to T. POULTNEY, same place.—*Horseshoe.* —July 21, 1868.—The false shoe is formed of two parts hinged together and provided with calks and projecting shanks, which latter are screwed together, by which the false shoe is secured to the ordinary shoe.

Claim.—1. An expanding false shoe, provided with interlocking projections, adapted to suitable depressions in the permanent shoe, or the equivalents thereof, for the purpose of firmly securing the roughing or false shoe and the permanent shoe together, as and for the purposes set forth.

2. The employment of an interlocking lip or hook, *s*, in combination with the false shoe, and adapted to operate in the manner and for the purposes substantially as described.

80,200.—ANTONIO L. MORA, New York, N. Y. —*Bureau Trunk.*—July 21, 1868.

Claim.—The bureau trunk, constructed as described, its top, A, being hinged at its back to the body of the trunk, and provided with interior compartments and a flange around its lower edge, when the doors B, which cover the drawers, are hinged to the front sides of the ends of the trunk, and are held closed by the flange of the cover, which said cover is locked at two points by means of one lock, all arranged as described, for the purpose specified.

80,201.—WILLIAM B. MORGAN and J. H. TERRELL, Antioch, Ind.—*Wagon Brake.*—July 21, 1868. —Designed more especially for wagons loaded with logs, hay, or other article that would prevent the brake from being operated in the ordinary manner.

Claim.—1. The combination of the arm or lever M, connecting bar N, and pivoted lever O, with the rock bar J, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the stationary bar D, short levers F, rock bar J, arms or levers K I M L, connecting rod N, and pivoted lever O with each other, substantially as herein shown and described, and for the purposes set forth.

80,202.—F. B. MORSE, New Haven, Conn.—*Stump Joint for Carriages.*—July 21, 1868.—A recess is formed in the meeting ends of the joint, in which is placed a link or hinge gate, so that when open or closed, the plate and parts come to a firm bearing.

Claim.—1. A stump joint, consisting of the two parts A and B, joined by the plate C and pivots *d d*, when the said plate C is arranged and fitted into the parts A and B, so as to operate in the manner specified.

2. In combination with a stump joint, the buttons or plates D D, arranged upon opposite sides of the joints, substantially in the manner herein set forth.

80,203.—ORRIN MORSE, Rochester, N. Y., assignor to C. H. MORSE AND COMPANY, same place. —*Coal Scuttle.*—July 21, 1868.

Claim.—A coal scuttle, having the bonnet cut away on both sides, in such a manner and to such a degree as to enable the devices to pack and to discharge coal properly in a side opening, as specified.

80,204.—CHARLES MULLER, Albany, N. Y.—*Cigar Machine.*—July 21, 1868.—The filling or prepared tobacco is placed in a drum or receptacle, by revolving which the filling is caused to pass through openings in its circumference, and, dropping upon a poised scale, which, when filled, empties its contents into a hopper placed below it and thence into a trough, where it is further manipulated, in combination with a series of levers, a cord and weight, and a ratchet wheel and its detent pawls.

Claim.—1. The combination of trough O with the curved metallic plate W, or its equivalent, substantially as and for the purpose set forth.

2. The scoop S, in combination with the trough O and curved plate W.

3. The combination of drum A, hoppers D D′, P P′, and R R′, scale pan E, ratchet wheel B, levers H

and I, M, and N, substantially as and for the purpose set forth.

4. In combination with the subject-matter of my third claim, the trough O, metallic curved plate W, and cord *f* and weight *g*, substantially as shown and described.

5. The within-described process of manufacturing cigars, substantially as shown and in the manner set forth.

80,205.—George W. Otis, Lynn, Mass.—*Lightning Rod.*—July 21, 1868.—The rope is designed to form a continuous conductor, and obviates the necessity of joints.

Claim.—The lightning conductor described, consisting of several strands of angular metallic wire laid into a rope, all as and for the purpose described.

80,206.—Oscar D. Padrick, Shelbyville, Ind.—*Self-Propelling Vehicle.*—July 21, 1868. The propelling mechanism is so constructed as to be readily applied to and removed from any common vehicle. A winding-up device applied to the springs, which afford the motive power, is so located that the occupant can wind up the springs when necessary without leaving his seat.

Claim.—1. The application of springs S, spring cases G, spur wheels *g′*, and spur wheels *h* to shafts *n*, which are supported upon standards P upon the axle C, in combination with spur wheels applied to the hubs of wheels B′, and with means for winding up said springs S, substantially as described.

2. The arrangement of propelling devices, which I have described, on both sides of the center of the rear axle C, upon standards P, which can be readily removed from said axle, in combination with the winding-up rod E, applied to and supported by a removable plate F, substantially as described.

3. In combination with driving spurs *h h* and the devices which operate these spurs, brakes *t t*, applied so that they can be caused to act upon said spurs at pleasure, for stopping and starting the vehicle, and regulating the speed thereof, substantially as described.

4. The lever a^1 a^2, applied to the rod *a*, on the front axle C, and arranged as described, in combination with a catch plate B, and a vehicle which is adapted for being propelled, substantially as described.

80,207.—Alfred Paraf, New York, N. Y.—*Manufacture of Waterproof Textile Fabrics.*—July 21, 1868.

Claim.—The asphalt cloth hereinbefore described, consisting of the combination of a textile fabric with albuminized asphaltum, substantially as before set forth.

80,208.—Andrew Parker, New York, N. Y.—*Bureau Bedstead.*—July 21, 1868.—A flap is hinged to the head piece of the bedstead, and provided with V-shaped grooves in its under surface, so that the same, when folded down, will catch over V-shaped projections on the foot piece and retain the same in position.

Claim.—A bureau bedstead, composed of a head piece A, and foot piece C, united by a hinged frame D, and provided with a hinged flap B, which, when folded up, is retained by lips *a* on the head piece, and which, when folded down, catches over V-shaped projections *e* on the foot piece, as shown and described.

80,209.—J. V. D. Patch, Brownville, Nebraska.—*Escapement.*—July 21, 1868.—Two pallets are so attached to the pendulum rod as to act laterally on the verge wheel instead of on the top of the same. Between the pallets is a spring affixed to the pendulum rod, to facilitate the action of the pallets.

Claim.—The laterally-acting pallets *a* and *b*, spring *d*, and pendulum rod A, all substantially as shown and described, in combination with the verge wheels B and pendulum C of a clock, all as and for the purpose set forth.

80,210.—John Perham, Rockton, Ill.—*Stove-Pipe Shelf.*—July 21, 1868.—A stove-pipe shelf of peculiar shape, and made open at one side, is attached to a double adjustable collar, upon which it moves loosely, by means of slides, slots, or grooves, so that the shelf may be extended on one side of the stove pipe.

Claim.—1. An improved metallic extension stove-pipe shelf A A, constructed and arranged with the extension device, as shown, made in one or more parts, to operate substantially as described.

2. An improved metallic stove-pipe shelf, provided with and operating by means of grooved or sliding ways, to allow of an extension of the size of the shelf by elongation or lateral enlargement.

3. The peculiar shaped adjustable grooved or slotted collar B B C *c*, in two parts, when constructed and arranged to operate substantially as set forth, for the purpose described.

4. In combination with the foregoing, the screws or bolts and nuts D D, and radial arms and circular ribs, substantially as shown, with guard stops *o o* of the shelf A A, when the whole is constructed and arranged substantially as herein set forth and described, to operate as specified.

80,211.—John Phillips, Jr., Georgetown, Mo.—*Washing Machine.*—July 21, 1868.—The zigzag groove in the wheel, as the latter rotates, imparts an up-and-down movement to the rubber, and the pressure on the clothes is graduated by the sliding table.

Claim.—The zigzag groove *a* in the wheel B, and the pin *c* of the arm C, to which the rubber is attached, fitting in said groove, in combination with the sliding table E, all arranged to operate in the manner substantially as and for the purpose set forth.

80,212.—Leman F. Pitcher, Salina, N. Y.—*Shafting.*—July 21, 1868.—The shaft is stationary and supports a hollow revolving cylinder, having an open feeding hole in the head, and is bent so that the said head shall be kept nearly free and open while feeding the cylinder.

Claim.—The non-revolving bent shaft S, when made and applied for the purpose aforesaid, substantially in the manner above described.

80,213.—Isaac R. Potter, Dartmouth, Mass.—*Horse Shoe.*—July 21, 1868.—The shoe is formed with raised edges and studs, and with movable calks so that, when applied, the bearing edge will be flush with the "wall" of the hoof. The calks may be made whole or in parts, with the edge continuous or indented.

Claim.—1. The shoe A, as described, with raised edge C and studs E^2.

2. The removable calks B^1 B^1, made in sections or continuous, with edge continuous or indented.

3. Forming and applying the calks so that the bearing edge will be flush with the wall of the hoof.

4. Curving the calks at the heel and toe, as shown.

80,214.—Isaac R. Potter, Dartmouth, Mass.—*Thill Coupling.*—July 21, 1868.—One jaw of the clip is provided with a slot and a projection on the end, and the thill iron with a projection on the under side, and an arbor secured to the end, said arbor fitting in corresponding holes in each jaw of the clip.

Claim.—Making the clip C^1 with projection c^1, and slot g^1 on and in one jaw of same, and the thill iron D^2 with the projection a^2 and arbor d^2, made and operating substantially as and for the purpose specified.

80,215.—Niels Poulson, Washington, D. C.—*Movable Window Blind.*—July 21, 1868.—The blinds are constructed in such a manner that, when not in use, they may be drawn up and kept in a hollow space above the window frame, out of sight. When the cross ties are drawn up they form several rows by the side of each other.

Claim.—1. The pivoted bars or links A A^2, for elevating or lowering a pivot slat blind, and permitting the tilting of the slats B, when lowered, substantially as and for the purposes set forth.

2. The arrangement of two or more slats, B, on each of the bars A, to adapt the blind to fold within a smaller vertical space, as explained.

3. The combination of the hinged bars A A^2, pivoted slats B, connecting bars I, and tilting cords, chains, or rods K K^1 K^2, substantially as described.

4. The combination of the inclosed elevating

cord or chain L, hanger N, guide pins F', vertical grooves G, and fastenings C P O, with the bars A A^2 and slats B B, for the purpose of raising and lowering the blind, and locking it securely in its extended or closed position.

5. The plate E, in combination with the hinged bars A A^2, and with the box or recess for inclosing the folded blind out of sight, as described.

80,216.—JOSEPH M. PUSEY, LEA PUSEY, and EDWARD PUSEY, Wilmington, Del.—*Spinning Machine.*—July 21, 1868.—A spring attached to an adjustable support is made to bear against the spindle at two points, in order to prevent the same from trembling or vibrating when running at a high speed. A division plate, attached to the ring rail between the spindles, prevents the threads from coming in collision when in rapid motion.

Claim.—1. The combination with the spindle of the spring bearing on the spindle, to hold and steady the same, substantially as described, for the purpose specified.

2. The combination of the spring G, the connecting rod F, the adjustable support L, the division plate I, and the brake H, with a ring spinning frame, substantially as described.

80,217.—JOHN EDWIN RACE, Chicago, Ill.—*Earth Boring Machine.*—July 21, 1868.—The auger and gearing are attached to a rocking beam, so that the position of the auger can be changed without changing the relative position of the operative parts. To the rocking beam is also attached a vertical post, which passes through a slot in a bar pivoted to the top of the auger shaft, to aid, in connection with a rope and shaft, in forcing the auger into soft soil.

Claim.—1. The bar H, in combination with the rod or post I, rope *g*, and shaft C, when constructed and operating substantially as and for the purposes specified.

2. The combination and arrangement of the gear wheels F and G, shaft E, and lever L, with the rocking beam K, substantially as specified.

80,218.—JAMES S. RAMSEY, Baltimore, assignor to himself and WILLIAM G. HILLMAN, Lonaconing, Md.—*Lock Label Holder.*—July 21, 1868.—A device to be used by travelers to secure the address to baggage, so that the address may be changed as often and as rapidly as desirable, without the liability of becoming detached or obliterated.

Claim.—1. The combination of the bolt D, staple B, and side fastening C, arranged and operating substantially as described.

2. The compartment E, containing address labels, which are protected by a sheet of mica, isinglass, thin horn, or similar substance, in combination with a side fastening, which closes the opening through which the same are introduced, and which is locked by a bolt within the case, as set forth.

80,219.—BENJAMIN D. RANDLEMAN, Port Louisa, Iowa.—*Clasp for Joining Belts.*—July 21, 1868.—A combination of forked and straight links with a pair of hinged plates, the links forming a flexible connection for the hinged plates, to secure the ends of a belt.

Claim.—A belt clasp, composed of straight and forked links *d* and *a*, and hinged plates C and D, all substantially as and for the purpose shown and described.

80,220.—HENRY R. RAUB, Pymatuning, Pa.—*Gate.*—July 21, 1868.—The lower portion of the gate is made to be raised up to allow it to swing over snow and other obstructions, and permit the passage of sheep and other small stock.

Claim.—1. The combination of the sliding part E, and the stationary part C of the gate with each other, substantially in the manner herein shown and described, and for the purpose set forth.

2. The combination of the lever F and connecting bar G with the stationary part C and sliding part E of the gate, substantially as herein shown and described, and for the purpose set forth.

80,221.—SAMUEL J. REED, Camden, Ohio.—*Sulky Plow.*—July 21, 1868.—The caster wheels are so arranged that the driver can readily guide the plow by pressing upon a foot piece, or they may be operated by a lever from the rear. The rear ends of the plow beams may be elevated by means of a lever attached to a double crank.

Claim.—1. The beam A, pole A', caster wheels B B, arms *b b*, cross bar b^1, lever C, and foot piece C', the whole being combined and arranged substantially as described.

2. The plow beams E E, constructed and arranged as described, in combination with lever F, crank *f*, and guides *f'*, as and for the purpose set forth.

80,222.—F. M. REYNOLDS, Mile Strip, N. Y.—*Hay Loader.*—July 21, 1868.—The parts are so arranged that the driver, by a simple manipulation, may transfer at once the draught power of the team from the wagon to the derrick tackle and brake, to prevent the wagon from moving during the operation of loading.

Claim.—1. The slide S of the draught pole, applied to the permanent or fixed part P thereof, substantially as shown, in combination with the bolt Q connected with the cord K of the brake lever L, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The spring W applied to the bolt Q, when said bolt is used in connection with the slide of the draught pole, and connected with the brake-actuating mechanism, substantially as and for the purpose set forth.

3. The combination of the lever L, adjustable rod M, rope K, pendant bar B^x, and rear brake shoe A^x, as herein described, for the purpose specified.

4. The connecting of the front brake bar B^x to the slide S of the draught pole through the medium of the lever G and the tackle rope C^x, arranged in the manner substantially as and for the purpose set forth.

5. The sheaves R R', in combination with the lever G, sliding pole S, rope C^x, front and rear brake shoes A^x B^x, and derrick, whereby the wagon is stopped and the load elevated at one operation, as herein shown and described.

6. Constructing the derrick B with a jointed standard, the two parts a^x a^{xx}, each of which have oblique abutting ends, connected by a strap hinge or joint, provided with a socket, and having the arm D of said derrick connected to the standard by a metal strap, b^x, and supported or braced by a bar, *d*, the lower end of which is attached to the lower end of the upper part, a^{xx}, of the standard, substantially as shown and described.

80,223.—JAMES C. RHODES, Stillwater, Minn.—*Damper.*—July 21, 1868.—A device to be attached to the draught orifice of a stove, furnace, &c., to prevent the sparks from passing out and setting fire to the carpet or floor.

Claim.—1. The spark arrester, constructed, as described, of the pivoted plate B, having openings, and closing against the lug *a'* upon the plate A, the plate C, having the gauze-covered openings D, and pivoted centrally to the plate B, and moving with it upon the plate A, all arranged and operating as described, for the purpose specified.

2. The combination and arrangement of the plate A, the swinging plate B, wire gauze D, and pivoted plate C, as herein shown and described, and for the purpose set forth.

80,224.—EZRA RIPLEY, Troy, N. Y.—*Button Fastener.*—July 21, 1868.—The eye of the button is passed through a slot in the garment, and then through the slot in the fastener. The tongue is then passed through the eye of the button, thus securing it without the use of thread.

Claim.—A new and improved button fastener, consisting of a suitably-shaped piece of leather, or other suitable material, A, having a tongue, B, and slot C, constructed and arranged substantially in the manner and for the purposes herein fully described and set forth.

80,225.—JAMES ROBERTSON, Glasgow, Scotland.—*Excavating Machine.*—July 21, 1868.—This invention consists of an apparatus embodying a combination of conduits and mouth pieces for excavating, dredging, and transmitting earthy and other loose matter, by means of currents of water, steam, or air, singly or combined, being forced through the said apparatus.

Claim.—1. The mouth piece B, forcing pipe A^1 A^2, &c., and exhausting pipe C^1 C^2, &c., in combination with a pump for forcing a strong current of water through the apparatus, as and for the purposes herein specified.

2. In combination with the above, the rotating spike cylinder E^1, arranged to operate therewith, as and for the purposes herein specified.

3. The mouth piece B, with a pump forcing pipe and exhausting pipe, substantially as specified, connected to and arranged to operate from the floating structure H, as and for the purposes herein specified.

80,226.—EDWARD S. SCOFIELD, Rochester, N. Y.—*Carving Fork and Knife Sharpener Combined.*—July 21, 1868.—The end of the guard is beveled, and fits, when the same is closed, between the tines of the fork, and the knife is sharpened by drawing the edges of the same across the said beveled edges.

Claim.—The peculiar construction and arrangement of the guard *a*, when in connection with a fork, in the manner and for the purpose specified and described.

80,227.—EDWIN F. SHERMAN, Chicopee, assignor to himself and A. W. KELLOGG, Pittsfield Mass.—*Belt Hook.*—July 21, 1868.—A device for securing firmly together the ends of the belting.

Claim.—The four hooks *a i i a*, all connected longitudinally, by means of the central bar *e* and the two end bars *c c*, the whole constituting a belt hook, and constructed substantially as herein described, and for the purposes specified.

80,228.—ANDREW SMITH, Dayton, Oregon.—*Horse Power.*—July 21, 1868.—Designed for use in a machine where belts are employed instead of gearing, the parts being so constructed and arranged as to admit of being readily put up and taken down.

Claim.—The shaft *d*, in the frame E, arranged so as to be capable of being adjusted in two different directions by means of the screws J G, connected respectively with the slides H and bearings *e*, as indicated by the arrows 1 2. in combination with the frame A, containing the driving belt D and rollers *c c*, and the belt N, with the shaft K in frame E, all arranged for joint operation, substantially in the manner as and for the purpose set forth.

80,229.—A. F. SMITH, Ellsworth, Me., assignor to himself and LEWIS FRIEND, same place.—*Spark Arrester.*—July 21, 1868.—The two parts are connected by a hinge in the lower one of which is an inverted shell having perforations covered with wire netting. Over this shell is a cap attached to the upper portion and surmounted by a wire-gauze chamber, and also a dish-shaped plate having a hole in the center. The wire gauze prevents the escape of cinders but allows the passage of smoke, and the cinders are also deflected by the plates.

Claim.—1. The two parts A B, the shell C, cap E, and the wire-gauze chamber F, with the openings *b* in shell C, and the openings *g* in the upper part B, covered with wire cloth, all combined and arranged substantially as and for the purpose set forth.

2. The draught tubes D, placed in the lower part, A, of the device, and the openings *b* in the shell, arranged to operate substantially as and for the purpose specified.

3. The shield I, attached to the vane H, and arranged in relation with the wire-gauze chamber F, substantially as and for the purpose set forth.

80,230.—CHARLES W. SMITH, Hornellsville, N. Y.—*Cooking Stove.*—July 21, 1868.—A shallow, square fire box is arranged at one end of a cook stove for burning small wood, chips, &c., and having a large flat heating top extending over a cylindrical coal-burning fire box in the other end, so that the apparatus may be used for a large fire in winter and in summer to have as little heat as possible.

Claim.—The base A, cylinder coal fire box E at one end, and a wood fire box, F, elevated on arches *h h*, at the other, as constructed and arranged, in combination with the top H H, dampers J J, and oven K, operating in the manner as and for the purpose herein set forth.

80,231.—FRANCIS H. SMITH, Baltimore, Md.—*Brick Machine.*—July 21, 1868.—Designed as an improvement on a machine patented to the same inventor, Oct. 3, 1854. The invention consists in so arranging the bed plate in relation to the mold carrier as to admit of a very nice adjustment of the parts in molding the clay.

Claim.—The adjustable bed plate Z, when vertically adjusted by means of the set screws *e*, the mold carrier O, provided with its open mold and lugs *d*, and the jointed lever arms M I, and wooden arms J, all arranged together and operated as and for the purpose herein set forth.

80,232.—JOHN C. SMITH, Troy, N. Y.—*Rock Drilling Machine.*—July 21, 1868.—The crank shaft works between jaws, two of which are placed above and one below the said shaft, the jaws being joined at their rear ends to a head piece which moves up and down on an upright stationary rod placed at the frame so as to guide the head piece and jaws in their vertical movement.

Claim.—1. The jaws J J′, and K, constructed as described, and joined to the head piece L, in combination with the crank shaft *c* and stationary rod M, for the purpose of giving an up-and-down motion to the drill shaft N, substantially as and for the purposes herein set forth.

2. The wheel R, constructed as described, with lugs *m m*, working in the screw threads on the shaft C, and connected by means of rods *k k* with the flanged collar O, in combination with the lever *h* and lug *o*, on said collar, and the groove *p*, on the drill shaft N, for the purpose of giving said drill shaft a rotary motion, substantially as and for the purposes herein set forth.

3. The arrangement of the driving wheel G, pinion H, crank shaft *c*, and fly wheels I I, when constructed as described, and used, in combination with the jaws J, J′, and K, for the purpose of giving motion to a drill shaft, in drilling rock substantially as herein set forth.

80,233.—JOHN C. SMITH, Troy, N. Y., assignor to WAGER, FALES AND CO.—*Stove Grate.*—July 21, 1868.—A headed pin in the grate fits in a fork on the shoulders of an arm extending through one side of the stove, so that when the arm is drawn out the grate cannot be turned. By pushing in the arm the grate will partially revolve so that the grate can be turned.

Claim.—The arrangement of the bridge C and arm D, when constructed as described, and used in combination with the grate B, which is provided with pins, *c*, *d*, and *e*, substantially as and for the purposes herein set forth.

80,234.—HIRAM STONE, Cleveland, Ohio.—*Fruit Jar.*—July 21, 1868.—Air is exhausted from the main jar and the stopper is inserted in the cover of the same by means of a stem provided with a cup-shaped socket arranged within a removable auxiliary jar.

Claim.—1. The stem I and spring A′, as arranged, in combination with the auxiliary jar D, in the manner and for the purpose set forth.

2. The stem I and auxiliary jar D, in combination with the jar A, for the purpose and in the manner substantially as set forth.

80,235.—DAVID STUART and ALEXANDER WEMYSS, Philadelphia, Pa., assignors to STUART, PETERSON AND CO., same place.—*Stove Plate.*—July 21, 1868.—A series of projections consisting of sections of hollow spheres, and serving as heat deflectors, are united by any desired ornamental tracery and so arranged as to leave open spaces between the same.

Claim.—A guard plate, having deflecting shields and open spaces, arranged substantially in the manner and for the purpose set forth.

80,236.—GEORGE J. STURDY and S. W. YOUNG, Providence, R. I.—*Japanning Metal.*—July 21, 1868.

Claim.—1. The use of plumbago, or its equivalent.

in the process of japanning, substantially as described.

2. Immersing the article japanned in a water bath, thereby setting free the naphtha, or other volatile liquid, and throwing off the excess of japan, substantially as described, and for the purposes set forth.

3. The black-lead coating, or its equivalent, in combination with a hot-water bath, in the process of japanning, substantially as described.

80,237.—George C. Taft, Worcester, Mass.—*Improvement in Wrenches.*—July 21, 1868; antedated July 11, 1868.—The main jaw is formed in a separate piece, passing loosely through the upper jaw instead of being forged with the same as usual. The two sliding jaws are opened and closed by a right and left-handed screw on the rosset which is pivoted to the ferrule.

Claim.—The sliding jaws C and D, held on the bar A, by means of the rosset *c* fitted in the recess *d* of the bar A, all constructed and arranged to operate substantially as described.

80,238.—Albert L. Taylor, Springfield, Vt.—*Cutlery.*—July 21, 1868.

Claim.—A spiral handle for cutlery, constructed or formed out of the same piece of metal as the blade or other portion of the implement, substantially as shown and described.

80,239.—Oliver Tenny, Littleton, Mass.—*Propelling Vessels.*—July 21, 1868.—Disks are fitted to slide freely in the cylinders between the open ends and heads of the same. As the heads are drawn inward the water enters the cylinders, and when moved outward the water is ejected so as to react and propel the vessel.

Claim.—The combination, with the cylinders *a*, of the heads or followers *e* and disks or pistons *f*, all arranged and operating substantially as described.

80,240.—Evan O. Thomas, Jersey City, N. J.—*Cooking Stove.*—July 21, 1868.

Claim.—The arrangement within the stove of the curved portion *a*, bottom plate *b*, and top plate *f*, whereby a crescent-shaped fire box, C, is formed upon one side the oven B, a combustion chamber, *e*, above it, and a hot-air chamber, *d*, beneath it, as herein described for the purpose specified.

80,241.—Leonard Tilton, Brooklyn, E. D., N. Y.—*Wood-Splitting Machine.*—July 21, 1868.—A box containing two hoppers in which the wood to be split is placed, receives a reciprocating motion, while a vibrating motion is imparted to a bed so as to move the same alternately under each hopper, carrying the wood against fixed V-shaped cutters.

Claim.—1. The bed F, made V-shaped in its cross section, and provided with the journals *c* and shank *b*, said bed being arranged to oscillate in connection with the rock shaft F, so as to alternately close the bottoms of the hopper D D, substantially as herein shown and described, for the purpose specified.

2. The arrangement of the V-shaped cutters J J′, K K′, with relation to the slotted hopper D and oscillating bed F, as herein described, for the purpose specified.

80,242.—Samuel J. Tongue, Philadelphia, Pa., assignor to himself and Jabez Jenkins, same place.—*Mincing Cleaver.*—July 21, 1868.—A cleaver and mincing knife are combined in one and the same implement.

Claim.—The cutting edge, *b*, of the cleaver, formed at one edge of the blade A, in combination with the cutting edge, *d*, of the mincing knife, formed on the outer end of said blade, all constructed substantially as and for the purpose set forth.

80,243.—Sydney D. Tucker, Troy, N. Y.—*Cloth Plaiting Attachment for Sewing Machine.*—July 21, 1868.—Designed as an improvement upon a machine patented to F. A. Allen, February 7, 1860, and the invention consists in the employment of devices for breaking down the stiffness of the cloth, and shaping and guiding the same at points some distance from the place where the plait is actually folded.

Claim.—1. The folding guide C, hemmer D, plate A, having the slot B therein, the whole being constructed, arranged, and combined in the manner herein contained, described, and set forth.

2. The arm W, supporting plate X, plate J, adjustable plate I K *k*, and the plate G, all and each constructed and combined and arranged substantially as herein set forth.

3. The devices constructed as herein described, and forming a plaiter, in two parts, and in which the cloth moves under the plaiter, as shown, the whole being arranged and combined in the manner substantially as herein contained, described, and set forth.

4. The folders K and L, constructed and operated substantially as and for the purposes hereinbefore fully described.

5. In combination with a plaiter, the guide M and slide N, substantially as hereinbefore described and set forth.

6. The guide T and guide bar S, in combination with each other, and with a plaiter, substantially as and for the purposes herein fully described and set forth.

80,244.—Thomas Ucker and Andrew Hutchins, Amanda, Ohio.—*Corn and Cob Mill.*—July 21, 1868.

Claim.—The upper end and lower circles of toothed staves forming the grinding surfaces of both the revolving cone and the surrounding case, the upper circle of both revolving cone and the case being composed of perforated staves, which are capable of being applied to either said cone or case, the whole banded together at top and bottom, and at the junction of the upper and lower parts of the mill, substantially as and for the purpose described.

80,245.—William W. Ustick, La Crosse, Wis.—*Apparatus for Cutting and Mitering Printers' Rules.*—July 21, 1868.—The cutter of the mitering tool is formed with beveled edges having file teeth, the edges being at right angles to each other. The cutter of the squaring tool is similarly formed except that its file edge is at an acute angle with the sides of the stock and of the cutter.

Claim.—1. The combination of the file-formed cutter *b* with the stock B, when arranged to operate substantially as described and for the purpose set forth.

2. The improved apparatus herein described, when its several parts are constructed and arranged with relation to each other, in the manner and for the purpose set forth.

3. The combination of the file-formed cutter *e* with the stock B, when constructed as and for the purpose specified.

80,246.—A. Van Fleet, Ashton, Ill.—*Horse-Collar Fastening.*—July 21, 1868.—A double-detachable loop is formed of a single piece of wire and secured permanently to one part of the collar, by means of a slit in the leather through which a fold of the wire is inserted, and two holes also in the leather into which the ends of the wire are inserted, in connection with adjustable hooks.

Claim.—The herein described double loop B, applied to the collar, substantially as described, in combination with adjustable hooks, as and for the purpose set forth.

80,247.—Arthur Van Norman, Detroit, Mich.—*Potato Digger.*—July 21, 1868.—A reciprocating cutter clears off the weeds, vines, &c., in front of the scoop, which latter takes up the earth and potatoes, whence they are carried to and through the rotating screen.

Claim.—1. The rotating screen G, provided with the internal flange or screw J, in combination with the reciprocating cutter P, all arranged substantially as and for the purpose specified.

2. The scoop K, with the apron or bearing-piece *i* underneath it, in combination with the screen G and cutter P, all applied to the frame F, and arranged to operate in the manner substantially as and for the purpose set forth.

3. Connecting the shaft *b* by a rod *f*, to a crank *g* on shaft H, substantially as shown and described, for the purpose of rendering the screen and the cutter

operative and inoperative simultaneously with the rising and lowering of the scoop and cutter.

80,248.—Christian Wahl, Chicago, Ill.—*Apparatus for Drying Glue.*—July 21, 1868.—A series of circular plates or disks, composed of enameled iron, are attached, by means of arms, to an endless belt, and in their descending motion are exposed to a current of warm dry air. The glue is dried on the said disks in a thin coat, which cracks, and readily drops off. Projections of rubber on the inside of the casing serve to partially turn the disks, and also to deflect the currents of air.

Claim.—1. The employment of earthy surfaces upon which to expose the glue, substantially as and for the purposes herein set forth.

2. The combination of the revolving disks B, with the endless belt A, or its equivalent, for transporting them for a considerable period through a drying current of air, substantially as and for the purposes herein set forth.

3. The adjustable pulley C′, arranged as represented relatively to the endless belt A, and to the glue-exposing surfaces B, carried thereon, substantially as and for the purposes herein set forth.

4. The deflectors F, arranged as represented, relatively to the current of dry air, impelled as represented, and to plates or glue-presenting surfaces B, which are transported past them, substantially as and for the purposes herein set forth.

80,249.—Christian Wahl, Chicago, Ill.—*Machine for Drying Glue.*—July 21, 1868.—An additional or intermediate pulley or drum is arranged between the two supporting pulleys, to deflect the endless chain and its plates against rotating disks carrying brushes, which latter remove the glue from the plates. During their descending motion, the plates are exposed to air chemically dried.

Claim.—1. Removing the thin glue adhering to the surfaces B by means of a brush, R, against which the surfaces are presented after drying, and before being again immersed in the glue, for the purposes herein set forth.

2. Revolving the brush or clearing-device R, so as to actively rub the surfaces of the drying plates, however slowly they may be moving, substantially as herein set forth.

3. The deflecting pulley C^3 arranged to cause the carrying chain to turn partially around it in its descent, substantially as and for the purposes herein described.

4. The employment of rigid links A, polygonal pulleys C^1 C^2 C^3, tank or caldron D, and means for impelling dry currents of air in connection therewith, as and for the purposes herein set forth.

5. The gauze chamber J *j*, arranged, as represented, relatively to the air currents and to the traveling plates B, carrying the glue to be dried, substantially as herein set forth.

6. In connection with mechanism for drying glue, as specified, chemically drying the air previously to its introduction to the apparatus, substantially as and for the purposes herein set forth.

80,250. — Christian Wahl.—Chicago, Ill.—*Machine for Drying Glue.*—July 21, 1868.—A series of plates which carry the glue are attached to a large wheel, which rotates slowly, and the glue is subjected first to a current of cold air, and then to air specially prepared to increase the drying effect. Between the disks are arranged partial partitions, and projecting inwardly from the casing are inclined flexible deflectors for effecting a complete circulation of air.

Claim.—1. The within-described combination and arrangement of the passages in a glue-drying apparatus, so that the glue-drying surfaces shall be presented to the warm or chemically dried air for a longer period than to the cold air, for the purpose herein set forth.

2. Revolving the disks B, or their equivalents, two or more times when the glue is being received thereon, and chilling the glue at each revolution, substantially as and for the purposes herein set forth.

3. Actively revolving the disks B, by means of the pulleys N, or their equivalents, at the period when the glue is being removed, as herein specified.

4. The partial partitions T, arranged as represented, and adapted to serve the double purposes of deflecting the air currents and retaining the glue, substantially as herein set forth.

5. The combination of the partial partitions F and T, arranged as represented relatively to each other and to the glue-exposing surfaces B, and to the currents of air traversing the same, substantially in the manner and for the purposes herein specified.

6. The combination of the revolving disks B with the wheel A, for transporting them through drying currents of air, substantially as and for the purposes herein set forth.

80,251.—H. M. Wait, Woodstock, Ill.—*Band Puller.*—July 21, 1868.—A lever is provided with a pivoted hook for removing the bands from piles after the latter have been driven to their place.

Claim.—The lever A, with curved end, and face A′, in combination with hook B, the whole being constructed as described, and combined and operated as and for the purpose set forth.

80,252.—A. F. Ward, Marietta, Ohio, assignor to W. S. Bachelder and Company, Pittsburg, Pa.—*Combined Plumb, Square, and Level.*—July 21, 1868.—The main portion of the frame is provided with conical sockets, and the swinging frame has corresponding conical projections fitted to the said sockets, in connection with a bolt and thumb nut, to secure a reliable and durable axial joint. A lip formed on the protractor, to work on the edge of the frame, serves to more readily adjust the same.

Claim.—1. The swinging frame B, provided with the conical projections *b b*, and jointed to the frame A, provided with the conical sockets *a a*, substantially as and for the purpose described.

2. The part d^1, provided with the flange d^2, and the part *d*, provided with lugs, as described, and both parts otherwise constructed as and for the purpose described.

3. The protractor *c*, provided with the lip *e*, and connected to the frame A, substantially as and for the purpose described.

80,253. — Eli Wangaman, Blairsville, Pa.—*Cider Mill and Press.*—July 21, 1868.—An arrangement of devices for grinding and pressing apples and other fruit in the same machine.

Claim.—1. The rollers *a*, *b b*, perforated sheet R, box G, chutes E E and H, arranged substantially as shown and described, within a frame, A A A, &c., and operated in the manner substantially as herein set forth.

2. The arrangement herein shown and described, upon the frame A, and with relation to the grinding and pressing mechanism, of the drive wheel B, shafts P S, M D N V, and belts C L O, all as herein set forth.

80,254. — Hermann Wendt, Elizabeth, N. J., assignor to Henry Seymour and Robert H. Seymour, Brooklyn, N. Y.—*Shears.*—July 21, 1868.

Claim.—Casting the circular recess *i* in the shear blade, for the purpose of preventing a drop hammer from compressing or hardening the metal at the point where the rivet hole is to be made, whereby the metal within the recess is left soft, in order that the rivet hole may be formed by punching, as herein shown and described.

80,255.—Hermann Wendt, Elizabeth, N. J., assignor to Henry Seymour and Company, New York City.—*Sheep Shears.*—July 21, 1868.—The iron and steel ears or "stops" are welded together at the same time with the blade plates.

Claim.—The combination of the projection or ears *a a′*, formed respectively at the inner ends of the iron and steel plates C D of the blades, and welded together to constitute the stops of sheep shears, substantially as herein set forth.

80,256.—Benjamin F. Wheeler, Calais, Vt.—*Sleigh Brake.*—July 21, 1868.—The brake is so arranged that the team, in holding back, may apply brake with a force proportioned to the forward pressure of the load.

Claim.—1. The combination of the bent-lever dogs

K, equal-armed lever I, chains J, parallel side bars E, sliding reach H, and rear bob B, all arranged as described, for the purpose specified.

2. The combination of the short chains J with the equal-armed lever I and side bars E or bolster D, as herein shown and described, and fort he purpose set forth.

3. The combination of the cam lever L, with the connecting bar or reach H and with the rear bolster D, as herein shown and described, and for the purpose set forth.

4. The arrangement of the slotted bolster C D, parallel side bars E, sliding reach H, metallic plate G, equal-armed lever I, chains J, and bent-lever dogs K, all operating as described, for the purpose specified.

80,257.—**John B. Wheeler**, Neville, Ohio.—*Envelope.*—July 21, 1868.—A spring catch is so applied to the folding flat and the portion underneath, as to prevent the envelope from being opened without cutting or tearing the same.

Claim.—1. The piece or device A with its mortise *c*, and notch or catch *e* in same, in combination with the piece B and its spring *g*, substantially as shown and described.

2. The manner of fastening the pieces A and B to the envelope, and securing the same from being opened without mutilation, substantially as shown and described.

80,258.—**William N. Whiteley**, Springfield, Ohio.—*Harvester.*—July 21, 1868.—The axle on which the grain wheel runs is so constructed that the diameter of its bearing surface shall decrease toward the arm from which the said axle projects.

Claim.—1. The loose sleeve I, in combination with spindle H, fastened permanently to the arm E, substantially as and for the purpose set forth.

2. Reversing the taper of the bearing of the grain-wheel, substantially as herein described, so that, while the arm which supports the wheel is on the outer side of said wheel, the large end of the bearing on which the wheel turns will be next to the divider.

3. The sleeve I, made with a chambered head K, which will partially inclose one end of the hub, to retain the same in place, and to exclude dust and dirt from the frictional surfaces, in connection with a corresponding chamber made in the arm E or spindle H, to inclose the other end of the hub.

80,259.—**G. W. Whitson**, Ashville, N. C.—*Self-Loading Cart.*—July 21, 1868.—To the lower end of an arm attached to the axle is pivoted a standard which carries a plow of such a form and so arranged as to throw the dirt turned up by a forward plow, into the recesses or buckets on the inner side of the wheels. The dirt is carried up by the rotation of the wheels and dropped into the body of the cart.

Claim.—1. The combination of the plow P, standard R, support S, axle B, toggle bar U, lever V, and false shafts J, substantially as described, for the purpose specified.

2. The combination of the toggle bars U and lever V with the plow standard R and false shafts J, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the plows L, standards M, arms or supports N, and draught and adjusting chain O, with the false shafts J and wheels C, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the cam levers K with the shaft bar H and false shafts J, substantially as herein shown and described, and for the purpose set forth.

80,260.—**J. W. Williams**, New York, N. Y.—*Pavement.*—July 21, 1868.—The blocks are provided with locking keys made rectangular in their cross-section, so that the blocks may be supported against downward pressure, and so as to be readily detached from each other.

Claim.—The arrangement and formation of spaces *d*, between and around the blocks A, by means of grooves *b* and keys B, in combination with the rabbeted sides *a* of said blocks, substantially as set forth.

80,261.—**C. Williams**, New York, N. Y.—*Pavement.*—July 21, 1868.—The blocks are secured together by wedge-shaped keys, and rest upon an elastic or yielding bed, supported upon a bed of asphaltum or other concrete.

Claim.—1. The inverted wedge-shaped keys *a* or *a**, in combination with the blocks A, substantially as and for the purpose described.

2. The intermediate elastic bed C, in combination with the "sub-bed" B, and the blocks A, substantially as and for the purpose set forth.

80,262.—**H. B. Willcox**, Philadelphia, Pa.—*Carriage Thill Coupling.*—July 21, 1868.—In a metal block which is secured to the axle of the carriage, or to the clip of the same, is a circular opening, having a recess in the rear for the reception of a block of rubber against which a pin on the bent arm of the shaft bears.

Claim.—1. The block B, with its recesses *d e*, and *x*, and the block *f* of rubber, fitting the recess *x*, in combination with the bar A and its projection *b*, substantially as and for the purpose described.

2. The combination of the above, the flap *k*, and disk *i*, substantially as and for the purpose specified.

80,263.—**Henry Hayward**, New York, N. Y.—*Felted Fabric.*—July 21, 1868.

Claim.—The within-described felted fabric, compounded of the two layers of felt A and C, with a layer or partial layer of open-worked horse-hair cloth inclosed between, the whole being firmly confined together by the interlaced fibres *a* and *c* of the felted material, substantially as and for the purposes herein set forth.

80,264.—**Ransom Allen**, Salem, Mich.—*Needle for Knitting Machines.*—July 28, 1868.—By providing the needles with movable shanks, any number of them may be rendered inoperative without removing the yarn or loops therefrom.

Claim.—The movable shank *b*, attached to the body of a knitting-machine needle, and operated substantially as and for the purpose herein described.

80,265.—**Jonathan Amory**, West Roxbury, Mass.—*Steam Generator.*—July 28, 1868.—The curved chamber is so constructed as to introduce and mix with the gases arising from the fuel the amount of hot air necessary to complete combustion. The air to supply the heating curve is taken from the conical chamber at the front end of the locomotive.

Claim.—1. The combination of the heating curve and its pipe or pipes for receiving air, with the fire box of the boiler, arranged and operating substantially as described.

2. The combination of the heating curve and its pipe or pipes for receiving air, with an air chamber, K, arranged and operating substantially as described.

80,266.—**William Lewis Barnes**, Irvington, N. Y.—*Shutter and Window Fastening.*—July 28, 1868; antedated July 11, 1868.—When the blind is to be fastened (closed) the hasp is placed over the staple, the sash lowered over it and bolted, and thus the fastening of both shutter and sash effected.

Claim.—The bolt F, constructed as described, and secured to the inner side of the sash A, arranged in relation with the blind hasp *a* and staple, the blind being held closed when the sash is raised, and locked by the bolt F passing through the staple, above the hasp *a*, when the sash is lowered, which movement also locks the sash, as herein shown and described.

80,267.—**Henry M. Beecher**, Plantsville, Conn., assignor to **H. D. Smith and Company**, same place.—*Manufacture of Carriage Shaft Couplings.*—July 28, 1868.—At the termination of this process the coupling is ready to be finished or further shaped by dies, in a drop press.

Claim.—1. The above-described process or method of making the shaft connection blank, the same consisting in forming it with the head part A and the shank B, and subsequently cutting it through on the lines *e e*, and finally bending the portions *f f* around into right or nearly right angles with the shank part B.

2. The machine, substantially as described, for creasing or cutting the blank, and bending the portions *f f* of it around into or nearly into right angles with the shank, such machine being composed of the bed plate and standard, the two levers, the follower, and the two pairs of creasers or cutters, the whole being arranged for use in manner as specified.

80,268.—Alonzo T. Boon and Albert D. Perry, Galesburg, Ill.—*Apparatus for Carbureting Gas and Air.*—July 28, 1868.—The carbureted air passes through the emery to be carbonized, while the float automatically regulates the valve which admits gasoline to the gasometer.

Claim.—The emery receptacle F, when combined and arranged with float *h*, screw rod H, valve *m*, pipe N, and pipe *a*, substantially in the manner and for the purpose as herein shown and described.

80,269.—Edward Bostock, Albany, N. Y.—*Tuck Creaser for Sewing Machines.*—July 28, 1868.—Relates to the class of instruments in which the creasing or marking apparatus is arranged for adjustment in relation to the needle and to a gauge plate which is attachable to the bed plate of a sewing machine.

Claim.—1 A tuck-creasing device, constructed substantially as described, in combination with the plate A, and gauge plate D, both constructed and arranged substantially as described, and the plate D serving to confine A to the bed plate, as set forth.

2. A gauge plate or guide for a sewing machine, when provided with an adjustable piece, I, having a slot, as and for the purpose set forth.

3. The gauge plate H, slide I, and creasing device combined, to admit of adjusting the apparatus in any desired position relatively to the needle and feeding device of different machines by means of a single screw.

4. The tuck creaser and gauge plate, for use with or without a sewing machine, when the whole is constructed as described.

80,270.—Edward Bostock, Albany, N. Y.—*Tuck Creaser for Sewing Machines.*—July 28,1868.—Relates to the class of instruments whose office is to indent a well-defined crease in fabrics, preparatory to folding down and stitching the same, in the formation of tucks, and is intended for either hand or machine sewing.

Claim.—1. The combination, with the tuck-creasing devices, of a sliding wedge, eccentric, or a slide and fixed inclined plane, on the base plate, substantially as and for the purpose shown and described.

2. In combination, the spring arm, and its creasing and pressure-adjusting devices, and the fixed stand or yoke E, substantially as and for the purpose set forth.

3. The tuck creaser and its gauge plate, constructed with their coinciding slots at an angle to the creasing arm and line of stitching, as described, so that, when affixed to a machine by means of the thumb screw and screw hole, and moved in a slanting direction for adjustment, the parallelism of the line of creasing with the line of feed may always be preserved.

4. The devices herein described, the same constituting the tuck creaser, constructed as specified.

80,271.—Charles T. Burchardt, New York, N. Y.—*Car Coupling.*—July 28, 1868.—The obliquity of the tension on the coupling, in the event of a car running off the track, pulls the spring frame and its connections to one side, the effect being to allow the hook to turn and release the link. The beveled bearings on the spring frame conduce to, or may be made to effect the holding of the spring frame and its connections in the central line of the car with sufficient force under ordinary circumstances.

Claim.—1. The car coupling, composed of the hook E¹, bearing piece H, links G, and the spring frame B, when connected with the mainspring C, all substantially as herein described and for the purposes specified.

2. The beveled or double-inclined bearings a^3 a^3, arranged relatively to the mainspring C and spring frame B and its connections, as and for the purposes herein specified.

80,272.—Henry K. Burnett, Poughkeepsie, N. Y.—*Harvester.*—July 28, 1868.—The shoe at the inner end of the finger bar runs upon a wheel, and the finger bar is hinged to the same in such a manner that said finger bar may be turned over and lie parallel, or nearly so, to the face of the wheel.

Claim.—1. The cams D D, rotated by the gearing B C, in combination with the arm U, roller E, and jointed pitman G, connecting the arm U to the cutter bar *h*, substantially as set forth.

2. The bar K, at the end of the finger bar H, and jointed at Q to the shoe R′ and arm X, as and for the purposes set forth.

3. The shoe R′, jointed to the arm X, in combination with the slotted brace I, finger bar H, and cutters *i*, arranged and operating as and for the purposes set forth.

80,273.—Thomas Cabourg, Paris, France.—*Boot-Soling Machine.*—July 28, 1868.—The wire, when uncoiled from the pulley, passes through a hollow axle, which rotates it in a plane perpendicular to its course when unwound. It thus receives a progressive spiral motion, and in this way enters a tap and is threaded. From the tap it is guided so as to enter the leather to be united, and after penetrating to a sufficient depth it is cut by a pair of knives, which leave a point upon the succeeding part of the wire to adapt it to readily penetrate.

Claim.—1. The construction and use of the pulley A, on which is wound the wire to be tapped, substantially as herein described.

2. The construction of the tapping plate, substantially as described.

3. The construction, disposition, and simultaneous action of the knives, substantially as described, and more fully shown in the drawings.

80,274.—John Collines, Ecorse, Mich.—*Fishing Seine.*—July 28, 1868; antedated July 18, 1868.—The braces are designed to prevent the seine from becoming entangled, fouled, or caught upon projections.

Claim.—The application of the braces marked A A, as above, to a seine or net, substantially as and for the purposes herein described.

80,275.—John Cooper, Dublin, Ind., assignor to himself and Bennett F. De Witt, Indianapolis, Ind.—*Coal Stove.*—July 28, 1868.—The object is to secure, in connection with direct radiation, an efficient mode of supplying fresh, warm air to the room and conducting impure air from it.

Claim.—The addition D, separated from the fire chamber by the partition G, and subdivided into compartments H J by the partition I, as set forth, and, in combination therewith, the induction pipe E, eduction pipe F, and chamber L, arranged substantially as set forth.

80,276.—John Dable, Chicago, Ill.—*Machine for Unloading Railroad Cars.*—July 28, 1868.—The object is to prevent the rope to which the scoops or shovels are attached from slipping off the pulleys; also to avoid the clogging of the pulleys by the grain.

Claim.—1. A swing frame of a car-unloading machine, provided with head plates B B, having convex surfaces presented to the sides of pulleys C C, which are perforated and otherwise constructed, substantially as described.

2. Projections *h*, adapted to serve as guards or fenders for pulleys applied to the swinging frame of an unloading machine, substantially as described.

3. Perforated guards *h*, perforated pulleys C C, and convex surface head plates B B, applied to the swing frame of an unloading machine, substantially as described.

80,277.—Elon Denio, Baldwinsville, N. Y., and Elon C. Denio, New Hartford, N. Y.—*Hop Hook.*—July 28, 1868.—In the cultivation of hops the hoe, as combined with the knife, enables one to loosen the earth, bare the roots, and separate them, together with the surplus sprouts or vines.

Claim.—1. The hop cultivator, formed of the hoe or hook, combined with the knife, substantially as and for the purposes specified.

2. The ferrule, with the raised projections or ears, and slot, or their equivalents, for securing the knife in place, in combination with the hoe or hook, of one or more tines, substantially as and for the purpose set forth.

80,278.—JACOB EDSON, Boston, Mass.—*Stops for Fore-and-Aft Sails.*—July 28, 1868.—The elastic boom stop is to be arranged on the deck athwartships through and under the boom, and a rope connects the boom with the ring, so that when the boom sways, either to port or starboard, it is checked by the elastic stop.

Claim.—1. The arrangement and combination of the saddle D with the springs H H, their rods A, and the sliders F F, connected with the ring E.

2. The arrangement and combination of the arched and annular links G G b b and the arms a' a' with the ring E, and the sliders F and springs H, applied to the rod or bar A, extending between and from abutments B B, as set forth.

80,279.—SAMUEL H. FOLSOM, Winchester, Mass.—*Furnace for Treating Ores.*—July 28, 1868.—The products of combustion pass from the fire box over and in contact with the ore upon the revolving tables to the vertical flue, through a hopper at the top of which the pulverized ore is introduced, so that it passes downward under the action of the heat within the flue, and is thus subjected to a preliminary roasting. The ore is retained in the flue, but delivered to the furnace therefrom at appropriate intervals by the intermittently rotating cylinders.

Claim.—1. A series of two or more revolving tables placed within a furnace, A, and operating substantially as described for the purpose herein set forth.

2. The revolving cylinders m n o, with their inclined guides, in combination with the flue G, operating substantially as described, for the purpose set forth.

3. A central deflector, O, applied to a table, C or D, for the purpose of more thoroughly distributing the flame over its surface, substantially as set forth.

4. The inclined stationary stirrers a' b', in combination with a revolving table, C or D, substantially as described.

5. The scrapers f', on the under surface of a table, C or D, in combination with a projecting edge or shelf e', beneath the table, substantially as and for the purpose set forth.

80,280.—BARTHOLOMEW GOMMENGINGER and CHARLES W. TROTTER, Rochester N. Y.—*Stove and Furnace Grate.*—July 28, 1868.—An opening is left at the front of the grate, by dropping the middle bars, and admits a poker to pry or push off clinkers, &c., from the grate. Said opening is closed by a movable ring having a notch corresponding in size with the opening.

Claim.—1. The grate a, when constructed and operated in the manner and for the purpose specified.

2. In combination with the grate a, the sliding ring e, when constructed and operated in the manner and for the purpose specified.

80,281.—RICHARD GORSLINE, Rochester, N. Y.—*Lamp Burner.*—July 28, 1868.—The removable frame for holding the chimney and its attachments to the lamp, is provided with a glass bottom plate to transmit the light downward.

Claim.—The combination of the open frame D and transparent bottom plate G, when arranged in connection with the removable cone H and fixed rim C, the whole as herein set forth.

80,282.—JOHN GRACIE, Pittsburg, and ROBERT H. BOYD, Hulton Station, Pa.—*Lamp Chimney.*—July 28, 1868.—When the chimney is placed on the lamp top, and turned, the projection of the lamp-top flange binds upon the wide portion of the chimney flange.

Claim.—1. Providing a lamp chimney with an elliptical flange, substantially as herein described.

2. In combination with the above, a lamp top provided with a flange, portions of which project inward for the purpose of catching, grasping, and holding the chimney in position, the contour of said flange corresponding to the form of the flange of the lamp chimney, substantially as herein described, and for the purpose set forth.

80,283.—SEPTIMUS HASLAM, Jr., New Britain, Conn., assignor to himself and JOHN B. TALCOTT.—*Machine for Producing a Reciprocating Motion in Knitting Machines, &c.*—July 28, 1868.—An independent attachment for straight-knitting machines, the object being to produce a positive and reliable reciprocating movement which may be suspended at the required intervals. If the shipper be pressed back, the drawing-across motion will be suspended during one or more revolutions of the shaft, and while the narrowing operation is being performed, after which the spiral spring couples the parts and the entire machine is put in motion.

Claim.—1. The combination with the shaft b of the sleeve d, carrying the clutch and wheels f f', and the collar k, and collar i, on the shaft, and clutch m, or its equivalent, substantially as described.

2. The gears f f', arranged upon the sleeve d, in combination with the clutch c, plate q, upon the shipper p, and spring s, or their mechanical equivalents, with the gears 3 4 5 1, and chain v, for the purpose substantially as described.

80,284.—FREDERICK LEWIS HILBRIGHT, Newark, N. J., assignor to himself and CHARLES E. WOODMAN, Boston, Mass.—*Cigar.*—July 28, 1868.—The cap, which protects the end of the cigar against breakage, may be stamped with a trade mark for the cigar. It is composed of inflammable or fusible material so that it will burn or melt away.

Claim.—The combination and arrangement of the foraminous ferrule or cap with a cigar, the same being substantially as explained and represented.

80,285.—HENRI JULIEN, Ottawa, Canada.—*Address Printing Machine.*—July 28, 1868.—The form or galley containing the names and places of residence, set up in type, is caused to pass with an intermitting motion under a vertically reciprocating press, and on said galley the folded papers lie to be forced down by the press to receive the impression. An arrangement of mechanism is embodied in the machine to effect the operations automatically.

Claim.—1. The combination with the vertically-sliding press A of the rack B, pinion C, shaft D, spring p, and the mechanism for operating the shaft D, substantially as and for the purpose described.

2. The combination with the pawl P and connecting rod E of the mechanism for connecting them and disconnecting them with the parts to which they communicate motion, substantially as and for the purpose described.

80,286.—FRANCIS L. KING, Worcester, Mass.—*Machine for Dressing Stone.*—July 28, 1868.—The stones are, by the machinery, made to rub each other to a smooth surface. The curb protects the bearings of the machinery under the rotary carriage from the sand and water falling from above.

Claim.—1. The peculiar construction of the self-adjusting frame, with its shaft, gears, grooved racks, and set screw B, when constructed and operating substantially as and for the purpose specified.

2. The carriage A, spindle B, or its equivalent, apron H, constructed and operating substantially as and for the purpose specified.

3. The trucks C C, disk E, and curb I, constructed and operating substantially as and for the purpose specified.

4. Gears F and L, shaft K, constructed and operating substantially as and for the purpose specified.

5. The peculiar relative positions or adjustment of the carriage A and grinders M upon different centers, whereby the irregular or eccentric motion is produced, arranged and operating substantially as and for the purpose specified.

6. The combination of the hopper R, hollow shaft N, the grinder box M with the carriage A, with its various bearings, constructed and operating substantially as and for the purpose specified.

80,287.—WILLIAM C. KNEELAND, Brooklyn, N. Y.—*Manufacture of Cigars.*—July 28, 1868.—Consists in making the "filler" of a cigar of cut, ground, or granulated tobacco, instead of forming it in the usual manner of leaf or scrap tobacco.

Claim.—As a new article of manufacture, a cigar made with a cut-tobacco filler, substantially as described.

80,288.—JOHN A. KNIGHT, Durham, Me.—*Fruit Picker.*—July 28, 1868.—The fruit detached by the toothed edge drops into the conductor and falls upon a rest, when, separating the divided sides thereof, it falls through onto the next rest, and so on, till it drops gently into the bag at the bottom.

Claim.—The fruit gatherer, as described, combining the removable had *a*, edge or teeth *c*, handle or pole *a'*, jointed conductor *i*, attached, as described, to the pole, and having the peculiarly-formed chucks *p*, as and for the purposes described.

80,289.—DAVID S. LEAVITT, Grand Rapids, Mich.—*Tables, Benches, &c.*—July 28, 1868.—The wedges hold the legs or supports rigidly in position, but may be readily detached when desired; the object being to render portable and of ready adaptation to various purposes, such articles as tables, trestles, benches, chairs, and staging.

Claim.—The combination of the dove-tail fastening B, hinged legs C, wedges or pins, and rods, when applied and used in the manner and for the purposes shown and described.

80,290.—SAMUEL M. LEE, New London, Iowa.—*Car Brake.*—July 28, 1868.—Steam being admitted into the cylinder the piston is forced back against the brake bar of the tender, one of the forks of which acts on the bar of the adjacent car and through that upon the other bars, so that the brakes are supplied simultaneously.

Claim.—In combination with an independent piston, *d*, the arrangement of a forked bar, *b*, with the tender, and a single bar, *c*, with the car, for operating said bar *c* at either end, substantially as and for the purpose described.

80,291.—JOHN LETZKUS, Alleghany City, Pa., assignor to himself and RICHARD BROWN, Youngstown, Ohio.—*Teeth for Gear Wheels.*—July 28, 1868.—The teeth engage evenly throughout their length, avoid jarring, and possess great strength.

Claim.—Curved gear teeth for wheels and pinions, the upper and lower edges of which are arcs of curves of equal radius, having their centers in the same right line, constructed substantially as and for the purpose hereinbefore described.

80,292.—THOMAS LIPPIATT, New York, N. Y.—*Rose Engine Lathe.*—July 28, 1868; antedated July 11, 1868.—As the die or pattern slides up and down, the tracing pin is thrown in and out of the depressions of the design and moves the swinging frame, which in turn throws backward the tool box and graver, thus engraving upon the cup or napkin ring a fac simile of the pattern. Certain modifications as to the arrangement of the pattern are specified.

Claim.—1. The arrangement of the swinging frame H, carrying a tracing pin, *e*, or an equivalent device, the vertically sliding die or pattern J, mandrel K, and engraving tool *d*, operating substantially as herein specified.

2. The arrangement of the revolving die or pattern N, the swinging frame O and tool box F, operating substantially as herein described.

3. The combination of the screw rod S and shaft L with the sleeve M and die N, substantially as herein specified, for giving a lateral progressive movement to the said die N.

4. The arrangement of the revolving die or pattern P on the mandrel shaft *i*, the swinging frame H, and tool box F, operating substantially as herein specified.

80,293.—GEORGE LITTLE, Hudson City, N, J.—*Telegraph Instrument.*—July 28, 1868.—The pen consists of either a body capable of being magnetized by induction, or one or more permanent magnets, and a marking point, and it is placed in a telegraph instrument in such relation to a coil or coils that the closing and breaking of an electric current through the coil, or the change of direction of a circuit, will cause the pen to vibrate and make marks upon paper.

Claim.—1. The combination of a pen with a reservoir.

2. The combination of a pen, reservoir, and coil.

3. The combination of a pen, reservoir, and coil, with paper properly actuated.

4. The combination of a pen, reservoir, and properly-moved paper.

5. The combination of a pen, float, and reservoir, and all of these in combination with coil, and all of these also in combination with properly-actuated paper.

6. The combination of a pen and a reservoir, having an opening therein for the protrusion of the pen, with a regulating tube, and all of these in combination, first, with a float, second, with a coil, and third, with properly-actuated paper.

7. The combination of a pen with a reservoir of fluid and a permanent magnet properly located, and all of these in combination, first, with a float, and second, with a coil, and thirdly, with both a coil and float.

8. The combination of a pen, a reservoir, and a coil, when the reservoir is vertical, and provided with an opening at the bottom thereof, and the pen passes through the opening, and the coil surrounds the vertical reservoir, and these parts thus relatively arranged in combination with a regulating tube.

9. The combination of a pen, a vertical reservoir, open at bottom, a coil surrounding the reservoir, and a permanent magnet, located above the reservoir, and all these parts thus relatively arranged, in combination with a permanent magnet, located below the reservoir and pen.

10. The combination of the following parts, viz, a pen, a float, a reservoir of fluid, a regulating tube, a coil, and paper properly actuated, and these in combination with a permanent magnet, so located as to influence the pen, all these combinations, and the parts or elements making up the combinations, being substantially such as herein specified and set forth.

80,294.—CHARLES LOCKHART and JOHN GRACIE, Pittsburg, Pa.—*Still for Hydrocarbons.*—July 28, 1868.—The smoke, dust, and products of combustion which pass from the fire chambers are drawn into the space around the bottom of the flue, into which they pass through lateral openings. The scrapers which further the process of distillation and prevent the incrustation of the still bottom, are attached to a wheel rotating in a groove of the flue. Provision is made for carrying off the vapors at different heights.

Claim.—1. The chimney D, combined with a series of fire chambers, *x*, and smoke chamber *m'*, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

2. Making the chimney D the axis of the wheel 7, used for rotating the scrapers, in the manner substantially as herein described, and for the purpose set forth.

3. The arrangement of the column *e*, pipes *g* and f^3, openings 10, and valve x^2, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

4. Providing a still for hydrocarbons with a valve, which will act from an internal or external pressure, substantially as herein described, and for the purpose set forth.

80,295.—BENJAMIN F. LOTRIDGE, New York, N. Y.—*Bolt.*—July 28, 1868.—When the bolt is thrown forward the tongue piece is brought directly beneath the transverse opening in the case, and then forced into the latter by the spring, thus firmly securing the bolt. The set screw may be made to raise the tongue piece into the opening whenever the spring may have lost its resilience, and when the bolt is to be released the tongue piece is depressed by the set screw.

Claim.—In combination with the slotted case B, the bolt C, tongue piece G, set screw H, and spring D, when the same shall be constructed and operated substantially as described, for the purposes specified.

80,296.—William W. Lyman, West Meriden, Conn.—*Fruit Jar.*—July 28, 1868.—The cover of the preserve jar is secured in position by a yoke which is pivoted to the cover, and whose gripe may be increased as the preserves cool, thereby causing the cover to be more effectively clamped upon the gasket.

Claim.—1. The combination of flange cap *f*, having incline or wedge elevations upon its outer edge, *g*, with a gasket seat, *d*, gasket *e*, yoke *h*, and ring *b*, substantially as and for the purpose described.

2. The combination of the flange cap *f*, elevations *g*, yoke and pin *h i*, with the gasket and seat *e d*, substantially as and for the purpose described.

80,297.—William W. Lyman, West Meriden, Conn., assignor to Meriden Britannia Company.—*Butter Dish.*—July 28, 1868.—When it is desirable to detach the cover from the dish it is only necessary to back out the screws by turning them in the direction the cover takes in turning off from the dish.

Claim.—The right and left hand screw-actuating fulcrum, in combination with the cover a'' and body *a*, constructed and operating substantially as and for the purpose described.

80,298.—George H. Mallary, New York, N. Y.—*Machinery for Making Paper Bags.*—July 28, 1868.—As the continuous sheet of paper is fed to the machine the several devices perform their respective functions of delivering the paper to a knife which cuts off a piece of suitable length for a bag, drawing such piece into the folders which produce the side laps, pressing the end lap against the pasting roller and at the same time turning it upward over the edge of the folding blade, and then moving the bag forward between pressure rollers, which join the pasted edges of the laps to the bag.

Claim.—1. The clamp, formed of the bar L, the shaft K with its lags *t*, when combined with the supporting bars *u*, substantially as set forth.

2. The clamp, formed of the slides W and Y, and the jaw 31, when combined with the folders 6 6′ and the cams 5 5′, substantially as described.

3. The cross-head Z, the folding blade 15, and the pasting roller 13, when combined and arranged substantially as described.

4. The levers D and E, the crank *e c*, the clamp formed of the bar L, and the shaft K with its lags *t*, and the clamp formed of the slides W and Y and the jaw 31, all combined and operating substantially as described.

80,299.—George W. Martin, Boston, Mass., assignor to himself and J. W. Haskins, same place.—*Manufacture of Articles of Soft Rubber.*—July 28, 1868.—The object is to produce a screw joint which shall effectively obstruct the passage of fluids and liquids.

Claim.—An elastic screw thread, substantially as described.

80,300.—George W. Martin, Boston, Mass., assignor to himself and J. W. Haskins, same place.—*Cane Seat.*—July 28, 1868.—The seat is detachable and will fit within the frame whether one or another of its sides be turned to the front.

Claim.—A movable cane seat, having sunken bearings *g*, as specified, and so constructed as to be reversible, and present each side to the front, substantially as and for the purpose described.

80,301.—Thaddeus Munson, Canandaigua, N. Y.—*Portable Roofs for Hay Stacks, &c.*—July 28, 1868.—Cross-ties or cleats at the top brace the sections of the roof together, and the cords and stakes bind the roof to the stack.

Claim.—The combination, with the sections A A', connected by hooks a a^1 a^2 of the bracing cleats *c c* at the top, and the cords *g* g' at the bottom, passing loosely through the rings *d d*, and attached to the bars *f f* and stakes *h*, the whole arranged as described, and operating in the manner and for the purpose set forth.

80,302.—Person Noyes, Lowell, Mass.—*Lamp.*—July 28, 1868; antedated July 11, 1868.—The outer jacket regulates the flame, and the cap or stopple prevents the escape of offensive odors from the charred end of the wick.

Claim.—The use and application of a cap or stopple, *a*, to the top end of the wick tube of a lamp which has an outer jacket, sleeve, or other similar or analogous device, when said cap or stopple is constructed and arranged to operate substantially as and for the purpose set forth.

80,303.—William W. S. Orbeton, Bradford, Mass.—*Culinary Apparatus.*—July 28, 1868.—The purpose of this apparatus is to hold a charge of charcoal in a state of combustion, and support over the same an article to be cooked or a vessel to be heated, and supply to the fuel an upward and downward current of air to secure energetic combustion. The apparatus may be placed for use in one of the boiler openings of a stove.

Claim.—1. The improved brazier, as constructed with the main air-supply openings *a a*, &c., the auxiliary air-inducts B B, &c., and the eduction openings *e e*, arranged and combined together substantially in manner and so as to operate as set forth.

2. In combination therewith the annular register-supporting plate C, as and for the purposes described.

3. The combination of the main and auxiliary air inducts *a* B, the discharge openings *c*, the fire-pot cover D, the annular register and supporting plate C, the latter having a dome or cover applied to it in manner and for the purpose as explained.

4. The combination of the hoop or band F with a brazier or cooking apparatus constructed in other respects substantially as set forth, the same being for the purposes explained.

80,304.—Jesse S. Perkins, Lake Village, N. H.—*Machine for Making Knitting-Machine Needle Shanks.*—July 28, 1868.—This machine produces from a coil of wire a succession of blanks, which, however, have to be flattened, slitted, pointed, notched, bored, and bent by other mechanism before they assume a proper form to receive the latch or tongue for closing the hook on the front end of the blank.

Claim.—The combination of friction jaws *d e*, or the equivalent thereof, and the dies and cutters *f g n o p*, arranged and provided with mechanism substantially as described, for operating them in manner and for the purpose as specified.

80,305.—Peter Rasar and D. J. Mayes, Illiopolis, Ill.—*Hanging for Gates.*—July 28, 1868.—The gate may be opened in either direction, caused to remain open by giving it an additional impulse, or allowed to close of itself.

Claim.—The rollers *d* d', plate *c*, and yoke *k* of a self-closing gate, when arranged in relation to each other and the rest of the gate substantially as and for the purpose specified.

80,306.—Richard Redfield and James H. Redfield, Salem, Ind.—*Smut Mill.*—July 28, 1868.—The spirally-arranged slots compel the grain to pass rapidly from one end to the other of the smut mill case, and the machine is otherwise so constructed as to direct the grain thrown against the shell toward its discharging end, while allowing the dust and foreign substances to escape. The perforated shell is inclosed within a dust box communicating with the fan case and with a discharge spout. The dust box has a trap which receives and automatically discharges heavy foreign substances.

Claim.—1. The arrangement of the horizontal fan J', blast spout B B^6, branch spout B^1, partition S', vibrating trough C *g*, and horizontal spirally slotted case E *y*, and horizontal beater F *j*, substantially as and for the purpose described.

2. The relative arrangement of the blast spout B B^1 B^6 S', hopper A, box *d* d', vibrating roughened surface trough C, openings *f* f', spout D, hopper P, horizontal case E *y*, horizontal beater F *j*, passage T, inclined spout T^1, vertical spout T^2, cap H, and inclined receiver H', substantially as described.

80,307.—Thaddeus S. Reeve, Chicago, Ill.—*Measuring Faucet.*—July 28, 1868.—The piston being raised by means of its rod is followed by liquid from the cask, and when the desired quantity, as indicated by the gauge, is thus drawn, the stop is closed, the gate opened, the piston depressed, and the liquid discharged.

Claim.—A measuring faucet, consisting of screw A, stop B, gate D, cylinder E, piston F, and gauge H, arranged substantially as described.

80,308.—M. A. Richardson, Sherman, N. Y.—*Horse Power.*—July 28, 1868.—An automatic friction device is applied to the operating parts of a horse power in such a manner that when undue resistance is offered, the said device runs independently of the power, preventing breakage or injury.

Claim.—1. The friction brake D and nut *d* applied to the operating parts of a horse power, substantially as and for the purpose set forth.

2. The combination and arrangement of the driving wheel 1 with the friction device D *d*, in such a manner as to be removable from the bed, either separately or together, by the removal of the nut *d*, as explained.

80,309.—Marvin S. Roberts, Racine, Wis.—*Peat Machine.*—July 28, 1868; antedated July 14, 1868.—The apparatus is carried on a boat which is drawn forward on watery bogs by means of a capstan, a rope, and a stake driven at an advanced point. A digging apparatus delivers the peat to a small conveyor which transfers it to a grinder having a hoop whereby the peat is conducted to a large conveyor which carries it to the shore and spreads it thereon.

Claim.—1. The digging apparatus D, consisting of box E, plunger F, and endless chain G, with buckets H H, combined and operating as described, and the whole secured to the boat A, and provided with continuous automatic movement along the semicircular curve A′, by means substantially as described, or other equivalent means.

2. The mode of automatically regulating the semicircular to-and-fro movement of the digging apparatus D along the curve A′, by means of double wheel *m*, lever P′, and stops Q, substantially as herein set forth and specified.

3. The perforated buckets H, provided with the hinged bottom *f′* and spring catch *e′*, in combination with the guides *h″*, when arranged to operate as described.

4. The segmental gear A′ and A″, arranged as described, in combination with the digging apparatus, and the mechanism for operating the same, substantially as herein described.

5. The cutting flange T of the outer pulley S of the flange F, to cut peat in the bed, and to thus facilitate the operation of the buckets, substantially as set forth.

6. The grinder Z, consisting of revolving toothed and furrowed plate B′, provided with spurs D′ D′, and constructed as described, and of stationary furrowed concave C′, provided with toothed arms *o′ o′*, and operating by means of set screws *p′ p′*, the whole arranged and operating substantially as set forth, for the purpose of crushing, working up, and pulping peat, as described and specified.

7. In combination with the grinder Z, the partially revolving hoop E′, provided with bag F′, constructed as described, and secured to the great conveyer G′.

8. The boat A, constructed as described, in combination with digging apparatus D and grinder Z, to be used on watery peat bogs, substantially as herein described.

80,310.—Clark Robinson, Fox Lake, Wis.—*Thill Coupling.*—July 28, 1868.—The notch in the pivot of the socket joint permits the pivot to be detached when the thills are raised. The stop, pivoted to the strap, holds the pivot in place when in use.

Claim.—The socket D D, in combination with the pivot K, having a notch M, the strap A, and stop E, substantially as set forth and shown.

80,311.—Gustave H. Roth, Boston, Mass.—*Sad-Iron Holder.*—July 28, 1868.—The body of the guard is a flat shield having the general form of a flat iron body, and it is employed to protect the hand of a person, while grasping the handle of a flat iron, from the heat radiated from the iron.

Claim.—1. The guard, as made with the lateral passages *e e* arranged in it, and with latches D D to embrace the parts *d d* of the handle, and cover the passages *e e*.

2. The combination and arrangement of the movable covers G G with the guard, made with the slots *e e*, and provided with latches thereto, as set forth.

80,312.—Isaac N. Sheets, West Jefferson, Ohio.—*Bed Bottom.*—July 28, 1868.—The levers have pivotal fulcra and are of the first order. The outer ends of the levers are connected to the bedstead by hinges, and the inner ends of the same are attached to the bed bottom by rubber springs.

Claim.—The combination of the coiled springs G, the tension rubber springs N, and the hinged levers I, substantially as set forth.

80,313.—William S. Sinclair, Baltimore, Md.—*Boiler Flue Plug.*—July 28, 1868.—The plug is inserted in the end of a leaky tube and then the wedges are introduced, expanding the plug and causing it to fit tightly in the flue. The plug is then driven home, compressing the packing around the end of the flue.

Claim.—The flanged tubular plug C, constructed with a longitudinal slot or slots, *f*, between the lugs *e*, at its inner end, and a circumferential slot or slots *g*, about in line with the end of the slots *f*, for use in combination with the wedge or wedges *d*, substantially as and for the purpose set forth.

80,314.—Daniel Smith, Cedar Falls, Iowa.—*Plow.*—July 28, 1868.—The object is to form mold boards for plows of a substance more durable than metal, and which shall glide with less resistance through the earth.

Claim.—1. A mold board for plows, which is made entirely of glass, substantially as described.

2. The combination of a glass mold board and a metal share, substantially as described.

3. Securing a glass mold board to a plow frame, by means of clamps *a b*, or their equivalents, substantially as described.

4. The construction of the side clamps *a b* with curved overhanging lips *a′ b′*, substantially as described.

80,315.—Volney M. Thomas, Brandon, Vt.—*Culinary Apparatus.*—July 28, 1868.—Formed so as to fit into an open tea kettle, and conduct the steam therefrom to the articles to be steamed which are supported upon the grate.

Claim.—The arrangement and combination of the steam chamber A, conducting pipe D, and grate G, when constructed and operating substantially as and for the purposes herein set forth.

80,316.—L. B. Waterman, Chicago, Ill.—*Clothes Drier.*—July 28, 1868.

Claim.—A detachable clothes drier, consisting of the hinged bands A, having the bars B pivoted thereto, and arranged to be secured to a stove pipe by means of the brace or pawl *b*, and the ratchet, or its equivalent, of rubber, as herein described.

80,317.—Edwin Watrous, Mystic River, Conn.—*Coffee Mill.*—July 28, 1868.—The position of the attaching flange relative to the axis affords convenience in manipulating the adjusting screw and operating the handle. The invention also refers to the structure, the object being to facilitate manufacture.

Claim.—1. The grinding mill, in which the flange or attaching device is placed at an inclination to the axis of the mill, for the purposes and substantially as set forth.

2. The hollow clamping washer 7, in combination with the lug 8, on the flange *h*, for attaching the mill when the parts are slipped behind the screw heads, substantially as shown.

3. The flanges 1, 2, and 3, constructed and applied, as shown, to the shell *b c*, in combination with the hopper for attaching the latter, in the manner herein set forth.

80,318.—Thomas W. Welch and George B. Starbird, Mechanicsburg, Pa.—*Foundation for*

Fences.—July 28, 1868.—This metallic support or foundation, which is to be inserted in the earth, is intended to prevent the superposed post from assuming an inclined position.

Claim.—The part A A, the parts B B, the parts C C, the octagonal or round top D D, the notched cross bar E, the conical or pyramidal parts F F F F, &c., and the bolts and burrs H H, all combined and operating in the manner and for the purpose herein set forth

80,319.—Joseph L. Wetherell, Attleboro, Mass.—*Pad for Horses' Hoofs.*—July 28, 1868.—The cushion is applied between the sole of the hoof and the horseshoe. The flanges, by bearing against the hoof and the shoe, keep the body of the cushion in place.

Claim.—An improved elastic heel cushion, as made with the two flanges *a a*, arranged and combined with its body, and for use, substantially as specified.

80,320.—William Wickersham, Boston, Mass. —*Railway Chair.*—July 28, 1868.—The spring impels the wedge forward and thus compensates for wear. The invention also refers to a fastening wedge which is moved by another wedge operating by gravity to compensate for wear.

Claim.—1. In railway-rail chairs, the wedge *c*, in combination with the spring *i* and the chair, operating substantially in the manner and for the purpose set forth.

2. The wedge *d*, in combination with the wedge *e* and the chair, substantially in the manner and for the purpose set forth.

80,321.—William H. Wiley, Fredonia, N. Y. *Method of Supporting Chills in Casting.*—July 28, 1868.—The pedestals, on account of the bearing surface they present, are securely maintained in their proper position in the flask, which insures an accurate support for the chill iron without liability to derangement.

Claim.—The pedestals C C′, constructed and manipulated with the flask and pattern, and supporting the chill iron D, substantially as and for the purpose set forth.

83,322.—George H. C. Williams, Chicago, Ill. —*Ottoman Lounge.*—July 28, 1868.—By raising the cover of the upholstered box which constitutes an ottoman, the section which is extended to form a bed may be replaced in said box. There is a receptacle for bedding.

Claim.—The ottoman lounge, consisting of the main body A, extension section A″, hinged to end board J, and provided with foot piece F and head board E, rod I, hinges 2 4 3, and receptacle H, when combined, constructed, arranged, and operating as herein shown and described.

80,323.—William Wilmington, Toledo, Ohio.—*Car Wheel.*—July 28, 1868.—The forcing outward of the chill-hardening melted iron, first poured into the mold, by the melted softer iron immediately after poured into the same, causes an intermingling and perfect union of the two at and near their circle of contact. The chill-hardening iron forms the rim, while the softer and tougher iron forms the hub and plate or plates.

Claim.—The within-described cast-iron car wheel, the said wheel being produced by the use of two qualities of iron, and by substantially the process herein described.

80,324.—George W. Wilson, Concord, N. H., assignor to John W. Little, same place.—*Cane and Telescope Combined.*—July 28, 1868.—By detaching the point and handle the cane is converted into a telescope, adjustable to focus by means of an internal tube. By detaching the head of the cane and removing its cap an opera glass is afforded thereby.

Claim.—A cane with the telescope and opera glass, either or both, combined and adjusted substantially as described.

80,325.—Nelson Woodbury, Chelsea, Mass., assignor to William Woodbury, same place.—*Pendants for Sheets of Fore and Aft Sails.*—July 28, 1868.—By attaching the sheet to a pendant connected with a spring, the shock and consequent wear and strain of the parts is prevented.

Claim.—The combination of a spring, a pendant, and an eye through which the pendant passes, or their equivalents, all substantially as and for the purpose specified.

80,326.—F. S. Wyman, Chicago, Ill.—*Can Opener.*—July 28, 1868.—Square and longitudinal openings may be made in fruit cans with the same instrument that is employed to make round holes.

Claim.—The knife C, rigidly attached to the adjustable plate F of a "circular can opener," and constructed to operate substantially as herein set forth.

80,327.—Benjamin F. Bee, Harwich, Mass., assignor to the New York Tap and Die Company, New York City.—*Centering Lathe.*—July 28, 1868. —Designed for adjusting the ends of articles in line with the bit of the lathe so that center holes may be properly drilled in said ends in order that they may be fitted centrally in a turning lathe.

Claim.—The two slides H I, provided respectively with the jaws M L, in connection with top plate K connected with the treadle N and the springs *d d′*, all arranged and applied to a centering lathe to operate in the manner substantially as and for the purpose set forth.

80,328.—Robert Berryman, Philadelphia, Pa. —*Indicator for Steam Generators.*—July 28, 1868.—Two valves are arranged in the upper part of the cylinder, one of which is raised by excessive pressure of steam and acts as an ordinary safety valve, while the other is lowered by a weight when either the pressure of steam or quantity of water is reducing to a certain extent. When either of the valves is opened a whistle is blown.

Claim.—The arrangement of the vessel A, spindle C, guide *g*, valve *d*, adjustable float F, whistle B, lever E, weight D, safety valve G, weighted lever H, and whistle I, as herein described, for the purpose specified.

80,329.—Frederich Max Bode, Vienna, Austria, assignor to C. B. Mueller, Hanover, Prussia. —*Coffee Roaster.*—July 28, 1868.—The cover for the neck is attached to a rod that passes through or is braced by the upright portion of the stationary handle. Said rod is a part of the operating crank or handle. When the cover is held against the mouth of the neck and the handle turned, the engagement of the lugs causes the shell to turn.

Claim.—1. Arranging the mouth of the shell A so that it projects through the jacket B, as described, so that the contents of the shell can be easily inspected during operation, without requiring the removal of the apparatus from the stove.

2. A revolving coffee roaster which turns on an inclined axis, substantially as herein shown and described.

3. The cover D of the revolving spherical vessel A, when so arranged that it serves at once as a cover and as a clutch for connecting the said vessel with its crank handle, as specified.

4. The construction and combination with each other of the spherical vessel A, having the cylindrical neck *a*, and the pin *b* of the jacket B, with its flange *c*, and of the handle C, cover D, and handle E, all made and operating substantially as herein shown and described.

80,330.—B. F. Burgess, Jr., Boston, Mass.—*Window Scrubber.*—July 28, 1868.—When the wiping cloth rolls on to one rod it unrolls from the other; it covers one side of the revolving frame, while a wash cloth, suitably attached, covers the other side.

Claim.—A window wiper, constructed substantially as described, that is, by the combination of the supporting frame B and the rotating frame C, arranged substantially as shown, whereby the cloth is attached to the frame, and operated as and for the purposes described.

80,331.—John Callaghan, St. Louis, Mo., assignor to himself and Job Newton, same place.—*Track Clearer for Railroads.*—July 28, 1868.—The roller supports the scraper at the desired distance from the rail, and the spring catch is for sustaining the scraper, &c., in an elevated position when not in use.

Claim.—The track clearer, constructed as described, consisting of the curved bifurcated beam A, bearing upon its arms *a a'* the scraper G, with roller J and the brush S, said beam extending upward in a forward direction, through the slotted plate D, having the spring catch I, and pivoted between the plates H, secured to the under side of the track frame B, all arranged and operating as described, for the purpose specified.

80,332.—JOHN V. CHAMBERLIN, Cincinnati, assignor to himself, S. D. PATERSON, and JOHN V.
road Switches.—July 28, 1868.—The cam is turned
CHAMBERLIN, Delhi, Ohio.—*Lock for Securing Rail-*
by a key, so as to raise the slide and bolt and permit the switch lever to be moved. The device is self-locking, the parts gravitating to the position of engagement with the switch stand.

Claim.—A switch look, composed of the bolt D, slide E, and the cam F, all arranged within a suitable case, A, attached to the switch bar B, substantially as herein shown and described.

80,333.—SYLVESTER CHARNLEY, Portage City. Wis.—*Oil Cup.*—July 28, 1868.—The cup is screwed into the connecting rod of an engine, over the journal, and is thus moved up and down, causing the valve to open and close and discharge the oil as rapidly as the speed of the engine may demand.

Claim.—The valve D, having a triangular stem, (as shown in Fig. 3,) the regulating screw E, valve F, spring *g*, and cage B, when arranged in an oil cup, substantially as described, for the purposes set forth.

80,334.—WILLIAM CLAYTON, Bristol, Conn.—*Table Cutlery.*—July 28, 1868.

Claim.—Securing the bolster of a knife or fork to the handle and shank of the same by means of a metal block, D, which is cast through a slot, *b*, and around the bolster and scales or handle, substantially as herein shown and described.

80,335.—PASCHAL COLVIN, Pecatonica, Ill.—*Cheese Vat.*—July 28, 1868.—The stirring frame, mounted in the place of the cutting frame, is employed during the operation of scalding, salting, and cooling. The cutting frame separates the curd into cakes of suitable size to permit the elimination of the whey. The curd is extruded through the spout and the whey allowed to escape through the plug thereof. The circulating pipe merges into a coil and diffuses the heat throughout the water space. The eccentric wheels serve to tilt the vat.

Claim.—1. The semicircular cheese vat, composed of the shells I and J, having shaft bearings *t t*, furnace D, and spout Q, substantially as shown and described, and for the purpose set forth.

2. The cutting frame B, composed of longitudinal and transverse cutters *a a a* and *b b b*, respectively, or their equivalent, and the shaft A and crank B, in secombation with a semicircnlar cheeso vat, sub-ostntially as shown and described, and for the pur apa set forth.

3. The stirring frame, constructed, as described, of the curved paddles N, attached to the arms P, curved in opposite directions upon the shaft A, the outer ends of one series of paddles being inclined in a reverse direction to the inclination given the ends of the other series, as herein described, for the purpose specified.

4. The circulating pipe *i i i*, substantially as shown and described, in combination with the semicircular cheese vat and furnace D, all substantially as shown and described, and for the purpose set forth.

5. The shaft *r*, bearing eccentric wheels *q q*, in combination with a cheese vat, substantially as shown and described, and for the purpose set forth.

80,336.—PHILIPP CRAMER, Providence, R. I.—*Clothes Wringer.*—July 28, 1868.—Above the lowest roller an elastic roller is fitted loosely between rollers attached to the respective frames, and when the clothes are passed between the two lower rollers, the tendency of said elastic roller is to force apart the upper ends of said frames, causing their lower ends to firmly clamp the edge of the tub.

Claim.—1. The combination of the frames A D, rollers B, C, E, and F, and rods *c c*, with each other, all made and operating substantially as herein shown and described, for the purpose specified.

2. The elastic scraper *j*, to clear the surface of the roller C, when arranged in combination with a wringer, made as set forth.

80,337.—WILLIAM P. CUTTER, Chelsea, Mass.—*Level.*—July 28, 1868.—A method of fitting the pendulum in the wooden stock, whereby to guard against breakage, but facilitate repair if injury should occur.

Claim.—The level, constructed as described, of the two flanged rings, B, inserted in the stock A, from opposite sides, and each provided, near their inner ends, with cross bars C, whose points of intersection furnish bearings for the pivots of the weighted angular pendulum D, as herein shown and described.

80,338.—HENRY A. DANIELS, Thomaston, Conn.—*Sawing Machine.*—July 28, 1868.—Relates to improvement of the sawing machine patented by same party November 6, 1866. By placing the bearings of the crank shaft in the slide of the saw frame, the distance between the working and swinging centers is maintained, and a regular motion produced.

Claim.—Hanging the shaft C, by which the saw frame E is oscillated, in the slide B, to which said saw frame is pivoted, as herein described, for the purpose specified.

80,339.—PHYLANDER DANIELS, Jackson, Mich.—*Dumping Car.*—July 28, 1868.—The platform is provided with racks and pinions, so that the turning of a crank carries the platform to the edge of the car, where it tilts to dump the load; hooks and staples engage and form pivots for the platform to tilt upon and serve to prevent it from sliding off.

Claim.—A car-dumping bed, provided with means for actuating it, substantially as and for the purpose described.

80,340.—WILLIAM DILL, Houma, La.—*Apparatus for Clarifying Sugar Juice.*—July 28, 1868.—The centrifugal force generated by the rapid rotation of the strainer causes the juice to flow up to and discharge through the perforations around its upper edge, whereby it is effectively brought in contact with the gas which pervades the curb. The jets of juice are met by currents of gas, produced by the vanes.

Claim.—1. The combination with the curb A of the rotating strainer G, when constructed substantially as and for the purpose described.

2. The combination with the strainer G of the vanes K, substantially as and for the purpose described.

3. The rotary strainer G, constructed and arranged substantially as and for the purpose described.

4. The combination of the strainer F with the curb A and rotary strainer G, substantially as and for the purpose described.

80,341.—GEORGE E. EASTMAN, Washington Mills, N. Y.—*Pail Ear.*—July 28, 1868.—An intermediate stay or thin plate connects the main plate with the branching stay, strengthens the main plate, and secures it against injurious lateral strain.

Claim.—A pail ear, constructed substantially as and for the purposes herein shown and described.

80,342.—N. EVINGER, Terre Haute, Ind.—*Evaporator.*—July 28, 1868.—The juice having been slowly boiled in the deep boiler or pan is drawn off into one of the finishing pans through a cock, whose orifice is guarded by a strainer attached to a removable gate. The semi-tubular cover is used to keep back or retain the matter that would retard granulation. A hand hook is employed for shifting the finishing pans upon the furnace, and drawing them upon a rack or frame where the pans are tilted to pour out the syrup.

Claim.—1. The furnace A, constructed in three parts, a^1 a^2 a^3, and arranged substantially as herein shown and described, and for the purpose set forth.

2. The combination of the three pans or boilers C H and I, constructed as described, with each other and with the parts a^1 a^2 a^3 of the furnace A, substantially as herein shown and described, and for the purpose set forth.

3. The straining device, constructed as described, of the sliding gate G, carrying the semi-conical strainer F, inclosed by the semi-tubular cover E, all arranged in relation with the faucet D and side of the pan C, as herein described, for the purpose specified.

4. The combination of the frame or rack J with the parts a^2 and a^3 of the furnace A, and with the pans H I, substantially as herein shown and described, and for the purpose set forth.

5. The hand hook K, constructed substantially as herein shown and described, when used in connection with the pans H I, as and for the purpose set forth.

80,343.—LOUIS FELLHEIMER, New York, N. Y.—*Clasp for Hoop Skirts.*—July 28, 1868.—A mode of fastening the tapes to the steel springs of hoop skirts.

Claim.—1. Fastening the steel, A, to the eyelet C, bearing the tape B, by passing the same through holes bored transversely through each side of the eyelet, and then crushing down the inner ends of said eyelet upon the steel, as herein shown and described.

2. Boring holes transversely through the sides of the eyelet C for the passage of the steel A, whereby said steel is secured to the eyelet inside the tape B, as and for the purpose specified.

80,344.—EDWIN FERNALD, Turner, Me.—*Device for Holding Tools Against Grindstones.*—July 28, 1868.—The tool to be ground is secured in the front end of the shoe, by the movement of which on the horizontal rod the tool is drawn across the periphery of the grindstone. Provision is made for raising and lowering the front end of the shoe to adapt the device to the work in hand.

Claim.—The vertically adjustable jointed bar H, bearing the wheel j, in combination with the guide G and horizontally-traveling shoe F, as herein described, for the purpose specified.

80,345.—STEPHEN FRENCH, Orange, Mass.—*Sewing Machine.*—July 28, 1868.—Relates to an oscillating shuttle driver and a double cam feed motion, the length of the feed and of the stitch being determined by an adjustable stop and lug.

Claim.—The arrangement of the cams H, i, j, upon shaft E; the pivoted lever G, having wings h; the shuttle slide f, spring k, feed I, having lug l, and adjustable stop m, all constructed to operate in the manner and for the purposes substantially as herein set forth and shown, for the purposes specified.

80,346.—J. W. GLOVER, WILLIAM B. ORNER, and B. E. ORNER, Martinsville, Ind.—*Scaffolding.*—July 28, 1868.—The metallic saddles, with their pins for the ratchet teeth to catch upon, are fixed to the upper tie beam of the frame to be raised. The central ratchet shore is actuated by a lever to raise the frame by successive impulses, the attained elevation being maintained by the gravitating ratchet props.

Claim.—The employment of ratchet shores, saddles, and levers as a device or devices for raising the frames of houses, all substantially as shown and described.

80,347.—E. A. GOODES, Philadelphia, Pa., assignor to himself, E. L. MILLER, and W. H. MORFORD, same place.—*Nutmeg Grater.*—July 28, 1868.—A plunger is provided for forcing the vegetables against the cylinder, and another plunger clears out the particles which collect in the grating cylinder.

Claim.—The grater, consisting of the grating cylinder B, provided with crank handle E and plunger a, having rod c, and the plunger C G, with its handle D, all constructed and arranged within the case A, to operate as herein shown and described, for the purpose specified.

80,348.—JOSEPH M. GROVE and HENRY HENDRICK, Anderson, Ind.—*Machine for Bending Sheet Metal.*—July 28, 1868.—Machine for bending sheets into oval form for making wash boilers, &c. A cam is combined with the movable roller of an ordinary bending machine, so as to govern the form of the sheet which is bent by the rolls.

Claim.—The combination with the rollers of a bending machine of the cam i, substantially as and for the purpose described.

80,349.—J. D. HIGGINS, Greenville, Conn.—*Hand Punch.*—July 28, 1868.—The punch is guided so as to be brought perpendicularly against the die or lower jaw, thereby securing direct and effective action.

Claim.—The detached tubular punch G, in combination with the guide box F, formed upon the jaw D, the slotted spring H, and operating jaw C, all arranged and operating as described, for the purpose specified.

80,350.—JAMES HOFFMAN, Belvidere, N. J.—*Tanner's Hook.*—July 28, 1868.—An instrument to facilitate the manipulation of hides in the vat.

Claim.—1. Pivoting a lever hook, C, to the shank of a tanner's hook, B, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the lever hook C, connecting rod D, sliding ring E, sliding rods F, one or more sliding rings G, and the coiled spring H, with each other and with the hook B and handle A, substantially as herein shown and described, and for the purpose set forth.

80,351.—HENRY HOWE, Oneonta, N. Y.—*Bolt Cutter.*—July 28, 1868.—Reciprocating motion is imparted to the cutter by means of the cam and spring catch. To facilitate the effective motion of the cutter its end is provided with an arm, against which the initial impulse of the cam is received.

Claim.—The combination of the slotted plate B, cam D, spring catch b, and projecting arm c, all made and operating substantially as herein shown and described.

80,352.—M. G. IMBACH and I. WEIDENMAN, Hartford, Conn.—*Paper Cap.*—July 28, 1868.—The and band are distinct parts, so that the former crown may be renewed or replaced.

Claim.—As a new article of manufacture, a paper cap, having its crown formed by cutting from a rectangular sheet of paper a series of gores, or triangles, leaving them united at their bases, and having their vertices united at a common center, by means of the button C, said crown being secured to the band D, as herein described, for the purpose specified.

80,353.—RICHARD JONAS, New York, N. Y.—*Ointment for Horses, Cattle, &c.*—July 28, 1868.—Mutton suet, beef suet, hogs' lard, Venice turpentine, white turpentine, beeswax, honey, balsam of fir, castile soap, and verdigris.

Claim.—An ointment composed of the above-mentioned ingredients in about the proportions named and for the purposes set forth.

80,354.—PETER KENDRICK, Trenton, N. J.—*Machine for Flattening and Bending Chain Links.*—July 28, 1868.—The links required for the manufacture of each chain are of two sizes, and this invention provides for the flattening and bending, in one machine, of the rods of which the two kinds are formed.

Claim.—1. The arrangement of the plungers J J′, rolls M M′, guides K K′, I I′, cross heads H H′, connecting rods O G, shafts C D, eccentrics P F, crank N, dies Q S, and guide R, with relation to the bed A, substantially as herein shown and described, for the purposes specified.

2. The combination of the grooved dies Q S, arranged as described, with the bending mechanism, all substantially as set forth.

80,355.—J. F. LESLIE and EDWIN A. TIBBETTS, Woburn, Mass.—*Nursery Cup.*—July 28, 1868.—The lid is adapted to contain alcohol and support the cup over the same when burning.

Claim.—The nursery cup, when its cover B is pro vided with the stays E, and ring, whereby it is adapted to be reversed to support said cup and form a heater, as herein shown and described.

80,356.—J. C. LEONARD and J. J. GOBAR, Clinton, Mo.—*Subsoil Attachment for Plows.*—July 28, 1868.—The auxiliary plow is attached to the ordinary plow by a hook, fastened to the beam of the former and catching upon a bar extending from the landside to the share of the latter.

Claim.—The subsoil plow A, constructed substantially as described, in combination with the sod or other plow C, all as set forth.

80,357.—ENOCH LOCKHART and FRANK ROBERTS, Louisville, Ky., and HENRY KNIGHT, Brooklyn, N. Y.—*Branch Cement Pipe.*—July 28, 1868.—A method of molding the branch pipe with the main pipe. When the mold is filled with the cement the keys and the branch core are removed and the mold (with the pipe) is lifted off the main core.

Claim.—1. The cores D and C, the collars G and J, the core pin E, with the key F, arranged substantially as described, for the purposes set forth.

2. The key F, in combination with the cores C D, as herein described, for the purpose specified.

80,358.—THOMAS J. LOWRY, Conneautville, Pa. —*Mold for Building Blocks.*—July 28, 1868.—These molds form blocks with dovetailed grooves in their ends or sides, designed to receive cement for securing the blocks together in forming a wall. The molding apparatus is mounted as upon a wheelbarrow.

Claim.—The construction and arrangement of the improved mold for building blocks, operated as herein described.

80,359.—LAFAYETTE LYONS, Bennington, Vt.—*Water Wheel.*—July 28, 1868.—The water acts upon the buckets perpendicularly, and is discharged through openings in the cover into a circular chamber from which lateral tubes conduct it away through the curb.

Claim.—A water wheel, having a cylindrical or conical core, A, provided with the curved buckets C, and arranged in a curb, D, provided with the supply and discharge passages K, G, and H, substantially as and for the purpose described.

80,360.—THOMAS MCCREARY, Matteawan, N.Y., assignor to himself, GEORGE M. SULLIVAN, and JOHN MCCREARY, same place.—*Carriage Clip.*—July 28, 1868.—The pivot is secured to the end of the thill iron and not to the clip, as is usual. It is hung loosely in the ears of the clip and locked to the same by the spring catch.

Claim.—1. A carriage clip, in which the pivot C is swiveled in thes haft, and inserted from above, into the slotted ears of the clip, and fastened to the latter by means of a spring catch, E, or its equivalent.

2. The strap D, when rigidly secured to the pivot pin C of a carriage clip, for holding the spring catch E, and for preventing the pin from turning, as set forth.

3. A carriage-thill coupling, consisting of the clip A, shaft B, pin C, strap D, and catch E, all made and operating substantially as herein shown and described.

80,361.—E. MCLANE, Young America, Ill.—*Smut Machine.*—July 28, 1868.—The cleansed grain falls through the spout, into the passage in the blast spout, where it is subjected to a second blast. The suction of the fan draws the smut and light matter from the scouring cylinder into the upper compartment of the casing, and the valve in the blast chamber regulates the amount of grain drawn into said compartment.

Claim.—The passage *f*, in the blast spout H, provided with the valve *g*, when arranged in relation with the spout G, and fan B, to operate substantially as and for the purpose set forth.

80,362.—AMZI C. MILLS, Oaktown, Ind.—*Corn Sheller.*—July 28, 1868.—The ear of corn is pressed forward by hand against the curved knives which remove the kernels from one side of the ear at each operation.

Claim.—An improved corn sheller, formed by the combination of the curved slats or knives with the frame or conductor A, substantially as herein shown and described, and for the purpose set forth.

80,363.—WILLIAM F. MOSSER, Allentown, Pa. —*Machine for Dressing Slate Frames.*—July 28, 1868.—Each slat is automatically fed from a pile, has its corners rounded off and its edges dressed, and is then fed cornerwise to the revolving planers, by which both sides of the frame are dressed.

Claim.—1. The sliding frames Y, which carry the cutter shafts M and cutters W, in combination with the revolving table L, when constructed and operating substantially as herein shown and described, and for the purpose set forth.

2. The arms S', operated by the cam U' through the arm V', to spread the cutter frames Y, as herein described, for the purpose specified.

3. Holding the cutters up to their work by means of the bar F', acting upon the strap A' that drives them, arranged substantially as herein described and shown.

4. The presser or holder Q, constructed and operating substantially as herein shown and described, in combination with the revolving table L, as and for the purpose set forth.

5. The angular, pivoted stop I', in combination with the angular pusher J', substantially as described, for the purpose specified.

6. The pushers E and J', operated as described, adapted to move the slats to the cutters W and Q' respectively, substantially as herein shown and described.

80,364.—ISAAC J. PARKER, Buffalo Grove, Iowa. —*Fence-Post Driver.*—July 28, 1868.—The rollers hold the stakes while they are being driven. The sliding bar is moved into engagement with the notch of the hammer, and after the hammer has been raised by the windlass the bar is retracted, to permit the hammer to fall upon the stakes.

Claim.—1. The hammer shaft D, in combination with the sliding bar F and the windlass I, the former being connected to the latter by a rope, H, passing over a pulley, *a*, and all arranged to operate in the manner substantially as and for the purpose set forth.

2. The fixed and adjustable rollers J J', in combination with the hammer shaft D and the bar F, substantially as and for the purpose specified.

80,365.—HOBART D. PENNOYER, Athens, N. Y. —*Auger Handle.*—July 28, 1868.—The top piece fits on the upper end of the auger shank and receives the handle. When there is not room to turn the handle entirely around the spring catch may be disengaged from the lower part, when the boring may be performed by giving the handle a reciprocating motion.

Claim.—The auger top, constructed, as described, of the parts *a b*, secured together by the bolt *c*, and provided respectively with the spring pawls *h* and ratchet teeth *i*, the upper part *a* having the loop *f*, and spring catch B, and the lower part recessed to receive the shank of the auger, all arranged and operating as described, for the purpose specified.

80,366.—WILLIAM SMITH, Whitehall, Bridesburg, Pa.—*Boots and Shoes.*—July 28, 1868.—The inserted strips protect the sole from wear, and are renewable.

Claim.—1. The application to the soles of boots and shoes of strips, B, of wood, metal, or other suitable material, having beveled sides, and fitted in grooves in the sole, the grooves having dovetail sides, to correspond to the sides of the strips.

2. Cutting transversely the inner surfaces of said strips B, in order to render them yielding or flexible, substantially as shown and described.

80,367.—JOHN A. SMITH, Lacon, Ill.—*Extension Ladder.*—July 28, 1868.—Stop bolts or adjusting screws are actuated by springs so as to lock the sections together in the desired relative positions. A partial rotation causes the bolts to be detained when retracted from their locking position When the ladder is extended the braces rest against the wall of the building to support the middle part.

Claim.—The extension ladder, constructed as described, of the three sections A B C, sliding in grooves one within the other, and provided with the adjusting screws E F and the adjustable braces G, composed of the rods g^1 g^2 g^3, all arranged as described, for the purpose specified.

80,368.—Harrison S. Snow and Edgar J. Hunkins, Macon, Mo.—*Cement for Roofing, &c.*—July 28, 1868.—Sand, "Rosedale cement," iron turnings, calcined fire clay, reduced slate, salt, sal-ammoniac, and yellow ochre, Venition red or other pigment.

Claim.—A fire and water-proof cement, composed of the ingredients and in the manner and proportions substantially as herein described.

80,369.—John G. Spathelf, Sandusky, Ohio.—*Door Lock.*—July 28, 1868.—The end of the key spindle is wedge-shaped, so that it will force the two plates apart and admit of the insertion of the key.

Claim.—The sliding plates F F, when arranged on the inner side of the covering plate of a lock case, and when forced together by means of springs *e e*, substantially as described, so as to close the key hole, as set forth.

80,370.—Ward Sprague, Sandy Creek, N. Y. —*Liquid Measure.*—July 28, 1868.—Designed to facilitate the measuring and pouring out of viscid liquids, such as molasses and sirup, especially during cold weather. Warm water in the surrounding chamber increases the fluidity of the contents of the measure.

Claim.—The liquid measure, constructed with the walls *a a* and fluid chamber *c*, all constructed as and for the purpose described.

80,371.—A. Steward, Plano, Ill.—*Ruffling Attachment for Sewing Machines.*—July 28, 1868.—Prominences or friction points incline the edge of the cloth to run in contact with the body of the guide, but not enough to disturb the proper feeding; hence the draught of the feeding apparatus, in connection with the friction, keeps the cloth properly in the guide, without being fingered by the operator.

Claim.—In combination with the presser foot and the ruffling attachment, the guide A, having the lips, tongue, and friction points, substantially as described.

80,372.—Barnett Taylor, Forestville, Minn. —*Grain Register.*—July 28, 1868.—The box is provided with a yielding top which is actuated downward by the weight of a measure of grain, said top being connected with mechanism to register the number of times it is depressed.

Claim.—1. The hinged top B or its equivalent, in combination with a shaft, D, pointer *a*, ratchet wheel Q, and sliding upright M, and one or more pawls, all substantially as shown and described and for the purpose set forth.

2. The hinged top B or its equivalent, in combination with the sliding upright M, with one or more pawls or their equivalent, the screw shaft D and nut E, all substantially as and for the purpose shown and described.

3. The closed box, having a hinged top, B, the vibrating of which actuates the interior registering machine of the said box, by means of a sliding upright, M, all substantially as shown and described, and for the purpose of registering measures of grain by the weight of the same, all as set forth.

4. The bell plate L, clapper Z, lever Y, toothed wheel C, and sliding upright and ratchet wheel, all substantially as shown and described, in combination with the yielding top B, all as and for the purpose set forth.

5. The graduated circle U and scale *b*, substantially as shown and described, in combination with the pointers *a* and *c*, screw shaft D, and nut E, all as and for the purpose set forth.

6. Sliding upright M, spring J, and hinged top B of a closed box containing any registering mechanism, all substantially as shown and described and for the purpose set forth.

7. The screw shaft D, nut E, pointer *c*, scale *b*, pointer *a* on the said shaft, and graduated circle U, all constructed and operating substantially as shown and described and for the purpose set forth.

80,373.—Charles Wack, Evansville, Ind., assignor to himself, Charles Miller, and A. Steinbach, same place.—*Back-Band Hook.*—July 28, 1868. —The strap passes over the horse's back and the hooks hang at each side, to support the draught chains, used in plowing, &c.

Claim.—As a new article of manufacture, the back-band hook, constructed as described, of the plate B, cast or formed with the hook A, whose upper portion is bent in at *e f*, said plate being adapted for riveting to the strap C, as herein shown and described, for the purpose specified.

80,374.—Zera Waters, Bloomington, Ill.—*Hat Holder.*—July 28, 1868.—A number of such hat holders may be arranged in a rack, each having its particular key, and when a hotel guest, or person attending any public place, wishes to secure his hat, he places it on one of these, shuts down the rod, and takes away the key.

Claim.—1. A rod, B *b*, having any suitable lock joint, substantially as described, in combination with the hat rest A *a*, all as and for the purpose set forth.

2. The lock mechanism, substantially as described, in combination with a rod, B *b*, and rest A *a*, all as and for the purpose set forth.

80,375.—Marcus Brown Westhead, Manchester, England.—*Ribbon-Roll Clip.*—July 28, 1868. —The clip clamps the end of narrow textile fabrics when coiled into a roll, and permits any part of the tape to be withdrawn or pulled out, while the tape is held in the usual manner.

Claim.—The flanged clip or slide, substantially as herein set forth, for the purpose of putting up tape or ribbon rolls.

80,376.—Cyrus B. White, Port Richmond, N. Y.—*Gib and Self-Oiler.*—July 28, 1868.—The object is to avoid the waste of oil by the motion of the cross head, and at the same time secure the effective bearing of the friction roller against the guide. It is a self-lubricating gib for steam engines, and designed as an improvement on the device patented by William A. Devon, November 19, 1867.

Claim.—1. The partition plate *e* in the cup C, for the purpose of separating the oil from the roller D, and preventing the former being discharged from the cup under the reciprocating motion of the cross head and gib.

2. In combination with the above, the roller slide *f h*, arranged in grooves *g*, in the sides of the compartment *d*, substantially as described, and for the purpose set forth.

3. The combination of the roller D, wick E, and the cup C, divided into two compartments by the partition plate *e*, substantially as and for the purpose specified.

80,377.—Job Whitehead, Ames Station, Iowa. —*Carriage.*—July 28, 1868.—The coiled springs upon the framework of the body of the vehicle may be wound up by a crank and made to transmit motion to the axle of the hind wheels through the medium of belts.

Claim.—The combination of the springs I, shafts H, ratchets L, pawls M, pulleys K, with the cross piece F and framing, and with the pulleys O and axles B, when constructed and arranged substantially as and for the purpose described.

80,378.—Rufus Wright, New York, N. Y., assignor to himself and J. B. Chadwick, New Haven, Conn.—*Crayon Holder.*—July 28, 1868.—The crayon when placed in the holder is pressed at four points, and being held by the screw nut cannot work loose.

Claim.—As an improved article of manufacture, a crayon holder, having its split ends made angular, and provided with screw threads at opposite angles for the reception of the screw nuts C, as herein shown and described.

80,379.—William Young, Jr., Franklin, Mass., assignor to himself and Charles Lowell, same place.—*Door Mat.*—July 28, 1868.

Claim.—As an improved article of manufacture, a door mat, having two uncut wiping surfaces, composed of the rope C, wound spirally around the longitudinal wooden bars A, and rounded bars D secured to the top and bottom of said bars A, all clamped together by the transverse rods and nuts, as herein shown and described.

80,380.—ANSON ATWOOD, New York, N. Y.—*Car Wheel.*—July 28, 1868.—The internal curves of the renewable rim and the external curves of the interior or nave part of the wheel constitute corresponding eccentrics, so that when the corresponding parts are placed together and turned in opposite directions, they are firmly united. The contiguous curved parts are also beveled to hold them against lateral separation in one direction, while headed bolts and washers, or flanges or brackets, are employed to hold the parts against relative movement in the opposite direction.

Claim.—1. The construction of the exterior part of the car wheel with the ordinary chilled rim, or the rim with a part of the plate attached, having the interior edge thereof with introcessions and projections formed by eccentric curves, as and for the purpose before described.

2. The exterior and interior parts of the wheel in combination, constructed and fitted to one another in either of the modes above specified, forming the entire wheel, with the manner of putting the two parts together, and keeping them in place while in use, as and for the purpose before described.

80,381.—HAYDN M. BAKER, Harlem, N. Y.—*Cleaning Cotton Waste.*—July 28, 1868.—The saturated cotton waste is placed in a vessel with sufficient benzole or naphtha to effect a solution of the oils contained therein. The solution runs off into a still to disengage the benzole or naphtha for further use.

Claim.—The use of coal-tar benzole or coal-tar naphtha, or mixtures of same, and their equivalents, for removing oils from cotton waste, (or other fiber used for similar purposes,) and also the separation and recovery of the oils and solvents by distillation.

80,382.—HENRY BARBER, Greenfield, Mass.—*Machine for Making Wooden Trays.*—July 28, 1868.—For making oval trays or bowls of wood. The block to be cut into trays being secured to the carriage when in a horizontal position, the lever is placed against the wheel so that one of the pins thereon will catch it as the wheel revolves. As the pin strikes the lever, the carriage is started, and guided by the ends of the guide pin in guide-way grooves. The block is turned through an arc against the saws, after passing which the carriage is disconnected by the lever and let-off.

Claim.—1. The carriage J, mounted upon the free rotating shaft G, in combination with the guide plates H H′ and guide pin I, or the equivalents of these parts, to give the said carriage a combined rotary and rectilinear movement, substantially as and for the purpose described.

2. In combination with the carriage J, constructed and operated substantially as described, the concentric saws C C, fixed upon a single vibrating head block, D, and placed, the one directly under the other, so that the bolt may move to the saws in a curved line, without causing the saws to cramp each other.

3. In combination with the free shaft G, guide plates H H′, and guide pin I, or their equivalents, the wheel L, provided with the pins *e e*, and the lever M and let-off *f*, substantially as and for the purpose described.

80,383.—WILLIAM H. BARTON, Olney, Ill.—*Horse Rake.*—July 28, 1868.—The rake is pivoted in a pair of runners, supplemental to the main sled or vehicle, so as to allow it to conform to irregularities in the surface of the ground. Devices, operated by the feet of the driver, are employed for holding and facilitating the turning of the rake, and adapting it to override obstructions.

Claim.—1. In combination with the main sled or vehicle A, and revolving rake E, the supplemental hinged runners D D, employed and operating in the manner and for the purpose set forth.

2. The swinging frame F, *f*, G, arranged and employed substantially as and for the purpose described.

3. The combination, with the supplemental runners D and rake E, of the straps I I, pulleys H H, rock shaft F, and treadle *f*, substantially as and for the purpose specified.

4. The presser bar K, provided with the spring L and treadle *k*′, and arranged and employed, in combination with the rake E and swinging frame G, substantially as and for the purpose set forth.

80,384.—JOHN BIRKENHEAD, Canton, Mass.—*Driving Wheel for Locomotives.*—July 28, 1868.—When the wheel would be likely to stop or not turn effectively upon the rail, the spurs, by entering the ice or snow alongside of the rail, cause the wheel to propel the engine.

Claim.—The arrangement and combination of traction spurs with the tread and the flange of the driving wheel of a locomotive engine, to be used on the rails of a railway, the whole being substantially as and for the purpose as specified.

80,385.—JAMES BRIERLY, Worcester, assignor to himself and JAMES BRIERLY, Millbury, Mass.—*Operating Shuttle Boxes in Looms.*—July 28, 1868.—Relates to the changing of the shuttle boxes, and designed to give complete control of them through the medium of the pattern chain.

Claim.—1. The combination of slides O, controlled by pattern mechanism, with a carrier, as and for the purposes set forth.

2. The combination of the lifters, slides O O′, and carrier H, for operating the boxes, substantially as described.

3. The combination of a sliding spring catch, L, pendant R, and notched box rod K, substantially as set forth.

4. The combination of the cast-off lever P, having a pendant R, with the tripping arm S, and its operative mechanism, substantially as described.

5. The combination of the cast-off and raising apparatus, consisting of the lifters, slides, carrier, and their connections, as described, whereby I can change the boxes at will, on one or both ends of the loom, substantially as set forth.

80,386.—CHARLES BURLEIGH, Fitchburg, Mass.—*Drill Holder.*—July 28, 1868.—After the drill is placed in the socket, a slight endwise movement of the plug, occasioned by turning the nut, binds the drill shank so firmly as to prevent its removal under the concussions it receives when used in a stone-drilling machine.

Claim.—A drill-holding chuck, constructed with a transverse plug crossing the socket hole for the drill butt, having a portion of the transverse plug, corresponding with the perimeter of the socket hole, removed, and having a screw and nut, or equivalent means, for giving endwise movement to the plug, all substantially as and for the purpose set forth.

80,387.—CHARLES BURLEIGH, Fitchburg, Mass.—*Drilling Machine Carriage.*—July 28, 1868.—This invention has reference to the arrangement of the cross-bars which carry the several series of drills, and to the construction of the framework of the carriage, with a view to the removal of the rock thrown down by the blast, and to allow the drill carriage to be advanced over the debris up to the breast.

Claim.—1. The arrangement of one or of a series of horizontal drill-machine bars or holders, substantially as described, so that any of the bars or holders, and especially the lower one, or the lower series, may be elevated to allow the passage of the carriage to the breast when the track rails only are cleared from debris, and to allow passage of a car through the carriage and under the lower bar or bars up to the breast.

2. A drill-machine carriage, so constructed that a car may run up through the carriage, substantially as set forth.

80,388.—OSCAR F. BURTON, Jersey City, N. J.—*Truck.*—July 28, 1868.—Especially applicable to the method of raising and lowering the ladders of a hook and ladder truck, described in patent granted to O. F. Burton and M. H. Hovey, August 7, 1860. The two trucks are connected by metallic tubes, and may be closed together or drawn apart, so as to raise and lower the ladders. , Provision is made for cramping the trucks in running around curves, and for establishing a wide and secure base by the wheels when turned askew to support the elevated ladders.

Claim.—1. The combination herein described, for cramping the truck of the bar *k*, levers *i*, and vertical shafts *h*, the latter being arranged to freely turn in the truck frame, on opposite sides or ends thereof, and carrying lateral projections, forming axles or shafts to the wheels of the truck, substantially as shown and described.

2. The combination, with adjacent or separate trucks, of an extension perch, formed of metallic tubes, fitted together in a telescopic manner, essentially as and for the purpose or purposes herein set forth.

80,389.—Charles Christian, Sheboygan, Wis. —*Whip Socket.*—July 28, 1868.—The springs separate to permit the whip to be forced between them.

Claim.—A whip holder, constructed with the socket B, in connection with the springs D, substantially as and for the purpose described.

80,390.—John K. Clark, Mount Pleasant, Iowa, assignor to himself, Charles B. Clark, and Henry R. Clark, Buffalo, N. Y.—*Door Holder.*—July 28, 1868.—A spring arm is pivoted to the door, near the bottom thereof, and carries at its free end a roller, which is caused to run upon the floor with a spring pressure and engage with a stop attachment secured to the floor, so as to hold the door in an open position.

Claim.—The pivoted arm A, provided with roller *b*, in combination with the India-rubber spring *d* and stop attachment E, the whole constructed, arranged, and operating as shown and described.

80,391.—James A. Clark, New York, N. Y.—*Ferry Bridge.*—July 28, 1868.—The hinged piece or guard is situated at the end of the floating bridge, and is lowered into place by the action of the chain in drawing the boat into dock.

Claim.—The method of lowering the guard on the bridge, by means of the chain *f* that draws in and fastens the boat to the bridge, substantially as and for the purposes set forth.

80,392.—Milton W. Clark, Worcester, Mass., assignor to R. Ball and Company.—*Blind Slat Tenoning Machine.*—July 28, 1868.—As the disks rotate they carry around the cutter heads, whereby a tenon is cut upon each end of the blank slat. As soon as the blank is inserted, the operator, by means of a clutch, causes the cutter heads to revolve entirely around the ends of the slat, when they are arrested until the finished blank is removed and a new blank inserted. The cutter heads may be set toward or away from the center of the disk shafts in order to cut larger or smaller tenons.

Claim.—1. The combination, with the cutter head, disks, and mechanism for imparting to them a rotary motion, of the cutter heads and their shafts, mounted eccentrically in said disks, together with mechanism for revolving the cutter heads in the manner described, so that the said cutter heads shall not only have a rotary movement upon their own axes, but shall also revolve around the axes of their supporting disks, substantially as and for the purposes set forth.

2. The combination, with the disks G' and shafts G, imparting motion to the eccentric cutter heads, and running loosely in said disks, of the bearing supports 2 and annular disk supports F, substantially as and for the purposes set forth.

3. The combination, with the disks G' and cutter-head shafts, of the adjustable quill bearings for supporting said shafts, substantially as and for the purposes set forth.

4. The combination, with one of the annular disk supports, F, and gear E', of clasp or guide piece *b*, mounted loosely upon the hub of said gear, substantially as and for the purposes set forth.

5. The combination, with one of the gears, J, and the shipper or slide, of a hooked spring, constructed and operating in connection with the said gear and shipper, in the manner set forth.

80,393.—M. J. Clark, New Richmond, Ohio.—*Railroad Car Stove.*—July 28, 1868.—The object is to guard the stove in such a manner as to prevent the communication of fire to surrounding objects, even in the event of forcible and destructive collisions.

Claim.—1. A railroad car stove, composed of upper and lower bases J and C, connected by fenders F and B, substantially as described.

2. The cap A and fenders B, combined and arranged as herein shown and described.

3. The door and pan lock, consisting of a bolt and screw key, substantially as described.

4. The fender door I and screw fastening E, as specified.

80,394.—Isaiah B. Conklin, Baltimore, Md.—*Stubble Cutter.*—July 28, 1868.—The swords cut up and so reduce the stubble and roots that they may be turned in to rot by the subsequent use of a plow.

Claim.—1. Curved or inclined cutting swords T, arranged and applied to the frame of a carriage, and adapted for cutting corn stubble, substantially as described.

2. Cutting swords T, applied to a vertically-adjustable triangular frame, E, which is supported by draught frame D, substantially as described.

80,395.—Samuel Cuplin, Iowa Falls, Iowa.—*Bee Hive.*—July 28, 1868.—The objects are to render the hive easily accessible, afford protection to and ventilation for the bees, and a ready means of cleansing the hive and feeding the inmates.

Claim.—1. Providing the hive with an adjustable inclined bottom, C, when constructed as and for the purpose set forth.

2. The dish or pan *d*, furnished with the float H, in combination with the funnel-shaped device *f*, when arranged in connection with a bee hive, substantially as and for the purpose set forth.

3. The employment of one or more sliding frames, *j*, constructed substantially as described.

80,396.—John Davis, Wilkesbarre, Pa.—*Steam Heater.*—July 28, 1868.—The series of pipes are so combined with a stove and boiler that the apparatus may be used both as a stove for heating and as a steam generator.

Claim.—The combination and arrangement of the pipes B and D, imbedded in the cast iron sides of the fire box, the pipes C forming the grate, the connecting pipes B' and C', feed pipe A, boiler I, and communicating pipes A' and E, all connected and operating substantially as described, for the purpose specified.

80,397.—D. A. Danforth, Elkhart, Ind., assignor to himself and Isaac Ayers, same place.—*Wash Boiler.*—July 28, 1868.—The heat maintains a circulation of water throughout the inner and outer boilers. The flange deflects the water toward the center as it enters the inner boiler, at the top thereof, and also prevents the clothes from rising around the edges.

Claim.—The inner boiler B, having its bottom slotted, and provided with flange E, arranged to fit within and operate in connection with the boiler A, substantially as and for the purpose set forth.

80,398.—William T. Duvall, Georgetown, D. C., assignor to the Duvall Patent Pump, Dredging, and Gold Washing Company.—*Apparatus for Collecting and Separating Mineral and Metallic Substances.*—July 28, 1868.—Applicable to the recovery of gold or other metallic deposits found in the beds of streams; also adapted for the removal of sand bars, or similar obstructions to navigation. The invention embraces a novel arrangement of passages containing mercury for the retention of the metallic deposits; a mode of applying the principle of exhaustion for the purpose of raising the deposits; and a construction of the vanes and other parts of the pump to adapt it to pass solid, heavy substances, and deliver the same readily from its periphery.

Claim.—1. The arrangement of the separating chambers *m* in such manner that the flow is caused to pass through the body of the mercury therein, and is spread or deflected by the perforated plate *r*, essentially as shown and described.

2. The application of artificial currents of air or water for the purpose of raising or removing solid matter, in the manner and by means substantially as herein set forth.

3. A suction pipe of a pump, so applied as to be capable of vertical, oscillating, vibrating, or rotary motion, substantially as and for the purposes specified.

4. The elongated foot piece of the suction pipe, substantially as represented in Figs. 6 and 7, for operation, as set forth.

5. The wheel B, constructed with one or more curved vanes, *a*, attached to the disk *e*, when said vanes are made tapering from the periphery of the disk, and vanishing, or nearly so, at its axis, as described.

6. The projection of the vanes *a*, in semicircular or other form, beyond the periphery of the disk, substantially as and for the purpose specified.

80,399.—THEODOR G. EISWALD, Providence, R. I.—*Low Water Indicator.*—July 28, 1868.—The outermost valve forms a try-cock, and the upright pipe, with its fusible plug, and its whistle, forms a low water indicator.

Claim.—The arrangement of the horizontal pipe B, vertical whistle and fusible plug tube C, plug valve E chambered screw cap G, and the valve H, with its stem I and handle K, as herein shown and described

80,400.—THEODOR G. EISWALD, Providence, R. I.—*Low Water Indicator.*—July 28, 1868.—Provision is made for cleaning the interior of the indicator by blowing the accumulated sediment therefrom. The device also fulfills the purpose of a try-cock.

Claim.—The arrangement of the horizontal pipes A, vertical pipes C, branch pipe M, stop cock *m*, cap *c*, having fusible plugs *a a*, valve *v*, having the loose face plate I, vertical stem T, and hand wheel W, substantially as shown and described.

80,401.—T. M. FURGUSON, Rainsborough, Ohio.—*Apparatus for Sealing Fruit Cans.*—July 28, 1868.—The small quantity of air remaining after heating the cans, and before sealing, is expelled by pressing the elastic cover of the jar down upon the contents of the can, and holding it there until the operation of sealing is completed.

Claim.—The press blocks D, thumb screws E, and frame A, when used for producing a vacuum in fruit cans, as and for the purpose described·

80,402.—WILLIAM GATES, New Haven, Conn., assignor to himself and GEORGE W. HOMAN, same place.—*Apparatus for Electro-Plating.*—July 28, 1868.—A sponge or washer, and a connection to maintain the electric circuit, are combined with a zinc socket, the instrument being designed chiefly for re-coating spots or worn parts on electro-plated work.

Claim.—As a new article of manufacture, the instrument, consisting of the zinc socket, with its sponge or brush C, and connecting wire D, with or without the holder E, so as to operate in the manner substantially as specified.

80,403.—J. E. GILLESPIE, Hartford, Conn., assignor to himself and GEORGE S. LINCOLN & CO., same place.—*Governor.*—July 28, 1868.—For imparting motion in a direct manner to the gates of a water wheel, or valves of an engine, and correctly communicating the action of the governing device to the same.

Claim.—1. The clutch F, with its arm F″, in combination with the lever G and stand D, substantially as specified, for the purpose set forth.

2. The shaft I and sliding portion of clutch E, in combination with the arm of the clutch F and the lever G, substantially as set forth.

3. Shaft J, with its crank 2, in combination with the fixed gear or toothed circle C″, disk H, lever G, and revolving fulcrum F″, substantially as specified, for the purpose set forth.

4. The screw rack R and its worm pinion, in combination with the gear S and shield disk H *a*, substantially as specified, for the purpose set forth.

80,404.—DAVID M. GRAHAM, Evansville, Ind.—*Gas Machine.*—July 28, 1868.—Air is admitted to the aerometer chamber through its valve, and by the pressure of the aerometer is forced through pipes into the condenser, from which it passes into the rarefier, whence it is distributed into the gasoline. The gas passes from the oil chamber into the gasometer which is raised until it is filled, whereupon the combined pressure of the gasometer and aerometer forces the gas back into the oil chamber and thence into the gas pipe. The concave rim prevents the escape of water at the first water joint. The heaters are serviceable in cold weather, the one generating steam to heat the water, and the other expanding the gas as it is delivered from the apparatus.

Claim.—1. The construction of the rarefier I with an air tight condenser L, in combination with the air pipe M, substantially in the manner and for the purpose as herein described.

2. The construction of the cylinder A with the concave rim B, substantially as and for the purposes described.

3. The rarefier I, condenser L, air pipes M, N N, and T T, gas pipe O, aerometer cylinder E with valve *a* and pulleys U U, cylinder C with movable cap D, oil chamber cylinder F with opening G, provided with flanges, and gasometer cylinder K, all combined and operating in the one cylinder A, substantially in the manner and for the purpose as described.

4. The combination and arrangement of the heaters Q R, substantially in the manner and for the purpose as herein described.

80,405.—SMITH GRAHAM, Fennimore, Wis.—*Gang Plow.*—July 28, 1868.—By depressing the rear end of the lever the beams, together with the plows, may be raised.

Claim.—The hinged frame beams *g g′*, bar *i*, lever *k*, link *j*, and metal strip or bar *s*, all combined and arranged substantially as and for the purpose described.

80,406.—WILLIAM HALL, Jr., North Adams, Mass.—*Drill Holder.*—July 28, 1868.—The removal of the material of the holder in making the slot converts the bifurcated part of the holder into stiff springs, which may be drawn toward each other by turning the nuts on the bolts, and thereby made powerfully to gripe the drill shank.

Claim.—The drill holder, made substantially as described, not only with a longitudinal shank bore, and with a slot extending about the length of the bore, but with the faces of the slot parallel with the surfaces of the holder on which the heads and nuts of the bolts *c c* bear.

80,407.—L. W. HANSON AND SAMUEL BUSH, Springfield, Mass.—*Hose Coupling.*—July 28, 1868.—The two parts are slid together and the pins enter their respective grooves at the opposite sides; the handle is then turned and the cam head locks the parts together.

Claim.—1. The combination and arrangement of the two parts A and B, having pin F and notch H on one side, and cam lock K and notch L on the other, substantially as shown and described.

2. In combination with the above, the rubber packing C, arranged in and held by the groove M, substantially as shown.

80,408.—JOSEPH G. HARRISON, New York, N. Y.—*Soap Cup.*—July 28, 1868.—One side of the cup is curved inward to correspond with the curve of the exterior of the wash tub upon which it is suspended by the hooks. The ribs support the soap above and prevent it being dissolved by the water which drains from it.

Claim.—A new article of manufacture, consisting of the cast metal soap cup A, constructed with a hollow curved side B, a hook or hooks D, and ribs *d*, substantially as shown and described.

80,409.—ABRAM HEATON, Bridgeport, Conn., assignor to himself and BRADBURY AND GOODSELL, same place.—*Water Meter.*—July 28, 1868.—The water flowing through the meter produces a reciprocating movement of the pistons, which vibrate the lever projecting between two of said pistons and thus actuates mechanism whereby the number of such movements are recorded and the quantity of water ascertained accordingly.

Claim.—The arrangement of the two pistons or series of pistons, each piston or series of pistons upon its independent rod, and operating in its respective cylinders and the said cylinders connected by passages in the manner described, and provided with inlet and outlet connections, so that the pistons operate in their respective cylinders substantially in the manner herein set forth.

80,410.—Robert Henkage, Buffalo, N. Y., assignor to Breed & Co., same place.—*Slate Frame.*—July 28, 1868.—The India-rubber cushions serve as binders to hold the parts of the frame together.

Claim.—The rubber mats D D, provided with the catches *b b* and nipples *c c*, in combination with the rounding corners *e e* of the slate frame, having the notches *a a*, the whole arranged as described, and operating in the manner and for the purpose specified.

80,411.—M. T. Hitchcock, Springfield, Mass.—*Railroad Car Ventilator.*—July 28, 1868.—The cars being in motion the air rushes through the space between the shell and the exhaust tube, closing the valves of the tube at the entering end, and having the effect to withdraw the air from the car through the opposite end of said tube.

Claim.—1. The T-shaped exhaust tube, having inclined ends, and valves *a b* attached thereto, for the purpose of adjusting the action of the ventilator to the direction of the motion of the car, and inclosed within the shell C, which is rigidly attached to the car, in such a manner as to form an air passage between the exhaust tube and shell, the whole constructed, arranged, and operating substantially as set forth.

2. An exhausting ventilator, rigidly attached to the bottom of a railway car, and so arranged as to exhaust equally well, whether said car moves in one direction or the other, substantially as set forth, and to discharge the air from the car directly beneath the same, as specified.

80,412.—De Lancy Kennedy, New York, N. Y.—*Hay Spreader.*—July 28, 1868.—A mode of varying the effective length of the tedder, and securing the tines to the same.

Claim.—1. An adjustable journal box B, in combination with the fork of a hay tedder, whereby the said fork may be set to operate nearer to or further from the ground, substantially as herein described.

2. The buttons D D, in combination with the extended and bent portions of the tines C C, substantially as and for the purpose herein set forth.

80,413.—Samuel P. Legg, Springfield, Mass.—*Hydrocarbon Burner.*—July 28, 1868.—When the liquid is admitted into the conductor it diffuses itself over the bowl thereof, and over the funnel, and, being ignited, heats the conductor and funnel and the contained liquid, which thus becomes more inflammable. The liquid, thus ignited and heated, passes through the openings in the funnel and falls upon the bottom of the fire box, where it is entirely consumed.

Claim.—1. A fire box for burning liquid fuel in a steam boiler, having the bottom plate A elevated above the bottom of the boiler, for the purpose specified, and air flues F F, closed by valves, and so arranged that the draught is entirely supplied through the air flues, in combination with the reservoir R and supply pipe P, having a contracted nozzle *o'*, and so inserted in the fire box as to prevent heating the liquid fuel until it leaves the pipe P, the whole arranged and operating substantially as described.

2. The combination and arrangement of perforated conductor I, perforated funnel J, and the pipe P, having a contracted opening, *o*, applied to the fire box of a steam boiler substantially as described.

80,414.—Carl Lehnert, Boston, Mass., assignor to Joseph M. Weilhart, same place.—*Opening and Closing Shutters.*—July 28, 1868.—Devices for holding and locking the shutters, whether open or closed, and for adjusting them vertically when they do not hang properly.

Claim.—1. The combination of the cam surface and catch or projection *c* on the cam segment I, with the spurs *b b*, on the segment gear H, for holding the blind or shutter open or closed, substantially as described and specified.

2. The wedge *e* and adjusting devices, in combination with the segments H I, and cam surfaces thereon, substantially as described and specified.

80,415.—Mitchel Lepp, Albany, N. Y.—*Card Rack.*—July 28, 1868.—When the cards are placed in the notches, their bottom edges rest upon the steadying slats, at their corners, and are held at an angle, so as to be readily distinguished and withdrawn.

Claim.—The steadying slat *a*, in combination with the holding slat *b*, and the rack frame *c c'* and *e*, constructed substantially as set forth, for the purpose herein described.

80,416.—J. W. Lowrey, Dayton, Ohio.—*Cook Stove.*—July 28, 1868.—The cast iron partition, with its valves and slide, is placed in the fire chamber of cooking stoves for the purpose of concentrating or distributing the heat, as desired, and rendering the stove air-tight.

Claim.—The inner chamber A, to be inserted into the stove as shown, together with its regulating valves and slide M, N, and O, and adjustable end-pieces P and Q, substantially as and for the purposes herein specified and described.

80,417.—Robert M. Marchant, Wellington, New Zealand.—*Railroad Rail.*—July 28, 1868.—The tread portion is of steel or wrought iron, in lengths or sections exceeding, by two-thirds, more or less, the length of the cast-iron seat.

Claim.—In the construction of railways, the arrangement of the rails A, with a continuous substructure B or H, either with or without the wooden foundation D or iron plates I, the whole secured or bolted together, in the manner and for the purpose herein shown and described.

80,418.—George Marshall, Brooklyn, N. Y.—*Pump.*—July 28, 1868.—A combination of suction pipe with two large and free water passages, both arranged at the same side of the pump, and having inlet and delivery valves, covered by doors, which open directly over them, and which are fastened by clamps sliding to their place on a locking incline or wedge. This mode of securing the lids or doors to the valve chambers renders the valves readily accessible.

Claim.—The combination of the water-ways F F' on one and the same side of the pump, suction pipe C, valves E G, and valve chambers H J, with their lids or doors L L', arranged substantially as described, loose clamping bars M M', and fixed inclines or wedges *i i'*, essentially as specified.

80,419.—Samuel McCambridge, Philadelphia, Pa.—*Car Brake.*—July 28, 1868.—A machine for operating the brake levers of a train of cars is combined with one of the axles of the engine, and with a chain which runs over a series of sheaves for actuating the brake levers after the manner described in patent granted same party February 5, 1867. A spring-seated slide, connected to the rear end of the above-mentioned chain, gives elasticity to the tension upon said chain and thus prevent it from breaking when the last car spreads from the train.

Claim.—The combination of the shafts G, M, and N, cog-wheels Q and Q', cams R R, friction-wheels S S, belt P, and pulleys O and O', with the shaft B of the engine, and the wheel V and tightening strap U, when the several parts are constructed, arranged, and operated in relation to each other substantially in the manner and for the purpose set forth.

2. The combination and arrangement of the lever W, connecting rod *n*, tightening strap U, and wheel V, with the chain shaft G, for holding the chain F tight when the machine H is thrown out of gear with the engine, substantially in the manner described.

3. The combination and arrangement of the spring-seated slide J with the last truck E and chain F, substantially as and for the purpose set forth.

80,420.—Samuel McCambridge and Edward G. Martin, Philadelphia, Pa.—*Car Brake.*—July 28, 1868.—By this contrivance the slack of the continuous chain is taken up under the rear car first, and then under the other cars in succession until the first car is reached, the effect being to prevent the bumping of the cars.

Claim.—The arrangement of the continuous chain C and its described connecting rods, when the same is fastened at one end to the front car or truck, and operates in combination with a fixed sheave or pulley, on the rear truck, through a rod or chain connecting directly with the actuating devices on the engine, all as and for the purpose set forth.

80,421.—Christian Gotthold, Meinhard, Altoona, assignor to himself and Benjamin B. Bell, Antistown, Pa.—*Propeller.*—July 28, 1868.—On being retracted, the valve, acted upon by the water, swings backward, so that the horizontally reciprocating propelling rod may be drawn inward without resistance, the water passing freely through the ring.

Claim.—1. The propellers, consisting of the ring j, rim F, valve H, bars $i\ i^1\ i^2$, on the piston rod r, guide braces $g\ g^1\ g^2$, substantially as and for the purposes set forth.

2. Reversing the steamboat, by means of overturning the valve H, in the manner and substantially as described.

80,422.—George R. Meneely, West Troy, N. Y.—*Attaching Bells to their Yokes.*—July 28, 1868.—Whenever the bell and cap plate are loosened, turned, and re-fastened in the yoke, to present a different part of the surface of the bell to the blows of the clapper, the center bolt, which holds the clapper, may be readily released from the cap plate, turned into the position where the clapper will swing in or nearly in the same plane as that in which the bell swings in ringing, and then re-secured to the cap plate so as to maintain said position.

Claim.—Securing the center bolt, which holds the clapper to the cap plate, which turns the bell and supports it in various positions in the yoke by means of a toothed or indented washer attached to the center bolt, in combination with an adjustable clutch attached to the cap plate, substantially as herein set forth.

80,423.—A. B. Murray, Henderson, Pa.—*Snow Gate.*—July 28, 1868.—In the event of a snow fall the gate may be supported in an elevated position, so as to swing above the snow in being opened and closed.

Claim.—1. The friction rollers H H′, substantially as and for the purpose described.

2. The combination and arrangement of the lever K, bar I, diagonal brace D, with holes m and pin n, substantially as and for the purpose set forth.

3. The construction and arrangement of the battens C′ and E, substantially in the manner and for the purpose specified.

4. The short stake P, with notch p, for holding the gate when closed.

80,424.—Charles E. Palmer, Newburyport, Mass.—*Fastening for Shirt Collars.*—July 28, 1868.—The pivoted button is thrust through the button holes of the neck band of the shirt. The collar being then passed around the neck, the oblong, detachable head is turned into such position upon the stem as to be parallel with the button holes in the ends of the collar. In this position the head is passed through both button holes of the collar, after which it is turned and locked in a position at right angles to the button holes.

Claim.—The pivoted button B, in combination with the shank a, fixed disk A thereon, and detachable head C, all constructed and arranged as shown and described.

80,425.—Harvey A. Reynolds, Brooklyn, N. Y.—*Velocipede.*—July 28, 1868.—The front pair of wheels are rotated by the feet applied to stirrups and cranks. The hind wheels are turned by the action of a lever, which is connected to the axle of said wheels by rods. When the lever is vertical the velocipede will move in a straight line, but when the lever is moved forward or backward the velocipede will be steered either to the right or left.

Claim.—The lever m, with the rods $n\ n'$ connected, respectively, above and below the fulcrum, in combination with the wheels $d\ d$ and axle e, to which the other ends of the rods $n\ n'$ are connected on opposite sides of the king bolt i, so as to steer the velocipede by the movement of one lever, as set forth.

80,426.—Levi Scott and Paul Trimmer, Burgettstown, Pa.—*Car Coupling.*—July 28, 1868.—As the inner end of the lever is depressed by the perpendicular rod, its curved end is caught in the offset of the latch, which holds it securely in that position, and as the coupling link is withdrawn it catches upon the pivoted arm, which, through the connecting rod, forces back the latch, when the coupling key drops into position for recoupling.

Claim.—The pivoted lever F, latch J, spring M, and pivoted arm K, in combination with the perpendicular rod G, coupling key D, and connecting rod L, when arranged and operated as herein described, for the purpose set forth.

80,427.—Benjamin Slusser, Sidney, Ohio.—*Sulky Plow.*—July 28, 1868.—The shoulder of the lever rests against the square end of the projection when the lever handle is thrown down, and thus forces the same down with the lever, and throws the crank pin up, elevating the rear end of the pole and raising the plow out of the ground.

Claim.—1. The combination of the lever L, having the shoulder n, with the crank c, having the projection m, and supporting the standard to which the plow is attached, when the several parts are connected and arranged so as to operate together, substantially in the manner and for the purpose specified.

2. The combination of the crank c, standards $g\ g$, seat G, rod H, and hinged post I, substantially as and for the purpose described.

3. Supporting the plow upon two standards, E F, bent in the form and attached to the rear side of the plow in the manner described.

80,428.—Josiah M. Smith, Warren, N. J.—*Mortising Chisel.*—July 28, 1868; antedated July 18, 1868.—The chisel is a double one, each limb having two lips, adapting the tool to cut both sides of the mortise.

Claim.—A tenoning chisel, constructed to operate in the manner as herein set forth.

80,429.—Verlin G. Tansey, Indianapolis, Ind., assignor to himself and James W. Simpson, same place.—*Fire Kindler.*—July 28, 1868.—The burner is to be placed under the grate, and is attached to a plate that closes the opening and excludes the air from the front and bottom of the grate. The manner of supplying the air to the burner insures energetic combustion and the speedy ignition of the coals.

Claim.—The burner A, enlarged tube c, filled with the packing E, and furnished with the deflecting plate i, and supplied with oil from the fountain B by the tube g, substantially as shown, in combination with the air ducts D m, through which air is supplied to the burner, when the draught opening is closed by the plate C, all arranged and operating substantially as set forth.

80,430.—Edwin P. Taylor, New Bedford, Mass.—*Button Boot.*—July 28, 1868.—The purpose is to obviate the formation of seams in the manufacture of the boot, and thus render it neater and more durable.

Claim.—A button boot in which the whole upper and leg front a and flap f are made in one piece, crimped to the proper form, substantially as shown and described.

80,431.—William R. Taylor and James F. Sloat, Brooklyn, E. D., N. Y.—*Steam Generator.*—July 28, 1868.—This arrangement is designed to constitute an ascending and descending flue and superheater, all within the compass of a cylindrical shell, the superheater occupying the upper part of said shell.

Claim.—Making a vertical tubular steam boiler substantially as described, and with the tubes, water spaces, steam drum, and superheater arranged therein in relation to each other as set forth.

80,432.—Augustus Thayer, Albany, N. Y.—*Scissors and Shears.*—July 28, 1868.—Wires, cords, &c., may be readily severed in the clipping notches. The other notches are for holding or pulling needles, wires, and the like.

Claim.—1. The clipping notches *o o′ o″* or *c c*, or their equivalents, placed forward or back of the pivot *p*, or in the outer edges of the blades to one side, in combination with the blades A A′, and the said notches so placed as to give a sliding cut, as and for the purpose set forth and described.

2. The holding notches *e e*, in one or more sets, placed in the heels of the blades, as and for the purposes set forth and described.

80,433.—John Umbach, Kankakee, Ill.—*Constructing Back Pads to Harness.*—July 28, 1868.—The object is to admit of the introduction of the filling before the pad is stitched. The pocket or under side of the pad is first pressed or shaped by means of blocks, then the pocket is placed in a similarly formed cup, and the filling is introduced, after which the top part of the pad is applied. The parts being held together by a band are ready to be placed in the clamps for stitching.

Claim.—The use and application of the molding or cup in the filling, and stitching the cushion or under part of the back pad to harness.

80,434.—James W. Wadsworth, Durham, Conn.—*Rein Holder.*—July 28, 1868.—The reins are respectively drawn under and held by the springs, which are attached to the dash board of the carriage.

Claim.—The construction and arrangement of the springs B C upon the bar A and dash board, so as to be a part of the same, and operate in the manner set forth.

80,435.—John A. Way, Bristol, Conn., assignor to the Darrow Manufacturing Company, same place.—*Washer.*—July 28, 1868.—These washers are produced by a peculiar method, involving the use of dies and punches.

Claim.—As a new article of manufacture, an axle washer, made of raw hide, substantially as described.

80,436.—Charles A. Wilson, Cincinnati, Ohio.—*Thermostat.*—July 28, 1868.—The set screw being located so that its pressure is directed toward the surface on which the thermostat plates are fastened, there is less liability of straining or cracking the steel plate than when the set screw is at the opposite side.

Claim.—The adjusting and stop valve screw H, located on the opposite side of the thermostat plates to the valve seat E, as described, and for the purpose specified.

80,437.—Jearum Atkins, Washington, D. C.—*Smoke-Stack for Locomotives.*—July 28, 1868.—The escaping steam from the cylinders of the engine is injected into the annular smoke stack through a pipe, whose mouthpiece or nozzle is so arranged that the steam is distributed equally over the circumference of the smoke stack, and thus made to effectually increase the draught of the furnace.

Claim.—1. The combination of the annular exhaust nozzle, or its equivalent, and the annular smoke passage, substantially as herein described.

2. The arrangement of the annular smoke passage and the annular deflecting plate P, substantially as set forth.

3. In combination with the annular passage G, and annular deflector P, the central receptacle H, substantially as and for the purposes set forth.

80,438.—John A. Bassett and Oliver C. Smith, Salem, Mass.—*Method of Removing Carbon from Gas Retorts.*—July 28, 1868.—A small, direct-acting fan and steam blower is attached directly to the retort lid, which is made with an opening and appliances to receive it. A strong current of mingled air and steam is injected into the retort, decomposing and disintegrating the carbonaceous deposit, loosening it from the wall, and clearing it out.

Claim.—1. The apparatus shown and set forth, having the various parts constructed and operating substantially as specified, and used for the purpose described.

2. Combining an air-forcing apparatus with a retort lid having an opening for the purpose of admitting air to the interior of the retort.

3. The combination of the pipe H, and retort lid G with the air-forcing apparatus F, when used for the purpose specified.

4. The combination of the flexible steam tube E with the main C, and blower F, for the purpose set forth.

80,439.—George W. Blackwell, Lebanon, Ind.—*Farm Gate.*—July 28, 1868.

Claim.—The action of the gate in opening and shutting on the wheels B B, and supported between the upright posts P P, on the wheels C, and also on the latch, as shown in Fig. 5, the catch being sustained by K, and forced into the catch on post by the spring *y*.

80,440.—Lewis T. Blake, New Haven, Conn.—*Egg Beater.*—July 28, 1868.—The beating blade is perforated so that as it is vibrated laterally the substance of the eggs passes through it.

Claim.—The combination of the case or vessel A A with the beating blade B and double crank *c d*, when the whole is constructed, arranged, and fitted for use, substantially as herein described and set forth.

80,441.—Charles Albert Blessing, Philadelphia, Pa.—*Sheet Metal Lining for Bath Tubs.*—July 28, 1868.—The main part of the lining is made of a single piece, and the end pieces are soldered thereto.

Claim.—A bath-tub lining made of sheets of hard metal, such as copper or zinc, consisting of the parts B C C, when the same are constructed and arranged as described.

80,442.—George W. Bowlsby, Monroe, Mich.—*Horse Hay Fork.*—July 28, 1868.—Using the upper parts of the tines as handles, the fork is thrust into the hay, when the curved form of the tines causes them to be forced outward. The sound of the fall of the toggle upon the supporting posts indicates that it is set, whereupon the fork is elevated to the point where the hay is to be discharged by a pull upon the toggle cord.

Claim.—1. The projecting posts *l*, secured at an angle to the tines *a a* at their pivot *c*, in combination therewith, and with the toggle lever *e*, substantially as and for the purpose described.

2. The combination and arrangement of the swinging tines *a*, enlarged as described at *c*, bail *d*, toggle *e*, clevis *j*, extended bolts *k*, guards *m*, supporting bar *h*, and projecting posts *l*, substantially as described for the purpose specified.

80,443.—Miles D. Bradley, Spa, N. Y.—*Machine for Cutting and Assorting Broom Corn.*—July 28, 1868.—The function of this machine is to cut and assort the different lengths of broom corn, and other similar substances which require cutting and assorting previous to being wrought up into articles of use, such as rushes, flag, horse hair, reeds, and rattan.

Claim.—1. The perpendicular drum A, the different sized rollers e^1 e^2 e^3, &c., and belts n^1 n^2 n^3, &c., whether the said belts be flat or round, all constructed and operating together substantially as shown and described, and for the purpose set forth.

2. The cutters *v v v v*, shaft E, pinion J, and toothed rim I, whether the said rim be toothed externally or internally, and drum A, all constructed and operating together, substantially as shown and described, and for the purpose set forth.

3. The chutes K K K, &c., in combination with the drum A, rollers e^1 e^2 e^3, &c., and belts n^1 n^2, n^3, &c., all substantially as and for the purpose shown and described.

4. The adjustable step-bearing *h*, in combination with the drum A, rollers e^1 e^2 e^3, &c., belts n^1 n^2 n^3,

&c., all substantially as shown and described, and for the purpose set forth.

5. The bevel gearing *r u* and pulley G, substantially as shown and described, in combination with the drum A and its belts and rollers, all as and for the purpose set forth.

6. Adjustable step-bearing *k*, in combination with the shaft E, cutter wheel D, drum A and its rollers and belts, all substantially as shown and described, and for the purpose set forth.

80,444.—William Braidwood, New York, N. Y.—*Printing Press.*—July 28, 1868.—The motion of the roller carriage is independent of that of the platen and the two motions may be regulated independently, to suit circumstances. The slots in the connecting rods which impart motion to the platen, permit the platen, when the press is worked rapidly, to dwell sufficiently to admit of the adjustment of the sheets thereon; and the yielding bearings in said slots prevents shocks and concussions. When the platen moves forward the card drop is held in close contact therewith by the action of the spring arm, and as the platen recedes, after the impression has been taken, the card drop is raised, and the printed card permitted to slide off, and then the card drop is returned to the surface of the platen, ready to receive a new card.

Claim.—1. The levers *c*, hung independent of the platen, operated as described, in combination with the rods *f g*, crank pins *d*, and roller carriage B, substantially as and for the purpose set forth.

2. The slots *l*, in the connection rods *i*, provided with bearings *m*, springs *n*, and adjusting screws *o*, to operate in combination with the platen D of a printing press, in the manner and for the purpose described.

3. The spring arm *x*, in combination with the bell-crank lever *u v*, and card drop *p'*, substantially as and for the purpose set forth.

80,445.—Philipp Brand, Springfield, Ill.—*Elevator.*—July 28, 1868.—Water or steam being forced into the pipes from below, the pipes extend themselves one above another, and take with them, in their ascent, the platform, which movement opens the jointed framework.

Claim.—This combination of the jointed framework B, platform C, pipes D, and steadying arms F, as herein set forth and for the purposes described.

80,446.—F. Markham Briggs, Livonia, Mich. —*Lamp for Destroying Insects in Trees.*—July 28, 1868.—The series of wick tubes heat the pan sufficiently to destroy the insects that fall into it from the nests, as the latter are burned by the main or central flame.

Claim.—The construction of a lamp, A, provided with any suitable pan, C, and arranged to be heated by means of wick tubes D, substantially operating as and for the purposes herein described.

80,447.—G. H. Bristol, Romeo, Ill.—*Water Elevator.*—July 28, 1868.—When the lever is raised the pawl engages the teeth of the ratchet wheel and prevents the shaft from turning, but when the lever is depressed the pawl leaves the ratchet wheel, and said lever bears against the friction wheel and may be made to regulate the motion thereof. The spool is so applied that it becomes more tightly secured to the shaft as the strain upon the belt increases. The bucket fills through a bottom valve.

Claim.—The combination of the lever L, its pawl *d*, wheel F, spool E, shaft D, bail J, and the bucket and curb, when all are constructed, arranged, and used as specified.

80,448.—David Bruce, Brooklyn, N. Y.—*Type Machine.*—July 28, 1868.—This apparatus is attached to a type-casting machine so as to receive the type as fast as cast, and break off the jet or stem of metal adhering thereto by a continuous consecutive operation. The plug fills the discharging port in the inclined gutter, to form a continuous gutter for the descent of the type, previous to breaking the jet thereof. The adjustable plate supports and trips the hammer for breaking off the jet of metal. Combined with the adjusting plate is a bifurcated cam, or guide ways, for operating a type-holder weight while the jet of metal is being broken off, and releasing the type from the gutter that it may be discharged from the apparatus. The compound spring prevents the escape of the type from the gutter till its jet is broken off; it also prevents the rebounding of the type. The jet is broken off by a reacting spring hammer.

Claim.—1. In combination with the right-angled lever E, the plug D, substantially as described, and for the purposes hereinbefore set forth.

2. The sliding adjusting plate H and tapis M, in combination with the right-angled lever E. substantially as described, and for the purposes hereinbefore set forth.

3. In combination with said sliding adjusting plate, the bifurcated cam Q, substantially as hereinbefore described, and for the purposes set forth.

4. The combination of the movable jaw N, with the inclined gutter B, substantially as hereinbefore described, and for the purposes set forth.

5. The combination of the compound spring S, with the inclined gutter B, for the purposes hereinbefore set forth, and made and operating substantially as described.

6. The combination of the spring or trip hammer X, with the inclined gutter and right-angled lever substantially as hereinbefore described.

80,449.—Martin V. Bryant, North Plains, Mich.—*Spring Punch.*—July 28, 1868.—Designed to be used by blacksmiths in punching bar iron, and held in place upon the anvil by the lug, which enters a hole in the face of the anvil.

Claim.—The square lug G, when used in connection with the frame A, bifurcations B D, punch C, pin D, spring E, and die F, substantially as and for the purpose specified.

80,450.—S G. Cabell, Quincy, Ill., assignor to himself and Peter T. Abell, Atchison, Kansas.—*Track Clearer for Railroads.*—July 28, 1868.—The lower end of the cast-iron box is foraminated. Steam admitted to the pipe and box is ejected upon the rail, blowing therefrom such light impediments as loose snow, insects, &c. Adhering ice, which may not be removed by the pipe, is crushed by the forward wheel and removed by steam from the box.

Claim.—The arrangement of the steam box A and pipe B, with the two way cocks *c*, and rod L, constructed substantially as and for the purpose herein set forth.

80,451.—Willard W. Chase, Springfield, N. H., assignor to himself and Solon W. Abbott, Sanapee, N. H.—*Ash Bin.*—July 28, 1868.—A frame to be inserted in a wall has an opening for a door which rests and vibrates upon the lower edge of said opening, and which maintains its open or closed position by the influence of gravity.

Claim.—A mouth or receiving aperture for ash bins, and other purposes, as an article of manufacture, constructed and operating substantially as above set forth.

80,452.—Paul Antoine Marie Chauvassaignes and Jacques Paul Lambrigot, Paris, France.—*Telegraph Instrument.*—July 28, 1868.—This invention comprises an instrument for the preliminary notation or inscribing of the telegrams by means of certain characters traced on a band of tinned paper, and for the reproduction of these traced bands; also an additional instrument for the automatic transmission of the characters traced on the band, and the automatic and electro-chemical reception of the signals transmitted. The coloring matter for the marking roller is composed of yellow wax, rosin, bitumen of Judea, and tallow or suet. The chemical bath for the production of the signals is composed of azotate of ammonia, distilled water, gallic acid, and white sugar.

Claim.—1. The combination of the devices herein described for effecting the notation and automatic transmission of telegraphic messages, the same being constructed and arranged to operate in the manner and for the purposes set forth.

2. An insulating ink, composed of the ingredients herein named, taken in the proportions substantially as specified.

3. A decomposable liquid, made of the ingredients herein named, taken in the proportions substantially as specified.

80,453.—Charles B. Clark, Buffalo, N. Y.—*Brush Holder.*—July 28, 1868.—A long-handled clamping device whereby an ordinary scrubbing brush can be held and operated by a person standing.

Claim.—Connecting the thumb nut E with the movable jaw H, by means of the flange G and slot K, together with the mortise L in the screw shank F, for the purpose specified.

80,454.—John G. Clifton, Northfield, Ind.—*Buckle.*—July 28, 1868.—The end of the strap secured by one of the tongues is passed through the loop formed by the end bars, while the end of the strap fastened by the tongue or tongues at the opposite side of the hinge is passed through the loop formed by the hinge and the fixed central bar.

Claim.—The arrangement of the loops of the frame of the buckle at one end, and at the center thereof, between the bars *b b* and *d e*, in combination with the tongues *i j*, acting upon the opposite sides of the frame in the manner and for the purpose specified.

80,455.—William B. Coates, Philadelphia, Pa.—*Fireplace.*—July 28, 1868.—The convex grate is fitted by flanges to the bed plate of the stove and receives a reciprocating rotary movement from a peculiar shaker. The sifter is situated in a cellar or under the floor of the fireplace, and has two discharge spouts through which escape the coarse particles and fine ashes respectively. The body of the stove rests upon an offset on the top of the cylinder.

Claim.—1. The combination of the vibrating rim H, with its flange K, and the bed plate J, with its flange L, and aperture M, the shaker F, with its arm G and knob, as herein described and for the purposes set forth.

2. The construction of the body of the stove, when combined with the cylinder E, shoulder Y, and ribbed top B, as herein described.

3. In combination with the foregoing, the sifter O, with funnel-shaped top, N, grate P, spout *q*, and receptacle R, when constructed and operating as herein described and for the purpose set forth.

80,456.—J. L. Coles and D. H. Coles, New York, N. Y.—*Nutmeg Grater.*—July 28, 1868.—The grating is performed by grasping the box and turning the handle of the revolving carrier. The supplementary chambers contain a supply of nutmegs.

Claim.—1. A box, A, containing a revolving carrier, D, having a series of chambers, with spring followers, which press the articles to be grated against the stationary grating surface E, which is combined with a receiver, F, all as shown and described.

2. The combination, with the cylindrical box A, of a series of carriers, at angles to each other, so as to leave supplementary chambers, *b*, substantially as and for the purpose described.

80,457.—Frank Calligon, Buffalo, New York, N. Y.—*Lubricating Device.*—July 28, 1868.—As the quantity of oil in the lubricating cup increases or diminishes, its level changes correspondingly in the glass indicating tube.

Claim.—The combination of the transparent indicator E with the lubricating cup D, substantially as and for the purposes described.

80,458.—Joseph Corbeil, Lind, Wis.—*Potato-bug Cleaner.*—July 28, 1868.—As the wings or fans revolve they knock the bugs from the potato vines, and, aided by the current of air created by their motion, they sweep the bugs into the V-shaped receptacle.

Claim.—The machine for cleaning vines or vegetables of bugs or insects, consisting of a suitable frame mounted on wheels, and having the central receptacle C, and the two side revolving fans or beaters D, all constructed and arranged to operate substantially as described.

80,459.—James M. Crafts, Boston, Mass.—*Ageing and Purifying Spirits.*—July 28, 1868.—This invention is designed to produce artificially, and in a very short time, the effects or changes which result from the lapse of time when liquor is allowed to stand in the usual way.

Claim.—1. The forcing of whisky or a distilled liquor through air, or a gas charged with ozone or antozone, or the forcing of air or gas charged with ozone or antozone through whisky or a distilled liquor, or the agitating together of whisky or other distilled liquor and air or gas charged with ozone or antozone.

2. In connection therewith, the employment, as explained, of oak shavings, or other coloring equivalent or material, from which an extract is to be obtained.

3. The treating of air by electricity, so as to ozonize such air, and subsequently passing such air in contact with or through whisky or an alcoholic liquor, the same being as and for the purpose or purposes substantially as specified.

4. For the improvement of the liquor, confining it in a close vessel, and subjecting it while therein to the action of the heat.

5. The combination of the same, and the application of ozone or antozone to the liquor, by means substantially as specified.

80,460.—Frederick C. Curie.—*Manufacture of Files and Rasps.*—July 28, 1868.—The blanks being cast and rendered malleable, or cut from wrought iron, are placed in an iron box and separated in layers by a mixture of pulverized charcoal, soda or soda ash and rock salt. The box being filled and closed is placed in a converting furnace.

Claim.—1. Converting files and rasps, either cast or made from wrought or cast malleable iron, into steel, by the process substantially as herein described.

2. The new articles of manufacture, namely, files and rasps, made by the process substantially as herein described.

80,461.—Owen R. Davis, Lewistown, Pa.—*Steam Safety Valve.*—July 28, 1868.—When the small valve is raised by the pressure of the steam, the steam passes upward through the passage into the piston chamber and presses the piston downward, opening the main valve and allowing the surplus steam to escape through the same, whence it passes off through the case or frame.

Claim.—1. The passage *i* communicating with the chamber O, in combination with the piston head D, piston rod E, and valve F, whereby to allow the steam to force said valve downward, and relieve the boiler of any undue pressure of steam that may accumulate in it, substantially as herein set forth.

2. The arrangement of the piston head D, piston rod E, valve F, and case or frame G, whereby to prevent tampering with the valve when once arranged for the pressure required, substantially as herein set forth.

3. The arrangement of the chamber O, passage *i*, valve rod *d*, valve *a*, vent *k*, and weight C, substantially as set forth.

80,462.—Thomas B. DeForest, Birmingham, Conn.—*Corset.*—July 28, 1868.—The corset is made of felt, whether blown upon an exhausted cone of the corset shape, or wound upon a suitably shaped block in several layers of sliver from the carding engine, or blocked or stretched from a sheet of felt upon a former. A cloth stay strengthens the corset at the waist. Wire stays are also employed.

Claim.—1. A corset formed from a felted material, substantially as herein described.

2. In combination with a corset constructed as above, the body stay or band A, substantially as set forth.

3. The arrangement of the stays B B upon the surface of the corset, either inside or outside, without the formation of pockets in the body of the corset, substantially as set forth.

80,463.—Alexander John B. De Morat, Philadelphia, Pa.—*Electro-Magnetic Engine.*—July 28, 1868.—Permanent and electro-magnets are so arranged with armatures as to admit of a constant unbroken current, the object being to obtain increased power and a regular motion from or by means of the available amount of electric, magnetic, or galvanic fluid.

Claim.—The combining and arranging of a series of magnets, with magnets or armatures having a revolving or other motion, which are made to pass from a sphere of equilibrium into a sphere of attraction, thereby obtaining a motive power by the motion produced, resulting from the power of attraction, when one or more permanent or electro-magnets are placed angularly against curves or plain surfaces of any metal possessing magnetic properties, and in this motion at the same time to bring back the system into a neutral limit or sphere of equilibrium, and in that state to arrest and carry it beyond the limits of attraction, (without the necessity of breaking circuit,) then afterward released for a subsequent action, as herein set forth and described, or any other, substantially the same, which will produce these intended effects.

80,464.—T. B. DOOLITTLE, Bridgeport, Conn., assignor to BRIDGEPORT BRASS COMPANY, same place.—*Method of Forming Lamp Tubes.*—Under this mode of manufacture a round, seamless tube, "drawn out" after the fashion of cartridge tubes, is flattened out into the required shape for lamp tubes. The wedges are designed as a most effective means of transforming the cylindrical tube into a flat one.

Claim.—Shaping or transforming the stock by means of wedging mandrels forced longitudinally, in opposite directions, into the tube, to spread it laterally and shape it, substantially as described.

80,465.—SAMUEL R. DRUMMER, New York, N. Y.—*Packing for Car Axles and Boxes.*—July 28, 1868.—The periphery of the packing is grooved so as to receive a V-shaped lining, which acts as a wedge against the grooved sides of packing, through the pressure of an elastic encircling band, whereby the packing is spread out against the sides of the lubricating chamber in which the packing is placed, thus preventing the passage of dust, dirt, &c., to the lubricating box.

Claim.—1. The V-shaped lining G, bearing against the grooved packing C, and supporting the partly yielding and non-yielding encircling line J K, substantially as herein represented and described.

2. The combination of the grooved sectional packing C D E, the V-shaped lining G, the encircling chain J, and its yielding connection K, substantially as and for the purpose described.

80,466.—S. F. EMERSON, Seville, Ohio.—*Fruit Frame.*—July 28, 1868.—In gathering the fruit it falls or is thrown into the frame, the elasticity of the lining preventing it from being bruised; it then rolls down through the tube into the basket. If it be desired to use the frame for drying fruit, the cloth is removed and the fruit hung on the cords.

Claim.—1. The covering or bag F and tube I, in combination with the adjustable arms E, substantially as and for the purpose set forth.

2. The standard A, head C, in combination with the arms D E, dogs G, and cords E′, substantially as and for the purpose set forth.

80,467.—HARRISON FLINT and GEORGE P. SMITH, Danbury, Conn.—*Machine for Turning Irregular Forms.*—July 28, 1868.—The cutter is free to follow the motions of the pattern guide, while the pattern and block to be turned revolve freely and move toward or from the cutter, greater facility being thus attained in the cutting of the block. The pattern guide is secured to an arm which may be set higher or lower by set screws, so that blocks of different size may be turned from the same pattern.

Claim.—1. The swinging arm K, carrying the cutter and pattern guide, arranged relatively to the reciprocating carriage B, carrying the spindles C C′ on which the pattern and the block to be turned are secured, operating substantially as and for the purpose described.

2. The link *w* and set screw *x*, for securing the pattern guide L to the arm K, and for adjustment purposes, when operating substantially as described for the purpose specified.

80,468.—HENRY FORNCROOK, Watertown, Wis.—*Hop-Pole Cleaner.*—July 28, 1868.—The shank of the semicircular knife is driven into a block of wood imbedded in the ground, or otherwise held in place. The stems, knots, and bark are removed by drawing the poles in contact with the edge of the knife.

Claim.—A hop-pole cleaner, rosser, and trimmer, constructed in the manner and for the purpose substantially as herein specified.

80,469.—HENRY G. FUHRMANN, Brooklyn, E. D., N. Y.—*Adjustable Filter for Faucets.*—July 28, 1868.—One end of the expansible tube is stretched over the conical spout containing the strainer, while the other end may be stretched over the mouth-piece or nozzle of a common faucet.

Claim.—A straining attachment to faucets, consisting of an elastic tube A and conical spout B containing a strainer C, as a new article of manufacture.

80,470.—R. M. GANO and B. S. MILLER, Pittsburg, Pa.—*Brick Machine.*—July 28, 1868.—A hand machine for re-pressing pressed bricks. The brick being placed in the mold, the movement of the main upright lever effects the elevation of the follower and the compression of the brick; by then reversing the movement of the lever the follower descends, and the cover of the mold is automatically raised. The follower is again raised and the brick removed from the mold by the depression of a secondary lever.

Claim.—The combination of the follower D *d*, lever I, connected to the rock shaft *n* and the levers *u* and L, connected by the rod *w* with the lever H and lugs *v*, constructed and arranged to operate substantially as and for the purpose set forth.

80,471.—E. F. GERDON and C. W. SCHINDLER, Albany, N. Y.—*Lubricating Compound.*—July 28, 1868.—Fat or oil, wax, rosin, India-rubber, and potash.

Claim.—A lubricating compound, made of the ingredients above specified, and mixed together in about the proportion and substantially in the manner set forth.

80,472.—THOMAS GIBSON, Rochester, N. Y.—*Fruit Jar.*—July 28, 1868.—The vertical edge of the cover rests upon the packing, and the hooks of the clamps engage below the flange of the jar neck and within the crease of the cover.

Claim.—The cover C, with the groove *b*, and the detachable clamps B, in combination with the flange *a* and packing ring *c*, all acting conjointly, as herein shown and for the purpose described.

80,473.—M. G. GILBERT and F. ELBERSON, Ada, Ohio.—*Hanging Eaves Troughs.*—July 28, 1868.—A clamp and brace for supporting eaves troughs, adjustably attached to a bracket fixed upon the roof.

Claim.—The combination of the fixed bracket B with the adjustable clamp C and brace D, when arranged and operating substantially as described.

80,474.—ADAM GOOD, Jr., and SIMON STROUSE, Titusville, Pa.—*Valve.*—July 28, 1868.—The valve resumes its seat by gravity. The wear of the valve upon the stem does not tend to produce leakage. The recesses are designed to produce an "intermitting motion of the valve."

Claim.—The valve D, provided with inclined or sloping recesses *i i*, in combination with sleeve E, seat C, and chambers A A′, all arranged to operate substantially as described.

80,475.—JOHN GOODIN, Centralia, Ill.—*Boring and Drilling Machine.*—July 28, 1868.—The cogged cylinder and the rack bar on the frame, with their respective cranks and cog-wheels, enable the drill shaft to be rotated as well as moved vertically.

Claim.—The arrangement of the corrugated cylinder H, inclined toothed wheel K, rack bar E, cog-wheel O, and movable frame F, with the standard B, all constructed to operate as set forth.

80,476.—William Hailes, Albany, N. Y., assignor to J. F. Rathbone and Co., same place.—*Damper.*—July 28, 1868.—The air is caused to enter at the bottom of the fire-box, and the escape of fire and ashes thereat prevented.

Claim.—An inclined guard, so applied to the orifices of a sliding draught apparatus, when located at or near the bottom of a fire chamber of a stove, as to prevent the escape of ashes, &c., therefrom, substantially as described.

80,477.—Edwin Hale, Boston, Mass.—*Hand Nail Driver for Boots and Shoes.*—July 28, 1868.—The point of the instrument is placed at the spot where the nail is to be driven, the plunger is raised and a nail dropped through the feed tube; the plunger being then allowed to fall drives the nail home.

Claim.—The arrangement of the tube A, the feed tube B, and plunger C, E, and H, substantially as and for the purpose described.

80,478.—John S. Hall, Pittsburg, Pa.—*Machine for Making Bolts and Spikes.*—July 28, 1868.—Relates chiefly to the operation of the header, which, though worked by a cam, comes against the end of the bar or blank with sudden force or impact.

Claim.—1. The combination of the heading ram and its lever with the griping dies, gauge, and with the cam D, so that the ram shall have attained great momentum before it reaches the bar, bolt, or blank in the dies, and thus form the head, substantially as described.

2. The unobstructed space under or below the dies and feeding point, so that when the griping ram recedes, after heading or upsetting of the end of a long bar or bolt, said bar or bolt may drop out of the dies, and thence be drawn out of the machine, substantially as described.

80,479.—James Harris, Janesville, Wis.—*Harvester.*—July 28, 1868.—An arrangement of devices for harvesters whereby the ends of the cutting apparatus may be raised separately or simultaneously.

Claim.—1. The arrangement of the shaft *c*, operated by the hand lever M, and having thereon the crank *d*, with the rod *e*, crank *f*, shaft *g*, and caster wheel L, substantially as and for the purpose described.

2. The combination and arrangement of the shaft *g*, with the part *i* and brake *r p*, either with or without the clutch *h*, whereby the vertical vibration caused by the torsion of the rod is prevented, substantially as described.

3. The combination and arrangement of the rod *g*, part *i*, and arm *l*, the last two forming the caster arm of the grain wheel L when the part *i* is attached directly to the rod *g*, and is made the fulcrum upon which the caster arm turns, as well as the moving lever, by means of which the cutter bar is raised or lowered, substantially as described.

4. The combination and arrangement of the lever M, shaft *c*, cranks *d* and *h'*, rods *b* and *e*, crank *f*, shaft *g*, clutch *h*, part *i*, and brake *r p*, substantially as and for the purpose set forth.

80,480.—Andrew J. Harrison, Rock County, Wis., assignor to himself, W. W. Dexter, William M. Underhill, and Alonzo K. Cutts; and said Underhill, assignor to Samuel C. Burnham, Jr.,—*Watch.*—July 28, 1868; antedated January 28, 1868.—The band or packing inclosing the movement may be readily applied and detached. Its function is to close the space against dirt and dust.

Claim.—A band or hoop, cut open or divided at one side, so that it may be sprung open and applied around, or partially around, the works or mechanism of a watch, between the upper and lower plates, substantially as described, either with or without a covering of felt.

80,481.—Edward Holmes and Britain Holmes, Buffalo, N. Y.—*Machine for Crozing and Howeling Barrels.*—July 28, 1868.—A guide rest is combined with a cutter head, carrying chamfering, crozing, and howeling cutters in such a manner that the action of said cutters is gauged from the exterior surface of the cask.

Claim.—The combination of the cutter head H, supported by the swinging frame I, with the rest J, supported by the swinging frame K, oscillating upon a common axis with the cutter frame, when said frames K and I are provided with a locking mechanism by which the cutter head may be held at a definite distance from the rest, and thereby made to follow the curvature of the cask, substantially in the manner and for the purpose set forth.

80,482.—Edward Holmes and Britain Holmes, Buffalo, N. Y.—*Machine for Leveling the Staves in Barrels.*—July 28, 1868.—The cask, the staves of which have been placed in position, and are held together by truss hoops, is rolled between the head blocks and placed upon rests or pins. The movable head block being then made to approach the stationary head block, the projecting staves are forced endwise into line with the others.

Claim.—The combination and arrangement of the head block A, movable driver B and its operating screws $D\ D^1\ D^2$, spur wheels $E\ E^1\ E^2$, and driving pinion F, or their equivalents, operating substantially as herein described.

80,483.—Edward Holmes and Britain Holmes, Buffalo, N. Y.—*Machine for Jointing Staves.*—July 28, 1868.—The clamp bars are adapted to hold staves of different width at different angles, in order to present them to the cutters in a manner to give them the bevel and bilge appropriate to their width. The eveners are pressed against the upper clamp bar by a weighted arm, so as to feed the staves evenly to the action of the knives, and make the ends of the staves of equal width. The friction clutch and its accessories enable the gearing which operates the clamp to be stopped instantaneously. The clamp is operated to feed the staves to the action of the cutters by grasping an arm connected to a rock shaft, carrying at its ends pinions or segments, gearing with stationary racks.

Claim.—1. The flexible hinged ribs *k'*, in combination with the stationary ribs *k*, constructed, arranged, and operating for the purpose and substantially as described.

2. The eveners or feed arms L, for the purpose substantially as set forth.

3. The combination of the friction clutch *m*, weighted lever *n*, and pedal O, arranged and operating in the manner substantially as described.

4. The combination of the horizontal rack T, pinion or segment S' upon the rock shaft S, and arm R, arranged and operating for the purpose and substantially as described.

80,484.—Elihu Hosford, Chicago, Ill.—*Range.*—July 28, 1868.—The air to cool the grate is introduced by means of an enlargement of the tube through which passes the spindle supporting the grate. When the coal is ignited and the damper closed, the air to support combustion enters through the perforated feed door, is drawn down through the coal into the combustion chamber, and thence, with the products of combustion, through the columns and hot-air chamber into the smoke flue.

Claim.—1. The application of a current of cool air to the under side of the grate, in the manner and for the purpose substantially as herein described.

2. The oven H, formed by enlarging the air space and providing suitable doors, in combination with the cylinder A, combustion chamber C, columns D, and hot-air chamber E, substantially as herein specified.

80,485.—Samuel D. Hovey, Brooklyn, N. Y.—*Rubber Head for Pencils.*—July 28, 1868.—Two materials, suitable, respectively, for erasing ink and lead, form the two parts constituting the head.

Claim.—The pencil and pen head or tip, composed of the pencil-mark eraser *o* and the pen-mark eraser *e*, combined substantially as described.

80,486.—Henry R. Howe, Hartwick, N. Y.—*Car Coupling.*—July 28, 1868.—The lever on being depressed draws down the coupling pin and frees the link, thus uncoupling the cars. At the same time the spiral spring is allowed to force out the block, which prevents the pin from returning to its place, while the chain draws down the tongue, leaving the mouth of the buffer open, so that when the link of a car to be attached comes inside thereof it will be guided to the center, and its end striking against the block, forces it back, whereupon the spring bars raise the pin through the link.

Claim.—The combination of the buffer A, spring bars O and K, bent bar P, chain R, tongue N, block E, pin T, spring G, link I, pin J, set screw S, and lever L, when constructed and arranged substantially as described, as and for the purpose specified.

80,487.—EDWIN W. JACKSON, Brooklyn, N. Y.—*Rotary Steam Engine.*—July 28, 1868.—The main shaft has an opening from side to side, in which the pistons slide, and holes pass completely through the pistons, to allow the steam to escape when one piston is closing upon the other, and admit steam when the motion is reversed. The invention has reference principally to the means for producing the rising and falling motion of the pistons at the proper times and conducting the same past the bar of separation.

Claim.—The combination of the steam chest T, (Plate XXVII,) changeable steam ports, (Plates XIII and XIV,) main shaft. (Plate I, Fig. A,) the shifting pistons perforated completely through, (Plate I B,) they having projections or shafts on their ends, to which the four rollers C C (Plate VI) are attached, one on each end, two end pieces, called governor's guides, (Plates IX and X,) which are placed one at each end of the pistons, thick bar, described as the bar of separation, (Plate XV, *x*,) placed between the upper and lower steam ports, and back plate O, (Plate XIII,) to which the bar of separation is attached, substantially as and for the purpose set forth.

80,488.—GUSTAV L. JAEGER, New York, N. Y.—*Water Meter.*—July 28, 1868.—A wheel revolves in a case and carries an even number of hinged buckets, connected in pairs by cranks and rods in such a manner that whenever one of the buckets strikes the closing edge of the case, said bucket is closed, and the bucket which is connected thereto thrown open by a positive force. The fluid in its passage to the measuring wheel is compelled to pass through the mud cistern and strainer of the faucet.

Claim.—1. The arrangement of mud cistern *b* and strainer *a* in the plug of the stop-cock D, substantially as and for the purpose described.

2. The rods *l* and cranks *k*, connecting diametrically-opposite buckets of the wheel B, which runs in the scroll E, substantially as and for the purpose set forth.

80,489.—GEORGE W. JANVRIN, Great Falls, N. H.—*Wagon.*—July 28, 1868.—The body of the wagon may, by the same power as is exerted in its traction, be raised and lowered with or without freight thereon, for convenience in loading and unloading. The bottom may be inclined, to discharge freight like a tip-cart.

Claim.—1. A wagon, so constructed and arranged as that the body of the same may be raised and lowered at option, by means of screws attached to and forming part of the wagon, when the said screws are acted upon by attachments to the carrying wheels, substantially as described.

2. In combination with wagons, the wheel bevels, with their corresponding bevel wheels, when constructed and arranged substantially as shown and described.

3. The device shown, of the shipper slides and their appended forks, in combination with the upper and lower bevel wheels J and K, and the wheel bevels, in connection with the body of a wagon, when constructed substantially as described.

4. The shipper bar clutches shown, when arranged in combination with the notched plates, the shipper slides, and the body of a wagon, substantially as above described.

5. When in combination with wagons supported by more than two wheels, the tip-cart arrangement of two or more cross bars, U U^x, and the pivoted bottom, when constructed substantially as described.

80,490.—HENRY KELLOGG, New Haven, Conn.—*Hat.*—July 28, 1868; antedated July 14, 1868.

Claim.—A hat formed from pulp, having incorporated within the material of the body or brim, during the formation thereof, a wire, reed, or other stiffening frame or form, substantially as described.

80,491.—DENNIS LANE, Montpelier, Vt.—*Head Block for Saw Mills.*—July 28, 1868.—The head blocks are moved at right angles to the sliding frame in consequence of the passage of the oblique bars through the grooved blocks. Provision is made for readily reversing the motion of the frame and head blocks.

Claim.—1. The grooved block P and the yielding grooved block P^2, arranged in line in the same head block, and successively acted upon by each of the incline bars N, arranged parallel in the reciprocating frame G, whereby the head block is made to advance or recede, as desired, all constructed and operating substantially as described.

2. The sleeve E^2, forming an eccentric bushing in the post W for the pinion wheel B^2, by which the pinion wheel B^2 is thrown in or out of gear with the bevel wheel A^2, for the purpose of advancing or retracting the carriage, constructed and operating substantially as described.

80,492.—SAMUEL LEWIS, Brooklyn, N. Y., assignor to WILLIAM H. CAMMEYER, same place.—*Portable and Adjustable Still Water Dam.*—July 28, 1868.—A portable and adjustable apparatus for producing still water in which to operate for the blasting and removal of obstructions; especially designed for continuous use where subaqueous obstructions produce a throttling or contraction of the water course, and a consequent acceleration of the current that debars operation with a view to their removal (under previously known methods) except during a limited portion of each day.

Claim.—1. The construction and arrangement of a portable and adjustable dam, in sliding or telescopic sections, in the manner and for the purposes herein described.

2. The combination of the self-anchors 3 with the dam, in the manner and for the purposes herein described.

3. The combination of the boats, supports, or floats with the dam, as above described, and the arrangement of anchors to hold such boats in position, in the manner and for the purposes described.

4. The combination and arrangement of windlasses, chains, and boats with the dam, as above described, so that by the construction thereof a series of drills may be operated within and inclosed by the dam, in the manner and for the purposes herein described.

80,493.—J. A. MANNING, Ashtabula, Ohio.—*Car Coupling.*—July 28, 1868.—The coupling hook on entering the mouth of the buffer head slides up an incline therein, pushes up the fall and engages a ledge or shoulder, whereupon the fall descends to secure it.

Claim.—The hooked fall D, as constructed, arranged, and operated in combination with buffer head B and link C, for the purpose and in the manner as described.

80,494.—JAMES MINIFIE, Baltimore, Md.—*Lamp Burner.*—July 28, 1868.—The two cones reflect the light from the lower part of the flame downward and outward. The bottom of the chimney rests upon the lower cone, and the corrugations form channels all around its lower edge to admit air to the flame, other currents being admitted to the same through the perforations.

Claim.—1. The combination and arrangement of the two corrugated cones C D, and tube *e*, substantially as described.

2. The corrugated cone D, when provided with the above-described openings along the summits of the ridges formed by the corrugations, substantially as and for the purpose herein set forth.

80,495.—WILLIAM MINSTER, Washington, D. C.—*Carpet Stretcher.*—July 28, 1868.—The end of the ratch bar is placed against the wall and its point driven into the floor. The carpet being then clamped between the jaws and the crank turned, the carpet is stretched to the desired extent, and held by the instrument till tacked at the edge.

Claim.—1. The hinged jaws E E, pressed apart by means of a spring, and bound together by either a set screw or the headed bolt F and its nut G, for the purpose of firmly holding the carpet, substantially as herein set forth.

2. In a carpet stretcher, the jaws E E, constructed as described, and hinged to the box B, which slides upon the ratch bar A, and operating as and for the purposes specified.

80,496.—RICHARD NELSON, Cincinnati, Ohio.—*Screen for Washstands.*—July 28, 1868.—This sheet-iron back is designed as a substitute for the marble slab commonly employed.

Claim.—The back or screen for washstands and analogous articles of furniture, provided with one or more shelves, c, substantially as herein described.

80,497.—ERNST OFFHAUS, Newark, N. J.—*Propelling Apparatus.*—July 28, 1868.—An arrangement of mechanism for operating the two pistons of a rotary pump which draws in water from the front part of the vessel, and forces it out at the rear so as to propel the vessel thereby.

Claim.—The annular cylinder E^1, connected to the water ways A and B', and receiving the pistons d d', in combination with the levers s and t, switch r, and stops, acting in the manner and for the purposes specified.

80,498.—NATHAN M. PHILLIPS, New York, N. Y.—*Tag Fastening.*—July 28, 1868; antedated July 18, 1868.—There is a bend near the free end of the guard, where the ring is held and prevented from slipping endwise on the spring when the tag is in use.

Claim.—The within-described hook A B C, bend or loop D, guard E, and shifting ring H, combined and arranged for joint operation relatively to the tag G and to the goods M, substantially in the manner and for the purpose herein set forth.

80,499.—LOUIS PORTNER, Chicago, Ill.—*Reflector.*—July 28, 1868.—This reflector is intended for use on the kerosene lamps of chandeliers for illuminating billiard tables. The effect of the peculiar form of the reflector is that the light of two or more lamps provided with them may be so reflected as to illuminate the table without having a shadow at the center. The wire hook suspends the reflector from the tin top of the lamp glass.

Claim.—The reflector A, constructed substantially as and in the manner herein set forth and for the purpose specified.

80,500.—DANIEL J. PRATT, Albany, assignor to himself and OLIVER AREY, Brockport, and OLIVER AREY, assignor to MICHAEL P. CAVORT, Albany, N. Y.—*Parallel Ruler.*—July 28, 1868.—The gauge plate is held while the T-square is moved along as far as permitted by the slotted connection, and then, a line being first drawn, the rule is held while the gauge is moved up to it, to permit the rule to be again moved the determined distance.

Claim.—The construction of a parallel ruler, by attaching to one of the limbs of a T-square ruler a gauge plate for regulating the distances between the lines to be ruled, substantially in manner set forth in the specification.

80,501.—PHINEAS PRENTISS, Chester, Mass.—*Washing Machine.*—July 28, 1868.—The handle is moved to and fro horizontally, giving a reciprocating rotatory motion to the dasher. The height of the handle may be varied to suit the operator.

Claim.—In combination with the tub, with ribbed sides and dasher, with gearing, the adjustable socket, arranged so that the handle may be used with comparative depression or elevation, substantially as shown.

80,502.—HIRAM PRESTON, Orfordville, Wis.—*Cultivator.*—July 28, 1868.—An arrangement for lowering, raising, sustaining, and varying the operating position of the shovels or cultivator teeth.

Claim.—1. The adjustable V-shaped parts C, in combination with the rocking shaft B, when constructed and operated substantially as described and set forth.

2. The lever h, provided with the springs i, and the arm E, in conjunction with the parts C, and ratchet k, for the purpose of controlling the parts C, substantially as described.

80,503.—WILLIAM B. READY, Sacramento, Cal.—*Cultivator Teeth.*—July 28, 1868.—The tongue or point may be let down to compensate for wear until the larger portion of its material is consumed in service.

Claim.—1. The groove c in stock a, as a seat for an adjustable point for a cultivator tooth.

2. The movable tongue d, pierced with holes or slots i i i i, forming an adjustable point of a cultivator tooth.

3. The combination of the grooved stock or support a with the adjustable tongue d, for the purposes of a cultivator tooth, substantially as above described.

80,504.—ALBERT RHOADES and JOHN ADAMS, Pontiac, Mich.—*Deep Well Tube.*—July 28, 1868.—When the tubes are driven to the desired depth, the outer tube is elevated sufficiently to expose the slots of the tube, which is secured to the barbed point. A contrivance having fingers to clean out the slots when clogged, may be coupled by means of its screw with a rod whereby to work said cleaner up and down.

Claim.—The arrangement of the removable rod D, having a female screw, F, to connect to the screw upon the cleaner E, at the lower portion of the slotted tube B, all constructed to operate substantially as specified.

80,505.—JOHN RICE, Bloomington, Ind.—*Railroad Car Heater.*—July 28, 1868.—An iron box or chamber, together with the fire box, is securely attached beneath the car. A central chamber contains water to moisten the air, which is admitted from below and conducted by pipes through the main box to the end chambers, from which it may be drawn off by registers. The air may be taken from said pipes at intermediate points, it being heated therein by the direct action of the heat and by the products of combustion in transitu.

Claim.—The heating apparatus A B, constructed and arranged as described, that is, having the chamber B', air tubes D in smoke tubes F, chambers C C, E E, G G, and registers and discharge pipes, as shown, the whole being attached to and combined with a railroad car, and operating substantially in the manner described, and for the purpose set forth.

80,506.—LOUIS S. ROBBINS, New York, N. Y.—*Process for Purifying Butter.*—July 28, 1868.—The butter is subjected to such a temperature as will reduce it to a semi-liquid condition, and afterward washed, first with warm and then with cold water, so as to remove the buttermilk and other impurities and solidify the butter to the desired degree.

Claim.—The within-described process for treating or purifying butter substantially as herein described.

80,507.—AUSTIN A. ROSS, Horicon, N. Y.—*Churn.*—July 28, 1868.—The pins or cogs projecting from the face of the upright driving wheel, engage the "dash-wheel" or pinion, to which the top of the dasher is united by a screw. The dasher rotates.

Claim.—The churn dasher E, when constructed as described, of wire and a tin screw, F, and provided with a screw in its upper end, in combination with the dash wheel C, constructed and operating substantially as and for the purposes herein set forth.

80,508.—WILLIAM F. ROSSMAN, Hudson, N. Y.—*Kerosene Lamp Boiler.*—July 28, 1868.—The arrangement of the water spaces in relation to the metallic chimney, induces free convection, and enables the water to be quickly heated.

Claim.—1. The combination and arrangement of reservoir or kettle A, tube a, boiler C, and aperture d, when employed in connection with a kerosene or fluid lamp, substantially as and for the purposes described.

2. The combination and arrangement of burner B and chimney e with boiler C, when the latter is connected with the reservoir or kettle A, substantially in the manner and for the purposes set forth.

80,509.—ROBERT SANDERSON, Cleveland, Ohio. *Steam Cut-Off Valve.*—July 28, 1868.—The notches admit steam under the lower edge of the valve, to counteract the pressure exerted from above, and facilitate the opening movement. The impingement of the rollers occasioned by the reciprocation of the lever which carries one of them, effects the raising of the valve, its closure being effected by the conjoint influence of gravity and steam pressure. The cam regulates the throw of the lever, in case of derangement of the governor.

Claim.—1. The arrangement of the ports or openings D and notches *a*, in the manner as and for the purpose set forth.

2. The pivoted lever I and roller H′, as arranged in combination with the roller H and valve D′, in the manner set forth.

3. The cam G′, as arranged in relation to the lever I, as specified.

80,510.—PETER SCHOONMAKER, New Britain, Conn.—*Bit for Bridles.*—July 28, 1868.—The rings of the bits are lined with German silver, to improve the appearance and increase the durability thereof.

Claim.—As a new article of manufacture, a japanned bridle or harness bit, having its rings lined with metal, substantially as described, for the purpose specified.

80,511.—JOHN SCHUMACHER and HENRY UPJOHN, Ann Arbor, Mich.—*Machine for Pressing and Grooving Seams in Tin Ware.*—July 28, 1868.—The tin being bent in the usual manner for forming a joint, is placed with its joint upon the arm, beneath the groove in the roller, the inner edge of the pieces of tin resting against the gauge. The roller being then propelled over the joint, presses the groove in the seam.

Claim.—The gauge H, used in combination with the arm C, as and for the purpose set forth.

80,512.—JOHN SHELLABERGER, Shane's Crossing, Ohio.—*Tile Machine.*—July 28, 1868.—The clay is tempered by the rotation of the armed shaft in the pug-mill box, and is expelled by the plunger through orifices in one side of the lower chamber.

Claim.—The relative arrangement of the shaft B, sweeps D D, pitman F, lever G, and plunger H I, substantially as and for the purposes set forth.

80,513.—HENRY L. SHEPERD, Osborn, Ohio.—*Horse Hay Fork.*—July 28, 1868.—Movable arms are attached to the points, for the purpose of raising and lowering the same, and hooks, levers, and lugs sustain the points in their horizontal position, and enable them to be readily lowered for discharging the load.

Claim.—1. The combination of the side bar A, connecting bar F, point C, and lever E, when constructed and operating as and for the purposes herein set forth.

2. The combination of the lever E with hook *b*, and lever G with lug *c*, when constructed and operating as and for the purposes herein set forth.

80,514.—SAMUEL R. SMITH, Cincinnati, Ohio, assignor to P. P. LANE and JOSEPH T. BODLEY, same place.—*Head Block for Saw Mills.*—July 28, 1868.—The reciprocating motion of the bar, to which the pawls are attached, gives a continuous rotary motion to the ratchet wheel, and consequently to the screw, and causes the knee to advance toward the saw. By disconnecting a hand wheel from the ratchet wheel, the motion of the knee may be reversed. Loose plates or arms are fitted upon a shaft, so that when any one of them is thrown upward it will arrest the backward movement of the knee. The plates are numbered, and those of each head block on a carriage correspond in position; hence, by turning up plates of the same number, the head blocks may be moved back in line with each other.

Claim.—1. The ratchet wheel G, containing both external and annular teeth, the pawls M M′, and reciprocating bar I, all constructed and operating substantially as and for the purpose described.

2. The combination of the wheel Q, worm wheel *m*, and toothed segment P, to operate the dog R, as herein described, for the purpose specified.

3. The plates O, when constructed and operating in the manner substantially as described.

80,515.—AUGUST STEINBOK, New York, N. Y.—*Boring Tool.*—July 28, 1868.—By the combined action of the auger and gimlets, the wood included within the transverse area of the case is almost entirely removed, so that pressure on the end of the auger is sufficient to cause the cutting edges of the case to clean out the corners; a square or polygonal hole being thus produced.

Claim.—The adjustable frame B, in combination with the auger D, gimlets E E, and the case A, provided with cutting edges, constructed and operating substantially as described.

80,516.—STEPHEN STUCKY, New Albany, Ind. —*Feed Water Heater.*—July 28, 1868.—The series of partitions in the feed water heater retard the flow of water, and the chambers receive and retain such sedimentary matter as may be precipitated from the water.

Claim.—The drum A, with pipe G, perforated as described, partitions D F J I, forming chambers C H E K, with the exterior pipes, as described, and with the boilers L L, all constructed and arranged substantially as and for the purposes set forth.

80,517.—H. S. THAYER, Boston, Mass.—*Submarine Exploring.*—July 28, 1868.—A person within the darkened chamber can see beneath the surface of the water, with or without the aid of lenses, the invention being based upon the theory of looking from a dark space into one less dark.

Claim.—The boat A, provided with an opening, B, through its hull, and over which opening is placed a darkened house C, as and for the purposes specified.

80,518.—EDWIN THOMAS, Philadelphia, Pa.—*Ventilating Boots and Shoes.*—July 28, 1868.—A gum-elastic flap valve is fitted to an eyelet-hole in the upper leather, and grooves are cut in the sole leather, so that air, designed to form a cushion, can pass along the grooves and up the counter or heel piece.

Claim.—1. Ventilating boots and shoes by grooving the inner soles with grooves that are narrow at the top and wide below, so as to allow the air to pass along the grooves, as herein described, and for the purposes set forth.

2. The manufacture of leather for inner soles of boots and shoes, with grooves of a dove-tail shape, and a porous cover, for the purposes as specified.

80,519.—WILLIAM TOTHEROH, Reading, Pa.—*Lamp.*—July 28, 1868.—The object of this arrangement is to deflect the current of air and direct it against the flame, so as to produce effective combustion and a good light.

Claim.—1. The uprights C C′, deflectors D D′, ring A, rings or bands F and G, and the arms H, when combined and arranged as shown and described.

2. The uprights C C′, deflectors D D′, ring A, base B, filling tube E, wick tube *b*, and the outwardly curving wing or guide *c*, when combined and arranged as shown.

80,520.—KASIMIR VOGEL, Chelsea, Mass., assignor to EBEN W. LOTHROP, same place.—*Sewing Machine for Button Holes.*—July 28, 1868.—Relates to a mechanism which is designed to be attached to and operated in connection with common, plain sewing machines, for the purpose of stitching button holes and other over-edge work and embroidery. Each tooth and space around the periphery of the cam or former represents the length of a stitch laterally, so that by varying said teeth the stitches may be varied accordingly.

Claim.—1. The irregular toothed cam or former E, whether having an intermittent, rotary, rocking, or reciprocating movement, substantially as and for the purposes described.

2. The several parts of the described mechanism, when constructed, combined, and operating substantially in the manner and for the purposes described.

80,521.—ANDREW WALKER, Claremont, N. H.—*Gang Plow.*—July 28, 1868.

Claim.—1. A stationary frame, with adjustable plow beams underneath, pivoted to the main frame at the rear end, and suspended by the ratchet E.

2. In combination, the gear wheel C, gear circle D, lever F, and spring catch *b*, in combination with the ratchet E, for the purpose of adjusting the depth of the furrow, and locking or suspending the plows at any given point, the whole arranged, constructed, and combined, and used in combination with and for the purpose set forth.

80,522.—ANDREW WALKER, Claremont, N. H.—*Seed Sower and Harrow.*—July 28, 1868.—The harrow is attached to the rear end of a lever which is pivoted to the main axle; and a lever attachment is provided for raising and lowering the harrow. The harrow is geared to the ground wheels so as to be rotated thereby. The discharge of seed is regulated by raising or lowering the gauge rod and valve attached thereto.

Claim.—1. The ratchet lever C, in combination with the harrow G′, the gear-gauge wheel I, lever K, and circular ratchet *o*, with the spring stop *a* in lever K.

2. The valves *b b′*, attached to the seed box B, and gauge rod *c*, in combination with the fluted roller *d*, the whole combined, arranged, and used as and for the purpose set forth.

80,523.—ROBERT WARNOCK and CHARLES ABBEY, 2d, Ridgeville, Ohio.—*Grain Rake.*—July 28, 1868.—The rake is pushed forward by its handles and gathers the grain from the swath. When sufficient for a bundle has been gathered, the handles are dropped, thereby elevating the rake from the ground. The cross-bar in front of the axle is then depressed by the foot of the operator, compressing the grain between the rake and the arms, in which condition it is tied.

Claim.—The rake F, guards H, arms A′, handles C, and wheels A, all constructed and combined to operate in the manner as and for the purpose set forth.

80,524.—JAMES T. WATSON and HENRY E. ROBINSON, Richmond, Ind.—*Straw Cutter.*—July 28, 1868.—The knife has a longitudinal as well as a vertical motion, the spring aiding to produce the effective stroke.

Claim.—The combination of the box B, the table A, the knife C, and the oscillating arm D, and spring E, substantially as arranged and described, for the purpose set forth.

80,525.—F. H. WHITMAN, Harrison, Me.—*Stove for Railroad Car.*—July 28, 1868.—These devices close the draught and funnel openings of the stove in the event of the capsizing thereof.

Claim.—1. The plate *e*, suspended on plates *b b′*, so as automatically to close the funnel aperture, substantially as herein set forth.

2. The self-closing grate or draught, substantially as and for the purposes herein set forth.

80,526.—C. WILLIAMS, New York, N. Y.—*Apparatus for Cleaning Sewers.*—July 28, 1868.—The folding scraper and the folding leaves operate like a valve, closing to effect the removal of the sediment when drawn in one direction, but opening, so as to avoid resistance, during the return movement. The adjustable bail causes the open end of the bucket to be inclined downward, to adapt it to more effectively scoop up the sediment. The perforations obviate the raising of water with the non-fluid sediment. The guide frames cause the buckets to pass properly up through the man-holes.

Claim.—1. The toggle arms *i i*, braces *j j*, and head D, carrying the sheave *g*, combined and operating to hold the pulley, substantially as and for the purpose described.

2. The guide piece *m* on the dog D, to facilitate the introduction of the rope to the sheave *g*, substantially as set forth.

3. The folding scraper *o*, Fig. 5, constructed and arranged for clearing pipe sewers, substantially as shown and described.

4. The automatically folding leaves *c c*, arranged in the bucket C, constructed as shown, and for the purpose set forth.

5. The adjustable bail *e*, in combination with the fixed bail *f* of the bucket C, substantially as and for the purpose specified.

6. The bucket C, made with perforated sides, as and for the purposes set forth.

7. The detachable guide frames E, arranged upon the man-holes of a sewer, in combination with the draught rope B^x, substantially as and for the purposes described.

80,527.—MARTIN V. B. YOUNG, New York, N. Y.—*Cigar Holder.*—July 28, 1868.—The tube terminates at top in a sharp edge which lies parallel with the axis of the smoker. The cigar is placed upon the pin and tube, and pressed down closely against the large, conical tube, the pin and penetrating tube holding the cigar in position, and said penetrating tube also forming a channel of communication between the mouth piece and the interior of the cigar. The interior of the conical tube is a cooling and condensing chamber.

Claim.—1. The wedge-shaped piercing tube G, applied to a cigar holder, substantially as and for the purpose set forth.

2. The combination, with the piercing tube G and tube A, of the pointed stud or pin F, substantially as set forth.

80,528.—THOMAS J. CLOSE, Philadelphia, Pa.—*Settee.*—July 28, 1868.—A mode of securing the slats of a settee to the frame, the object being to dispense with the use of screws.

Claim.—1. A frame of a settee, with dovetail mortises and round or oval bosses, substantially in the manner and for the purpose specified.

2. The combination of the slats B, having holes or countersinks, with the bosses *c*, as described, on the frame A, and wedge-shaped keys *e*, substantially in the manner and for the purposes set forth.

80,529.—BENJAMIN A. BAILEY, Lewiston, Me. assignor to himself and WILLIAM H. KILVERT, same place.—*Yarn Beam for Loom.*—August 4, 1868.—The beam is provided with movable heads, each of which is made with a boss in which are mortises for the reception of metal keys fitting in serrated key seats. By loosening the keys the heads may be adjusted to the desired length of beam.

Claim.—1. The serrated keys and key seats, for holding the head in position, substantially as set forth.

2. A yarn beam, having main heads, made movable and adjustable, in combination with serrated key seats and adjustable keys, substantially as described.

80,530.—ELI M. BARNUM, New York.—*Elevated Railway.*—August 4, 1868.

Claim.—1. The construction and arrangement of the supporting columns of three plates, two outside corrugated plates joined upon a third central plate, arranged substantially as described.

2. The construction and arrangement of the base block of the columns, substantially in the manner described, with a bearing in the top and bottom thereof, the bottom bearing being fitted with keys, by which the column can be adjusted to a vertical position after the base or foundation block has been set, and without disturbing the same, the upper bearing acting as a fulcrum, by which the keys in the bottom bearing bring the tops of the columns to their proper position, in the manner substantially as described.

3. In combination with the top of the columns, a separate cross head T, constructed, applied, and secured, substantially as described.

4. Combining, between the wooden cross tie Q and the iron cross head T, when constructed, the latter with a V-shaped top and the former with a V-shaped bottom, the India-rubber bearing pieces *i i*, inserted in the recesses cut in the bottom of the cross tie, so as to shed the water, and avoid the accumulation of ice and dirt around the rubber.

5. The method and arrangement of securing the cross tie and rail chair to the cross head, substantially as described.

6. Combining, with the columns and rails of an

elevated railway, a pipe or tube, for the purpose of supporting, sustaining, and bracing the same, substantially as described.

7. In combination with the supporting columns, the adjustable brackets *u*, Figs. 5 and 6, for supporting the awning rods *t t*, and by which they can be moved up or down, or attached to the inside or outside of the columns, substantially as described.

8. In combination with an elevated railway, and as part of the system herein described, the construction and arrangement of the described signals to govern the movements of the cars, substantially as described.

80,531.—Allen T. Bennett and William O. Anderson, Cincinnati, Ohio.—*Machine for Cutting Rags.*—August 4, 1868.—A gang of hook-formed knives projecting spirally from a shaft, are caused to rotate at a high velocity through corresponding notches in a bench, upon which the rags are drawn slowly forward by a series of feed wheels, for the purpose of cutting rags into narrow strips for working into rag carpets.

Claim.—The combination of the gang of hooked knives $C\ C^1\ C^2\ C^3$, arranged spirally along the shaft, so as to reach the material to be acted upon in rapid and regular succession, the notched bench D, and yielding feed wheels $E\ E^1\ E^2\ E^3$, all constructed as described, the knives working intermediately between the feed wheels and projections of bench D, for the purpose set forth.

80,532.—David B. Cox, Troy, N. Y.—*Coal Stove.*—August 4, 1868.—The perforations in the partition allow the draught to pass down around the fire pot into the annular flue, by which the draught becomes heated and causes greater radiation of heat near the floor.

Claim.—The annular horizontally-circulating flue *b* around the base of the fire pot, and separated from the chamber above by a perforated partition *g*, substantially as and for the purpose herein specified.

80,533.—Christopher G. Cross, Chicago, Ill.—*Governor for Steam Engine.*—August 4, 1868.—The devices are so arranged that the action of the governor will be direct upon the throttle valve, without the intervention of a balanced bar or lever. The movement of the governor is controlled by means of pumps working in oil or other fluid.

Claim.—The arrangement of the lever or crank T, beam P, and pumps N, with the cylinder D, regulating stop *x y*, shaft E, rod H, and case A B, substantially as and for the purposes specified.

80,534.—George Draper, Hopedale, Mass.—*Let-off for Loom.*—August 4, 1868.—In this device the friction strap is connected with the lay by means of a rod pivoted to the lay, and is so operated as to prevent the delivery of the yarn at the beat of the sley.

Claim.—The combination of the connection rod *l'*, or the mechanical equivalent thereof, with the lay B, and the mechanism applied to the whip roller D and the yarn beam C, such mechanism consisting of the friction strap *f*, its wheel *g*, and spring *d*, and the operative lever and train of gears, as explained.

80,535.—Virgil Draper, North Attleboro, Mass., assignor to Edmund J. Richards, same place.—*Apparatus for Swaging the Swivel Eyes of Watch Chains.*—August 4, 1868.—The supporter has a dovetailed groove to receive the carrier, upon which latter the swaging die plate is arranged. The blank is placed over an opening of the said plate and to this the punch is applied.

Claim.—The combination of the grooved supporter A, the carrier B, the bed die D, the swaging die plate E, and the punch F, such being consructed for usei in manner and for the purpose subtstantally as described.

80,536.—Samuel Driver, Philadelphia, Pa., assignor to Robert H. Driver, same place.—*Automatic Boiler Feeder.*—August 4, 1868.—Two receivers or chambers are arranged one over the other, and communicate the one with the other, and with the feed pipe and boiler, each being opened and closed alternately by means of revolving valves, whose shafts are provided with gearing, having an intermittent action, in connection with a central actuating shaft.

Claim.—The combination and arrangement of the chambers B and B' and valves G and G', provided with pinions F^1 and F^2, and operated by means of the wheel F, on the driving shaft D, substantially in the manner above described.

80,537.—John H. Eddy, Taunton, Mass.—*Cupola Furnace.*—August 4, 1868.—A pipe leads directly under the center of the furnace to the interior of the same, and upon its upper end, within the furnace is placed an air chamber.

Claim.—1. The air chamber I, when used in connection with cupola furnaces, as above described.

2. The introduction of the blast into cupola furnaces, at the center thereof, whether the same is accomplished in the precise method herein described, or by any other means substantially the same.

80,538.—Thomas S. Fellows, Walnut Lake, Minn.—*Weather Strip.*—August 4, 1868.

Claim.—A weather strip, composed of the plates C D, when the former is provided with a lip *c'*, and the latter with an acute angular groove or recess *d'*, and the same are so combined and arranged that they are operated by the natural elasticity of the metal, substantially as described and for the purpose specified.

80,539.—Charles R. Fisher, Chelsea, Mass.—*Reversible Latch.*—August 4, 1868.—The lock is so constructed as to be readily adjusted to either a "right" or "left" hand door, as required.

Claim.—1. The slider or saddle F, with the reversible bolt C and its spring *e*, when combined and arranged as described, and so as to operate together as set forth.

2. The combination of the carriage D, the tumbler E', and the retractile spring E, with the saddle F, the reversible bolt C, and its spring *e*, the whole being arranged and applied to the case A, in manner as described, and so as to operate together as set forth.

80,540.—George P. Fuller, Philadelphia, Pa.—*Washing and Wringing Machine.*—August 4, 1868.

Claim.—1. The guiding rings D D, in combination with the heads E E and pressing bars C, substantially as described.

2. The combination of the slides *d* with the pressing bars C and guiding rings D, substantially as described, and for the purpose specified.

3. A revolving drum, which has around its periphery a series of squeezing bars, supported by springs, and having metallic slides on their ends, which are caused to vibrate in radial grooves in metallic rings, that are confined to the insides of the drum heads, when the several parts are constructed and arranged in relation to each other substantially as described, and the drum is combined and arranged with a series of squeezing rollers, substantially in the manner and for the purpose set forth.

4. The combination of the segmental strips *k* with the dove-tail grooves or recesses *l* and rollers G, substantially as and for the purpose specified.

5. The combination of the wringing apparatus, consisting of the squeezing roller $I\ I^1$, carrying roller I^2, and endless apron J and chains K, with the washing machine, substantially in the manner described.

6. The combination and arrangement of the shifter, consisting of the clutch wheel O, lever P, and horizontal rod Q, with the driving shaft F and wheel L, substantially as and for the purpose set forth.

80,541.—Henry Gill, Mansfield, Ohio.—*Machine for Threshing and Cleaning Grain.*—August 4, 1868.—The straw and grain fall upon a board in the rear of the feeding cylinder and are carried by a toothed roller over a corrugated horizontal plate, from whence they are carried by a straw carrier, consisting of a series of endless belts provided with projecting pins, between a series of notched bars.

Claim.—1. The picker roll C, in combination with the parts *a* and *b*, when constructed and arranged to operate substantially as and for the purpose set forth.

2. The beater or shaker arms F, in combination with the roller D, provided with the cams or tappets *e*, for more thoroughly shaking up the straw and separating the grain therefrom, substantially as described.

3. The straw carrier, consisting of the belts E, provided with spikes or teeth, and the notched bars R, when arranged to operate substantially as shown and described.

4. The adjustable tail piece G, in combination with the belts E, substantially as described.

5. The shoe I, when located in a threshing machine, and pivoted, at its front end, in front of the axis of the threshing cylinder, substantially as set forth.

6. Providing the shoe I with the adjustable slide *h*, for regulating the delivery of the grain and chaff to the blast in a thin and even sheet, as set forth.

7. The combination of the float *p* and the registers V, when applied to a fan, and arranged to operate substantially as described.

8. Operating the screen *u* by means of the springs *a′*, and the arms *f* and cams *n*, when arranged as set forth.

9. The combination of the shoe I, inclined chute or grain board H, and operating cams *n*, when arranged for joint operation, substantially as described.

80,542.—Edwin Gordon, Boston, Mass.—*Chemical Fire Engine.*—August 4, 1868.—The fire engine is divided into two compartments having in each a chamber, through the center of which passes the rod of the force pump of the engine, having upon it a series of rings or cone-shaped disks. Each chamber is divided into two parts, the upper one of which has a bottom sloping toward the center, so that the materials in the same shall slide toward the center and through an orifice provided for the passage of the pump rod.

Claim.—1. The combination, in a chemical fire engine, of chamber A, rod D, supplied with rings or conical-shaped disks E, or other equivalent measuring or graduating device, suction pump C, compartment B, sieve F, pipe *a*, and compartment *e*, operating together substantially as and for the purposes explained.

2. The combination, in a chemical fire engine, of chamber A, rod D, supplied with rings, conical disks, or other measuring or graduating device, suction pump C, compartment B, and sieve F, operating together substantially as above described, and for the purposes above set forth.

3. The combination, in a chemical fire engine, of the upper part of the chamber A, or any equivalent, for holding chemical substances for generating carbonic-acid gas, with the pump rod D, supplied with rings or disks, or any equivalent, measuring or graduating device, and the suction pump C, or any equivalent, for supplying a graduated quantity of pure water, operating together substantially as above described, and for the purposes therein stated.

4. The rod of a force pump or other expelling pump of a chemical fire engine, so constructed that it shall extend above the piston chamber of said pump, and have upon it a succession of rings or conical disks or other equivalent measuring or graduating device, for carrying down from a chamber above, through which the rod travels, a definite and regular quantity of some chemical substance or substances, for generating or assisting in generating carbonic-acid gas, substantially in the manner above specified.

5. A suction pump, so arranged that it shall furnish a regular measured supply of pure water proportionate to the amount of chemical substances used, and varying with the speed with which the engine is worked, for the purpose of dissolving and mixing with the chemical substances used for generating carbonic-acid gas in a chemical fire engine, substantially in the manner and for the purpose specified above.

80,543.—Joseph Harrison, Jr., Philadelphia, Pa.—*Steam Generator.*—August 4, 1868.—Improvement upon his patent of Oct. 4, 1859. The invention consists in the application to the boiler of compensating units, by which other units, of which the boiler is composed, are relieved from undue strain and consequent liability to become fractured.

Claim.—1. Compensating units *e*, combined substantially in the manner and for the purpose described, with a steam boiler constructed in accordance with that described in the patent granted to me, Oct. 4, 1859.

2. The combination of plain cast or wrought-iron pipes with the cast-iron units, in the manner and for the purpose specified.

80,544.—William Hewett, Pimlico, England.—*Composition for Preventing Incrustation in Steam Boilers.*—August 4, 1868.

Claim.—The use of tannic acid, in combination with unctuous animal matter, in a solid form, for the purpose of preventing incrustation in steam boilers.

80,545.—S. B. Hill, Chicopee, Mass., assignor to himself, Levi B. Taylor, and Charles B. Lang, same place.—*Tassel Fastening.*—August 4, 1868; antedated July 18, 1868.—The cord is attached to a spring which is passed into the bobbin and held by projections against shoulders in the space within the bobbin.

Claim.—Connecting the bobbin *b* and cord *c* by means of the spring *a*, substantially as described, and for the purpose specified.

80,546.—George W. Hubbard and Scott A. Smith, Philadelphia, Pa., assignors to Cresson and Smith, same place.—*Hangers for Shafting.*—August 4, 1868.—The body of the hanger is made hollow, and cores of different sizes are used in the space so that one pattern may be used for several sizes of shafts. A self-oiling apparatus is combined with a ball-and-socket hanger so as to bring the reservoir of oil close to the lower side of the shaft, and at the same time in the center of the bearing.

Claim.—1. The cored spaces *b′*, in combination with the enlarged opening B, in a ball-and-socket hanger, when made for the purpose specified.

2. The combination of the oil reservoir *c″*, in the lower adjusting screw *d′*, with the opening *o* and the channel *d′* in a ball-and-socket hanger, all constructed substantially as described, and for the purpose specified.

80,547.—T. Romeyn Huntington and William W. Huntington, Minneapolis, Minn.—*Railroad Gate.*—August 4, 1868.—The flanges of the car wheels strike gradually upon flanges of the levers, causing them to revolve and the gates to open. When the train has passed the gates will fall by their own weight, and the levers will be readjusted.

Claim.—1. The revolving lever A, having, from end to end, a shoulder or groove, partly spiral and partly rectilinear, and so constructed that, when fastened upon the track alongside the rail, such shoulder or groove will receive the flange of the wheel, causing the lever to revolve, all substantially in the manner described.

2. The combination of the rod and crank I G with the revolving lever A, by means of short arm J, so constructed and arranged that the train, passing over A, shall communicate a lifting force to rod L, all substantially as described.

80,548.—George B. Jenkinson, Newark, N. J.—*Trunk Caster Frame.*—August 4, 1868.—The trunk frame is constructed of an angular form, having the pin on which the caster rotates secured in diagonal braces at and within the angle of the same, and provided with clamps which embrace the bottom cleat.

Claim.—As a new article of manufacture, the within-described trunk caster frame, formed with clamps *c c*, braces *b b*, and having the roller placed in the angle of the frame, as and for the purpose set forth.

80,549.—J. U. Johnson, Springfield, Mass.—*Boot Protector.*—August 4, 1868; antedated July 24, 1868.—A metallic guard plate is attached to the boot at the point where the latter comes in contact with the ice or snow, and is designed for the use of boys in coasting or sliding on a sled.

Claim.—As an article of manufacture, the boot protector, constructed and arranged as described.

80,550.—DAVID JOY, Middlesboro, Great Britain, assignor to GUSTAV BUNKMAN, assignor to J. VAUGHAN MERRICK, W. H. MERRICK, and JOHN E. COPE.—*Steam Hammer.*—August 4, 1868.—The arrangement of openings and passages causes blows to be imparted by the ram in rapid succession, without the aid of any valve, other than that required to regulate the flow of steam through the steam pipe.

Claim.—The employment of the piston or hammer bar of a steam hammer or hammers, driven by elastic fluid, as the valve for the hammer, the ports being formed in the piston, hammer bar, or cylinder, or among them conjointly, substantially as set forth.

80,551.—J. W. KELLEY, Cleveland, Ohio.—*Whiffletree.*—August 4, 1868.—The plate beneath the whiffletree is provided with segmental dove-tailed grooves in which fit corresponding ribs on the lower plate, by which means the whiffletree is secured to the cross bar.

Claim.—The dove-tailed grooved plate C, in combination with the dove-tailed ribbed plate F, in the manner as and for the purpose set forth.

80,552.—JOHN LANE, Chicago, Ill.—*Apparatus for Welding together the Lay and Landside of a Plow.*—August 4, 1868.

Claim.—An improved implement for facilitating the welding together the lay and the landside of a plow, namely, a vise, the jaws of which are so shaped as to fit the curved surface of the lay and the under edge and inner side of the landside, substantially as shown and described.

80,553.—CHARLES B. LONG and WILLIAM A. N. LONG, Worcester, Mass.—*Knife Ring.*—August 4, 1868.—A cutter is secured to a ring and protected by a cap, and is designed for cutting of threads in sewing, or twine used in tying up packages, &c.

Claim.—The combination of the peculiar-shaped knife or cutter *b* with the slotted neck *a*, cap B, and part C of the ring, substantially as and for the purposes set forth.

80,554.—J. B. LYON, East Cleveland, Ohio.—*Fruit Jar.*—August 4, 1868.—A screw tube provided with notches in its lower end to allow the air to pass out, is fitted over a valve in the top of a jar. The air is exhausted from the jar by an air pump, and the tube is screwed down upon the valve and packing.

Claim.—The screw tube G, provided with notches *a*, as arranged, in combination with the valve seat D, valve E, elastic band H, and cover B, for the purpose substantially as set forth.

80,555.—GEORGE W. MARTIN, Boston, Mass.—*Boot and Shoe and Clog for the Feet.*—August 4, 1868.—The main wearing parts of the heel are readily detached in order that new ones may be readily applied and adjusted; the two detachable parts of the two heels may be interchanged when the same have become irregularly worn away.

Claim.—1. Uniting the two parts A and B of a boot or shoe heel, by means of tongue and groove *h* and *g*, when provided with self-adjusting retaining springs *c c*, either with or without the spring *d*, for the purposes specified.

2. The tongue and groove *h* and *g*, when formed with the receding sides *i i*, and swelled sides *j j*, when constructed and attached, as described, either with or without the projection *k*, and openings *p p*, as and for the purposes set forth.

3. The elastic adjustable pieces *m* and *n*, in use either upon heel or sole of boot or shoe, as specified and set forth.

4. The tongue *h* and groove *g*, in application to the heel of a boot or shoe, substantially in the manner illustrated, and for the purposes described and set forth.

80,556.—ROBERT MCCORKELL, Philadelphia, Pa.—*Cultivator.*—August 4, 1868; antedated July 15, 1868.—The plows are operated laterally by means of a lever pivoted to the tongue, and made to actuate a rack fastened to a bar which connects the plates that govern the motion of the drag bars. The standards are fastened to the drag bar by a transverse bolt secured by a nut, between which and the drag bar is interposed a lever and a rubber disk or ring.

Claim.—1. The lever H, rack L, and connecting rod N, in combination with the plates E, for the purpose set forth.

2. The lever *c*, in combination with the drag bars C, standard *n*, and rubber spring *r*.

3. The mode of attaching and securing the head *b* of the drag bar C, for the purpose of adjusting the angle of the plows.

4. The mode of attaching and securing the standard *x* to the bar *y*, as and for the purpose set forth.

80,557.—FRED. J. MILLER, Brooklyn, N. Y.—*Speaking Trumpet.*—August 4, 1868.—The trumpet is composed of a series of telescopic rings or sections, by which it may be reduced to a small compass to enable it to be carried in the pocket.

Claim.—As a new article of manufacture, a pocket trumpet, made in substantially the manner described and shown, and for the purposes set forth.

80,558.—JOHN MORRISON, Birmingham, England.—*Hemmer for Sewing Machine.*—August 4, 1868.—The folder, which is graduated into inches and parts of inches, is formed at the end of an arm hinged to the base plate, which is capable of being turned in a vertical plane. The base plate is jointed to a connecting piece fixed to the sewing machine so that it can be turned out of the way of the needle. Upon the folder arm is a spring slide for regulating the width of a hem or tuck.

Claim.—1. The hem holder *a*, in combination with the graduated jointed arm *b* and horizontally-swinging base plate *c*, substantially as and for the purposes herein shown and set forth.

2. The combination, with the graduated arm *b* and base plate *c*, of the spring slide $f\ f^2\ f^3$, constructed and used substantially as herein shown and described.

3. The combination, with the hem folder *a*, graduated jointed arm *b*, and base plate *c*, of the spring plate $h\ h^2\ h^3$, jointed to the arm *b* at h^4, substantially as and for the purposes set forth.

80,559.—WILLIAM H. MOSS, New Richmond, Ohio.—*Oil for Wool.*—August 4, 1868.—Consists of a compound of unslaked lime, water, and lard oil.

Claim.—The preparation of a compound oil, composed of the ingredients and in the proportions, and made in the way and manner, substantially as set forth above, for application to the use and manufacture of all kinds of woolen goods, and the greasing, carding, cleansing, and spinning of all kinds of wool.

80,560.—AUGUSTUS F. NAGLE, Providence, R. I.—*Expanding Mandrel.*—August 4, 1868.—A conical arbor is closely fitted in a slotted shell, on the outside of which is cut a screw thread corresponding with that in the nuts to be faced.

Claim.—An expanding mandrel, as herein described, consisting of the slotted shell B, having spring jaws B B, and tapering arbor A, all constructed, arranged, and operating in manner set forth.

80,561.—CHARLES L. OSBORN, New York, N. Y.—*Bird Cage.*—August 4, 1868; antedated July 20, 1868.—The sills, posts, cross ties, &c., are constructed of strips of metal whose cross section is in shape like the letter L. Glass sides are provided to prevent particles of food from being scattered on the floor.

Claim.—1. The combination, in a cage, of the sills, posts, plates, girts, cross ties, &c., constructed as described, with the glass sides, substantially as herein specified.

2. The nest or sleeping compartment J, constructed below the surface of the floor of the cage, substantially as described, when used for the purpose set forth.

80,562.—HENRY H. PALMER, Rockford, Ill.—*Spring Seat for Wagons.*—August 4, 1868.—Helical springs are placed between the seat and a base board, together with yielding cross braces so as to obtain a lateral as well as vertical motion of the springs.

Claim.—The seat A, bottom B, braces C, and straps E, in combination with the spring D, when arranged to operate substantially in the manner herein described.

80,563.—Frederick J. Peabody, Medford, Mass.—*Button.*—August 4, 1868.

Claim.—A stud or button, having its back or inner plate B divided on one side into two portions, *b c*, which are bent or curved around in opposite directions, so as to overlap each other, substantially in the manner and for the purpose set forth.

80,564.—E. Quinlan, Sheboygan Falls, Wis.—*Machine for Polishing Wooden Handles.*—August 4, 1868.—A hollow mandrel is provided with steel or other burnishing devices, so arranged that as the work passes through the mandrel, the burnishers will press on its surface.

Claim.—A hollow mandrel, A, with the burnishers D D attached thereto, substantially as and for the purpose set forth.

80,565.—George Raymond, Fitchburg, Mass. assignor to himself and Samuel E. Crocker.—*Attaching Handles to Tools.*—August 4, 1868.

Claim.—The combination, with the handle, its ferrule, and the tang or shank of the tool, of a tapering tubular key, passing through both the ferrule and handle, and encircling and grasping the end of said shank or tang, under the arrangement and for operation as herein shown and set forth.

80,566.—Isaac S. Roland, Reading, Pa.—*Water Wheel.*—August 4, 1868.—The chute chamber is supported upon an upwardly-curving rim which is secured to the perforated base supporter and is allowed to turn freely on the same so that in case of any obstruction the chute chamber will rotate with the water wheel without injury to either, when the latter can readily be stopped.

Claim.—1. The movable and self-relieving chute chamber *f j k l*, located within the series of water-wheel buckets *e c*, and operating therewith, substantially as herein set forth.

2. The arrangement of the movable chute chamber *f j k l*, and its annular supporter *g*, with the disk and buckets of the water wheel, substantially as herein set forth.

3. The combination of the tubular gate *h* with said movable chute chamber, arranged and operating substantially as herein set forth.

80,567.—George F. Sack, New York, N. Y.—*Mold for Casting Letters, &c.*—August 4, 1868.—The two parts of the mold are formed of sepia, into which the object to be reproduced is pressed, to form the pattern.

Claim—A mold for casting letters and ornaments, which will retain an accurate impression of the most delicate lineaments of the pattern, made of a sepia or cuttle-fish bone, in the manner substantially as herein described, and for the purpose mentioned.

80,568.—John Scholl, Soho, assignor to Samuel S. Bateson, Mayfair, England.—*Gas-Burner Attachment.*—August 4, 1868.—The "improver" is provided with a metal guard for the purpose of protecting it from injury. The guard is formed with fingers, which spring into slots made in the collar of the improver.

Claim.—1. The combination, with a platinum or other equivalent gas-light improver or perfecter, of a guard or protector, for the purpose hereinbefore set forth.

2. The peculiar modes of combining a gas-light improver or perfecter with a guard or protector, whereby the former is maintained, through the agency of the latter, in its proper adjusted position, substantially as hereinbefore described, and illustrated by the drawings.

80,569.—Elijah M. Scoville and Washington L. Scoville, Manlius, N. Y.—*Hoisting Apparatus.*—August 4, 1868.—This invention relates to improvements upon an apparatus previously patented to the same inventors, and numbered 69,257, and consists in devices for adjusting and shifting the article hoisted to a transit rope, and returning the hoisting pulley to the position for hoisting.

Claim.—1. The circular discharging wedge J and roller *i*, for operating the discharge of transit pulley A B, substantially as shown and described.

2. The circular catch *k'* and latch M *n*, in connection with the transit pulley A B, constructed and operating substantially as herein shown and described.

3. The combination of retaining projections *s* with discharging levers E and hooked cheeks *a a''* of transit pulley A, as herein shown and described.

80,570.—Edgar M. Smith, New York, N. Y.—*Lighting up Picture Galleries.*—August 4, 1868.

Claim.—1. A lighter, so constructed with dimmed plate glass underneath the burners as that all that portion of a room or gallery above the line of vision shall be in bright light, and all that portion below the ordinary line of vision be in dim or obscured light, substantially as and for the purpose set forth.

2. In combination with the dimmed plate glass, the bent rods and knobs, or their equivalents, for changing the height of the bright light and the dimmed light in the room or gallery, substantially as and for the purpose described.

80,571.—Benjamin B. Snow and Theodore J. Dickerson, Auburn, N. Y.—*Machine for Grinding the Cutters of Mowing Machines.*—August 4, 1868.—The sliding rest enables the teeth to be held in position to be successively ground. A clamp is pivoted to the rest so as to regulate the angle at which the teeth are to be ground.

Claim.—1. The sliding rest C, moving in a slot in the frame, for the purpose of holding the knife clamp, substantially as described.

2. The rod D, moving longitudinally in the rest C, for the purpose of successively bringing the sections of the reaper knife to the stone.

3. The combination of the clamp E and rod B with the rest C, frame A, and fixed stone B, all arranged and operating substantially as described.

80,572.—W. A. Stevenson, Athens, Mo.—*Hand-Spinning Machine.*—August 4, 1868.—Extending from one end of the frame to the other is a rod, upon which is a movable stud provided with a fixed screw. Upon this rod is fixed a lever, connected by a rod to the step, which is pivoted on a jaw in front of the feeding drum. The said lever has an arm which engages with another lever connected to the frame. On the inside of the pulley, which is attached to the extremity of the shaft of the feeding drum, are arranged two ratchet wheels, one being attached to the wheel, while the other is moved back and forth on the shaft by means of a lever, for throwing the drum and pulley in and out of gear.

Claim.—1. The rod *e*, stud *m*, levers *r*, *v v'* and *t t'*, jaws *h h'*, step *s*, and plate *w* of a spinning machine, all constructed, arranged, and operating in relation to one another and the other parts of the machine, substantially as and for the purpose specified.

2. The rod *e*, stud *m*, lever *r* and its arm 4, levers *n* and *q*, with its connections, ratchets 1 2, of a spinning machine, all constructed, arranged, and operating relatively to themselves and the other parts of the machine, as and for the purpose specified.

3. The combination of the parts above mentioned with the frame A, carriage B, drum C, belt D, and roller *f* of a spinning machine, as and for the purpose specified.

80,573.—Joseph Stokes and John Brough, Trenton, N. J.—*Water Boshes for Puddling Furnace.*—August 4, 1868.—The puddling furnace is provided with a hollow bosh so constructed that a current of water may be maintained within the bosh, through, under, and around the bottom of the furnace.

Claim.—Making the boshes hollow, and the hollow to extend under the bottom for the passage of a current of water, substantially as and for the purposes set forth.

80,574.—O. H. Taylor, Brooklyn, N. Y.—*Grate Bar.*—August 4, 1868.—The top of the bar is made of round or oval form, and the sides are serrated at a suitable angle. A lock is formed on the sides of the bars where they rest, and form a bearing against and support to each other. To the under part of the bar are cast truss and arch work.

Claim.—1. The grate bar A, provided with serrations or indentions upon the upper slope of said bar, as herein shown and described, and for the purposes set forth.

2. The key D, in combination with the slots F F, for the purpose of locking the bars, substantially as shown and described.

3. The combination of the open truss work with the bar A, provided with serrations, and interlocked by an independent key, when constructed as shown and described, and for the purposes set forth.

80,575.—David Thomas, Hingham, Mass.—*Friction Nipper.*—August 4, 1868.—Designed more particularly as an improvement upon the windlass gear known as the "Scotch nipper" and the invention consists in making a groove, fork, or crotch in the short arm of the lever and in applying a shoe which extends across the outer face of the outer flange of the ring which is secured to the windlass body, and upon which the nipper operates.

Claim.—In friction nipper feeds, the employment of a shoe in connection with the notched lever, cheeks, and flanged ring, so as to operate substantially as described.

80,576.—W. Wagstaff, Millbury, Ohio.—*Tea Kettle, Coffee Pot, &c.*—August 4, 1868.—Pipes communicating with the interior of the kettle are arranged transversely in a chamber or space in the center of the kettle and open at the bottom.

Claim.—The transverse arrangement of the pipes C in the chamber B, and in combination with the tea kettle or coffee pot A, in the manner as and for the purpose set forth.

80,577.—Daniel Warner, Boston, Mass., assignor to himself, James T. Bowman, Richard C. Dougherty, and Daniel J. Huckins.—*Lamp-Wick Trimmer.*—August 4, 1868.—A flat tube provided with slits on opposite sides and with a flange extending from the top of either branch, is slipped on the wick tube to facilitate the regular trimming of the wick.

Claim.—The clamp gauge, as constructed of the flat tube slitted at its opposite edges, as set forth.

2. The combination and arrangement of either or both the flanges *c c*, with the flat tube slitted at its opposite edges as specified, the whole being for the purpose or purposes as explained.

80,578.—W. F. Waterhouse, Weyauwega, Wis.—*Hop Drier.*—August 4, 1868.—The kiln is so constructed as to cause a current of heated air to be forced through the mass of hops which are placed on a movable platform, over which is a reflecting roof open at its ends to allow the vapor to escape.

Claim.—1. A furnace, with hopper-shaped interior, in combination with movable roof D, substantially as described.

2. The roof D, hung by hinges at the eaves, so as to perform the threefold purpose of roof, or protection against the weather, as shown in Fig. 1, reflectors, to reflect artificial and solar heat, and to cover the kiln, to retain the heat when the hops are off, substantially as described.

80,579.—William Weiler, Washington, N. J.—*Rock Drill Machine.*—August 4, 1868.—Designed as an improvement on a machine patented to the same inventor on March 31, 1868. The driving shaft is provided with wheels of equal diameter, upon which the machine can be transported from place to place. A yoke at the top of the frame affords a means of attachment to a rope or chain, for hauling the machine.

Claim.—1. The driving shaft D, carrying at the opposite ends wheels F and F′, and arranged on the frame of the machine, substantially as and for the purpose described.

2. The yoke G secured to the top of the frame of the machine, for the purpose specified.

80,580.—C. Albert Wiggin, North Sandwich, N. H.—*Apple Parer.*—August 4, 1868.—The underside of the outer edge of the circular revolving table is constructed with a cogged surface for about one-half of its circumference, into which gears a pinion having a portion of its teeth cut away, so that when the knife has traveled its required circuit, the table will immediately return to its original position.

Claim.—1. The turn table B, cogged as described, and furnished with projection *b*, in combination with pinion F, constructed and arranged to operate substantially as set forth.

2. Shaft b^1, spring D, pinion F, table B, shank *g*, knife G, springs g^1 and g^2, fork J, shaft *j′*, pinions *j*, *h*, and *h′*, gear wheel L, and shaft *f*, all combined and arranged substantially as and for the purpose set forth.

80,581.—Marvin T. Williams, Milwaukee, Wis., assignor to himself and John Lund.—*Scaffolding.*—August 4, 1868.—Two sections of a ladder are connected by bars at each side, so as to form, when swung open, a frame for a scaffold.

Claim.—The two short ladders A, pivoted to the bars C, having the spring catches D arranged to engage in the recesses in the ends of bars A, all constructed and arranged for use substantially as herein shown and described.

80,582.—Andrew C. Yawger, N. J.—*Adjustable Barrel Head.*—August 4, 1868.—The two side pieces of the head are held in place by a central piece secured by means of a plate and screw, so that the entire head can be easily inserted and removed without disturbing the hoops.

Claim.—The pieces A and B, when used in connection with piece C of a barrel head, and held in place by means of piece F and screw G, all constructed and operating substantially as set forth.

80,583.—Isaac Allard, Belfast, Me., assignor to himself and Frank A. Howard, same place.—*Screw Driver.*—August 4, 1868.—The shank of the screw driver is made in a spiral form and surrounded by a spiral spring, is inclosed partially in a tube. The shank is held by a spring catch, upon releasing which, the shank will be forced out by the recoil of the spring and turn the screw to which it is applied.

Claim.—1. The tube A, the spiral shank B, and the spring C, when the same are constructed, arranged, and operated substantially as and for the purposes shown and described.

2. The spring catch F, in combination with the spiral shank B and tube A, as herein described for the purpose specified.

80,584.—William S. Anderson, Shelbyville, Tenn.—*Car Coupling.*—August 4, 1868.—The coupling device consists of two blocks connected by a hinge, and attached at the upper end to a bolt bearer, the parts being so arranged as to be self-coupling, and in case of a car being thrown from the track, the coupling would be readily broken and disengaged.

Claim.—The combination of the "lever C," "bolt bearer D," "bolt E," and "link F," in connection with the "buffer A" and "coupling frame B," secured to the car by the "bolt H," all constructed and arranged as described, and for the purpose specified.

80,585.—Moses Atwood, New Sharon, Iowa.—*Seed Planter.*—August 4, 1868.—The seed dropping device is attached to a secondary frame connected by hinged bars to the front end of a truck frame. By raising the rear part of the secondary frame, through the medium of a windlass, the furrow and covering shares are elevated.

Claim.—1. The attaching of the seed distributing apparatus to a frame, G, placed on the frame A of the machine, and attached thereto by hinges, and arranged in connection with a windlass, in the manner substantially as shown, to admit of the furrow and covering shares being raised when necessary, as set forth.

2. Operating the seed distributing plates *q q*, through the media of the treadle shaft R and bent levers S S, arranged substantially as set forth.

3. The adjustable bar K, arranged as shown in connection with the bars N N, on which the seed boxes M M are secured, for the purpose specified.

4. The combination of the frame G with the frame

A, provided with truck wheels, when said frames are used in connection with a seed dropping mechanism, as set forth.

80,586.—JOHN BAHAM, ROBERT C. WILSON, and SAMUEL FRENCH, Auburn, N. Y.—*Machine for Removing Wire Teeth from Cards.*—August 4, 1868. —The toothed drums hold and feed up the cards from which the teeth are to be extracted, by which the teeth are partially loosened and are then removed by the toothed wheels, which catch into the loops on the back of the card. The knives serve to clean the face of the leather after the wire has been drawn out.

Claim.—1. The toothed drums B′ and C′, the card guide upon the bar U, and the adjustable plate *x*, provided with the guides *y y*, combined and arranged substantially as and for the purpose set forth.

2. The toothed wheel T′, when used in combination with the drums B′ and C′, as and for the purpose set forth.

3. The knives E′ and wheel T′, in combination with the drums P, M, and Q, constructed and operating as and for the purpose set forth.

80,587.—ZEBIAH W. BASSETT, Fulton, N. Y., administratrix of the estate of N. P. BASSETT, deceased.—*Bee Hive.*—August 4, 1868.—The comb-frames are secured in the box by screws, and are pressed against spurs on the opposite side, so as to prevent them from becoming casually detached. The entrance to the hive is made sinuous in order to prevent the advent of the miller.

Claim.—1. The securing of the comb frames G in the box C by means of the screws *g* and spurs *r*, substantially as shown and described.

2. The exit passage *m*, in connection with the entrance passages *h i*, and chamber *j*, all arranged substantially as and for the purpose specified.

80,588.—SIMON R. BOLTON, Prescott, Wis.—*Stocking Darner.*—August 4, 1868.—Two oval-shaped pieces of wood of different sizes are connected to the ends of a wooden handle. By detaching one of the heads the handle may be used in darning the fingers of a glove.

Claim.—A stocking tree, consisting of detachable heads and shaft, the heads being of different sizes, and the shaft provided with a cavity for use as a needle case, all arranged substantially as herein described.

80,589.—ALONZO T. BOON and JAMES B. FINCHURE, Galesburg, Ill.—*Dentists' and Barbers' Chair.*—August 4, 1868.—An adjustable rest for the head is combined with a device for holding the back of the chair securely in an adjustably inclined position, so that persons of different sizes may be readily accommodated in the same.

Claim.—1. The combination and arrangement of the head rest F, crank G, with a grooved cam, *b*, and rubber *c*, affixed therein, and plate H, with the back of the chair, substantially in the manner and for the purpose as herein shown and described.

2. The combination and arrangement of the support A, rod B, spiral spring C, helical screw D, and rack E, with the seat of the chair, substantially in the manner and for the purpose as herein shown and described.

80,590.—S. C. BROCKINGTON, Groton, Conn.—*Lamp.*—August 4, 1868.—Within a lamp reservoir is arranged a float, surrounded by a perforated guard, which float, when it rises to a certain height in the reservoir, closes a valve and prevents the further supply of fluid until necessary. The supply of fluid may be regulated by a stop-cock in a pipe connected with a tank.

Claim.—1. The self-acting valve attachment to lamp reservoirs, consisting of the valve *c*, attached to a float, E, and made and operating substantially as herein shown and described.

2. The device set forth in the foregoing clause, in combination with the perforated guard F, arranged as shown.

3. The combination of the lamp reservoir C with the guard F, float E, and valve *c*, and with the pipe B, stop-cock D, and tank A, all made and operating substantially as herein shown and described.

80,591.—ALBERT C. BROWN, Chicago, Ill.—*Weather Strip.*—August 4, 1868.—The rubber strip is folded and its edges are inserted in grooves in the molding. It is made to press against a stop or abutment upon the door or sash.

Claim.—The combination of the molding *a b* with the stop C, provided with a groove *c*, arranged substantially as and for the purposes specified.

80,592.—ROBERT BROWN, Norwich, Conn.—*Steam Trap.*—August 4, 1868.—Two disk valves are attached to a rod operating in an exhaust steam chest provided with perforated partitions, and connected with the cylinder, for the purpose of relieving the engine cylinder of under pressure at its exhaust-end, and also of the water of condensation.

Claim.—The arrangement of the steam-exhaust chest A, the perforated partitions F G, the disk valves H I, and their common stem, J, with relation to each other and the cylinder, as herein shown and described.

80,593.—THOMAS W. BROWN, Cudworth, Barnsley, England.—*Cotton Seed Cleaner.*—August 4, 1868.—The seeds to be cleaned are passed through a vertical or nearly vertical tube or funnel, which is highly heated, from a hopper and spout provided with feeding rollers. At the bottom of the heating tube is a reciprocating pan in which the seeds are agitated for the purpose of cooling the same.

Claim.—1. Removing the fiber from the hull of cotton seed by successively heating and cooling the same, by means substantially such as herein shown and described, and for the purpose set forth.

2. The combination, with the heater B, of the feeding rollers E F, hopper D, and spout G, substantially as and for the purpose herein shown and described.

3. The combination, with the heater B, of the agitating pan L, substantially as and for the purpose described.

80,594.—JOHN BURT, Sturgis, Mich.—*Skein Setter for Axles.*—August 4, 1868.—The object of this invention is to give any required taper to the wooden arm of an axle. The crank is provided with a square hole in which rest one end of the ways and the rocking box, which is pivoted between the ways. The lower end of the crank is provided with a slide to regulate the degree of taper. The knife block slides upon the inclined ways.

Claim.—1. The employment of the slide *h* in crank D, for adjusting the arm, substantially as and for the purpose specified.

2. The ways *g g*, when hinged or pivoted at both ends, substantially as set forth, for the purpose of accommodating them to the set of the arm.

3. Providing the crank D with rocking box *a*, and attaching screw shaft *b* thereto, substantially as described.

4. Finally, wheel B, constructed substantially as set forth, in combination with hinged or pivoted ways *g g*, screw shaft *b*, knife block E, divided nut *e*, and crank D, for the purpose described.

80,595.—DANIEL CAMPBELL, Elizabeth, N. J., assignor to HENRY SEYMOUR and ROBERT H. SEYMOUR, New York, N. Y.—*Pruning Shears.*—August 4, 1868.—A holder is so connected to a pruning shears and operated as that, when a fruit stem is cut from a branch, the said stem will be clamped and firmly held after being severed, thus combining a fruit picker with a pruning shears.

Claim.—1. The holder K, in combination with the movable blade D, and fixed blade B, of a pair of pruning shears, when said holder is applied or arranged so as to be operated automatically from the movable blade D, substantially as and for the purpose set forth.

2. Operating the movable jaw D through the medium of the cross-arm I attached to the shaft H, which is provided with the crank G, to which the spring J and rod F are attached, all arranged substantially as shown and described.

80,596.—Henry J. Case, Auburn, N. Y., assignor to Henry Richardson, same place.—*Clamping Knives or Cutters of Mowing Machines while being Ground.*—August 4, 1868.—Attached to the bar which holds the sickle bar, are pivoted a series of clamps connected by rods and operated by a cam lever pivoted to the roller bar, by which means the clamps are readily brought tight up against the sickle, and as readily unclamped.

Claim.—In combination with the clamping and holding bar A, the series of clamping hooks, actuated through a common lever for fastening and releasing the reaper bar or sickle, substantially in the manner and for the purpose described.

80,597.—N. H. Cass, Henryville, Ind.—*Medical Compound for Treating Hog Cholera.*—August 4, 1868.—The ingredients consist of cochineal, linseed-oil cake, sarsaparilla, Venetian red, madder, and opium.

Claim.—The compound composed of the above-mentioned ingredients, in about the proportions named, substantially as and for the purposes described.

80,598.—G. W. Chapman, Jr., Iowa Falls, Iowa, assignor to himself and W. A. Plantz, same place.—*Harvester Cutter.*—August 4, 1868.—The sickle bar is formed in two pieces, so as to secure separate cutters or teeth between them, in order to admit of the teeth being easily removed and replaced.

Claim.—The sickle bar, constructed as described, consisting of the upper bar *b′*, provided with the inclined slots *s*, for the passage of the screws *h*, the lower bar *b* having a groove for the reception of the ribs *c* of the teeth *a*, said bars being adjusted to clamp the teeth by means of the screw *e* in their upset ends, as herein described, for the purpose specified.

80,599.—Nash Cheek, Chapel Hill, N. C.—*Burglar Alarm Lock.*—August 4, 1868; antedated July 30, 1868.—An alarm apparatus is so connected with a lock that, when properly set, the same will be put in operation and an alarm sounded, in case the bolt of the lock is improperly moved.

Claim.—1. The lever F^x, connected with the bar *i*, as shown in combination with the sliding bar F at the outer side of the lock, and attached to the shutter or door, and arranged so as to operate an alarm, substantially as shown and described.

2. The lever G, pivoted to the bar F, in connection with the spring *k*, toothed wheel H, cord J, and weight K or an equivalent, arms *m* on the drum of the shaft I, shaft M with arm L′ and bell hammer N attached, spring O and bell P, all arranged and combined to operate in connection with the lock, substantially as set forth.

80,600.—Alvin B. Clark, Richmond, Ind.—*Post Driver.*—August 4, 1868.—This invention consists in driving or setting posts by the application of power from the force of gravity, from the weight of a wagon thrown upon the post by means of lever clamps, screws, and a hand beetle.

Claim.—1. The device, constructed substantially as described, and arranged upon a wagon in such a manner as to throw the weight of the vehicle upon the post, as and for the purpose set forth.

2. The combination of lever clamps B B, center beam or lever C, screw D, with its lever J, hoisting screw G, with its base F, and lever H, socket plate I, all operating substantially as described and for the purpose set forth.

80,601.—James T. Clark and John B. Besler, Galesburg, Ill.—*Switch.*—August 4, 1868.—The switch rails are so arranged and connected that if not properly placed the flanges of the car wheels, entering gradually and wedge-like into the spaces between the stationary and the pointed rails, will set the switches to their proper places.

Claim.—The combination of the two short, G G′, and two long H H′, pointed movable rails, with two stationary rails E E′, forming a treble safety switch, the whole arranged and operating substantially as and in the manner herein described and specified.

80,602.—O. W. Clark, Appleton, Wis.—*Elevator Bucket.*—August 4. 1868.—The bucket is made with rounded front corners, and narrower on the front face than on the back.

Claim.—The elevator bucket, constructed in the form herein shown and described, as and for the purpose set forth.

80,603.—J. C. Colflesh, Delaware, Ohio.—*Rack for Feeding Sheep.*—August 4, 1868.—A hopper-shaped rack is attached to a shaft and supported in an upright position, to be filled. When filled, the lid is closed and fastened, and the rack turned down by means of a crank, to allow the sheep to feed.

Claim.—The tapering rack C, supported on the frame A by means of its shaft B, and provided with a hinged lid, E, pawl *c*, and ratchet *c′*, and operated by the crank D, so that it can be revolved to prevent the sheep from feeding, to allow its being filled with provender, and prevent the ingress of rain or snow, as herein set forth.

80,604.—George W. Cooper, Ogeechee, Ga.—*Rice Cultivator.*—August 4, 1868; antedated July 30, 1868.—A horizontal cutter with upturned sides serves to loosen the earth, and two curved arms with cutting edges cut the loosened earth and throw it toward the middle under the beam. In rear of the cutters are toothed disks, which completely break up the loosened earth.

Claim.—1. The cutter D of a rice cultivator when arranged as described, with upturned cutting sides *a a*, substantially as set forth.

2. The curved cutters E E, when arranged on the sides of the cultivator, so as to cut close to the plants, without injuring the same, as set forth.

3. The revolving toothed breakers H H, when arranged with beveled edges, and when made and operating substantially as herein shown and described.

4. The revolving breakers H H, when made as set forth, in combination with the washer *b*, and cleaners I I, all made and operating substantially as herein shown and described.

5. Making the arms F, in which the axle G of the breakers has its bearings, adjustable on the beam A, so that thereby the height of the breakers can be adjusted, as set forth.

6. A rice cultivator, consisting of the beam or frame A, with the cutters D E E, and breakers H H, all made and operating substantially as herein shown and described.

80,605.—L. D. Cowles, Romeo, Mich.—*Buckle.*—August 4, 1868.—Two frames are placed one within the other, the smaller one being provided with cross bars and lugs.

Claim.—The lugs C C, on the sides of the frame B, in combination with the frame A, having inclined edges, whereby the end bars of the two frames are made to hold the strap, substantially as and for the purposes herein set forth.

80,606.—L. B. Cox, San Francisco, Cal.—*Apparatus for Disintegrating Gravel containing Gold, &c.*—August 4, 1868.—A rotary rake is operated within a vessel in the bottom of which are a series of narrow curved slots. Below the perforated bottom is a hopper-shaped vessel, provided with a spout.

Claim.—1. The slotted bottom or floor *d* of the tub D, when constructed in several independently removable pieces, for the purpose specified.

2. The combination of the tub D, slotted floor *d*, rake F, shaft G, and receiving vessel B, when the several parts are constructed to operate substantially as and for the purpose set forth.

80,607.—Richard T. Crane, Chicago, Ill.—*Core Bar.*—August 4, 1868.—Designed as a support for the core of molds used in casting "return bends" of steam and gas pipes. Two bars are formed in the shape of semi-tubes, so that when the same are arranged together and riveted, a hollow bar will be formed, with a narrow space between the parts to admit of the escape of the gases.

Claim.— The combination of the bars A and cross bar B, when constructed substantially as and for the purposes specified.

80,608.—GEORGE CROMPTON, Worcester, Mass. —*Loom.*—August 4, 1868.—The jack plates, for forming the shed, are lifted and depressed by means of lifter and depresser bars, which maintain a horizontality during most of their movements in forming the shed, but which are thrown into inclined positions to give the proper inclination to the shed, at the end of each movement, a corresponding motion being given to the evener levers.

Claim.—In combination with the hooked jacks, the angular lifter and depresser bars or levers, the inclination of which is effected by means substantially as set forth.

2. In combination with lifter and depresser bars, the inclination of which is effected as and by means substantially as set forth, the evener bars or levers, connected to the lifter and depresser bars by the slide rods and the links *s*, substantially as described.

3. The rocker wheel or segment *l*, for imparting movement to the lifter and depresser bars or levers, substantially as shown and described.

80,609.—HENRY J. CULP, Goshen, Ind.—*Fence.* —August 4, 1868.—The panels are secured together by pins and are held in a vertical position by crossed stakes, so as to prevent any lateral movement.

Claim.—The panels A, hung upon the pin *a*, in combination with the crossed stakes D D, whereby the lateral movement of said panels is prevented, as herein shown and described.

80,610.—W. F. DAUGHERTY, Wellington, Ohio, assignor to himself and HIRAM ELLIOTT, same place, —*Feather Renovator.*—August 4, 1868.—Pipes, provided with openings, are secured to the sides of cylinder. Each pipe is supplied with a faucet at the end for shutting off and admitting steam.

Claim.—The faucets E, in combination with the pipes *b* and side pipes D D′, for the purpose specified.

80,611.—JAMES P. DAVISON, Rome, N. Y.—*Potato Digger.*—August 4, 1868.—The potatoes are thrown up by a peculiarly-shaped share or point and passing to an endless apron, are deposited on a series of vibrating arms or fingers.

Claim.—1. The combination of the share or point N, apron O, vibrating shaker S S′, and clearing fingers V V′, arranged and operating substantially as and for the purpose set forth.

2. The endless apron O, consisting of the belt *o*, transverse bars o^1 o^2 o^3, and links o^4, employed and operating substantially as and for the purpose specified.

3. The lips or flanges *a*, in combination with the cross bars C C′, G, beam D, and braces L, substantially as described.

80,612.—JACOB S. DETRICK, San Francisco, Cal., assignor to himself and WILLIAM R. ECKERT, same place.—*Counting Register.*—August 4, 1868.—Designed for a pocket instrument for accurately determining the velocity of shafting, &c., and consists of two spur wheels provided, one with a hundred and the other with one hundred and one cogs. A detachable spindle having a worm screw that meshes with these cogs, is thrown in and out of gear with the spur wheels.

Claim.—1. The combination of the lever G, or its equivalent, with the detachable spindle J and the wheels E I, when the parts are constructed and arranged so as to operate together, substantially in the manner and for the purposes indicated.

80,613.—ROBERT F. DOBSON, Goderich, Canada. —*Broom.*—August 4, 1868.—The free portions of the broom corn are so fastened as to extend toward the upper end of the handle, when they are turned back and secured.

Claim.—1. The turning ring *a*, affixed to the rolling barrel D by means of the braces B, substantially as herein shown and described, for the purpose set forth.

2. As a new article of manufacture, a broom in which the corn is applied and secured as herein shown and described.

80,614.—OLIVER P. DRURY, Niles, Mich.—*Harvester Pitmen.*—August 4, 1868.—For connecting the end of the pitman with the sickle bar, with as little wear, and liability to become loose or choked up by grass, as possible.

Claim.—The described construction of the coupling, consisting of the recessed jaw C, formed upon the bar A, the recessed jaw B, provided with the extension J, adapted to be moved between the guides *a a* by means of the screw bolt E, extending through the jaw C, all operating as described, the proximate recesses in the jaws B C receiving the ball G upon the shank of the pitman D, as herein set forth and shown.

80,615.—DANIEL EBERHART, New Pittsburg, Ohio.—*Spark Arrester.*—August 4, 1868.—A wire netting with inclined sides and open at the bottom, is secured in a metal box attached to the top of a chimney. Vertical pieces of wire netting surround the above and the whole is surmounted by a sloping roof.

Claim.—The within-described spark arrester, when constructed and operating substantially as and for the purposes herein set forth.

80,616.—D. A. FISKE, Delavan, Wis.—*Churn.* —August 4, 1868.—The floats are attached to shafts, so arranged in the dasher frame as to assume a horizontal position when descending. A sliding bar made in the shape of a half cylinder, prevents the cream from escaping through the cover.

Claim.—1. The paddles or floats G, and shafts F, constructed and arranged substantially as herein shown and described, in combination with each other and with the dasher frame E, as and for the purposes herein set forth.

2. The sliding bar M, in combination with the dasher handle D, cover I, side boards L, and cleats J, substantially as herein shown and described, and for the purpose set forth.

3. Forming the chamber K, by inserting the ends of the side boards L in grooves formed in the inner sides of the cleats J, substantially as herein shown and described, and for the purpose set forth.

80,617.—PATRICK FOLEY, Nineveh, N. Y.—*Double-Action Pump.*—August 4, 1868.—The valves are so arranged that when the pump is not to be used, they can be opened to discharge all the water from the cylinders, and prevent the freezing of the same.

Claim.—The arrangement of the lever M with relation to the cylinders A B, chamber I, valves *d*, and valves *b b*, whereby, as the piston C descends, the valve *d* is opened, by means of the lever M, to discharge the water from the chamber I into the cylinder A, the valves *b b* being operated to discharge the water from the cylinders A B into the chamber L by the alternate strokes of the pistons C D, as herein described, for the purpose specified.

80,618.—WILLIAM C. FRAILEY, Ironton, assignor to himself and D. T. WOODROW, Cincinnati, Ohio.—*Chimney Cowl.*—August 4, 1868.—The cowl or cap is constructed of light, thin, slightly ornamented plates of cast iron secured together in sections, and designed for inclosing the brick work of a chimney.

Claim.—The combination of the flanged base B *b*, sides *c c′*, cap *d*, lugs *e f g*, and connecting bolts *h*, all constructed and employed substantially as and for the purposes set forth.

80,619.—ELNATHAN G. GANIARD, New York, N. Y.—*Ottoman and Hassock Filler.*—August 4, 1868.—A tube is placed inside the ottoman or hassock and both are placed in the ring and upon the bottom piece. As the filling is introduced and pressed down the tube is gradually withdrawn.

Claim.—The vertical movable tube C, ring B, in combination with the molding bottom D, all arranged and acting conjointly as herein shown, and for the purpose set forth.

80,620.—CAROLINA GOESSLING, Jersey City, N. J.—*Water and Damp-Proof Paper for Covering Walls.*—August 4, 1868.—Two thicknesses of paper are coated with a composition of resin, suet, yellow wax, and flour of sulphur, and cemented together by the composition. The two outer surfaces are then coated with the same.

Claim.—As an article of manufacture, paper, prepared substantially as described, and for the purposes herein set forth.

80,621.—JOHN GOODENOUGH, Jerseyville, Ill.—*Blacking Brush Scraper.*—August 4, 1868.—The scraper may be attached to an ordinary blacking brush, and is designed for removing the dirt from the boot or shoe.

Claim.—The scraper B, provided with the hook x^4, straight and curving edges x x^1 x^2, and attached at right angles to the rod B, as shown, the latter being bent at b b^1 b^2, and fastened to handle of brush A, as shown and described, the rod and scraper being so operated in connection with the handle, that when needed for use the former is turned forward and firmly held by the notch c, and when not needed may be turned backward and held by the hook x^4, catching in the socket in the handle, as herein fully set forth.

80,622.—WINFIELD S. GOSS, Baltimore, Md.—*Screw Driver.*—August 4, 1868.—The handle is made in three pieces, connected by clutches and stops, in such a manner that its lower part can be turned continuously in either direction, without releasing the hand from the upper part.

Claim.—The screw-driver handle, composed of the parts C C′ C″, provided with holes r r, the bolt D, spring s, and lock bolt n, the whole being constructed to operate substantially as described.

80,623.—NILES GRANGER, Saratoga, N. Y.—*Glass Furnace.*—August 4, 1868.—The larger portion of the melting pot is filled with the material for making glass, and as this melts, it sinks down and passes through the passage-way in the bottom into the smaller portion of the pot, from whence it is worked.

Claim.—The pot B, formed of the parts C and D, connected by the passage-way E, and operating substantially as and for the purposes described.

80,624.—SAMUEL L. HALL, West Salem, Wis.—*Churn and Butter Worker.*—August 4, 1868.—The exterior vessel is designed for holding water by which the cream in the churn may be kept at any desired temperature. The frame is held in place by means of a button, so that the vessels can be readily swung out when necessary.

Claim.—1. The metal churn E, with the exterior vessel F, both attached to the frame B, suspended in the frame A, provided with the locking device o, all constructed and arranged to operate substantially as herein described, and for the purpose set forth.

2. In combination with the bevel wheel J and winch L, the dasher G, with the curved beaters p and grooved pin h, bevel pinion I, and brake H, all constructed and arranged to operate substantially as herein described, and for the purpose set forth.

80,625.—WILLIAM HALL, North Adams, Mass., assignor to himself and JOHN W. PITT, same place.—*Let-off Mechanism for Looms.*—August 4, 1868.—The pivoted bearing and bar serves as a bent lever. A belt passing over a pulley on the shaft is secured to the lower end of the bar, and to the front end of the bearing is connected a spiral spring, which causes the arm or bar to gradually rise, and the tension of the warp or web is thus rendered uniform throughout.

Claim.—The pivoted bearing c, with the bar e attached, in combination with belt B, pulley g, on shaft A, and spring i, all constructed and arranged substantially as and for the purpose set forth.

80,626.—ISAAC C. HART, Galesburg, Ill.—*Thill Coupling.*—August 4, 1868.—Hooks on the ends of the tongue or thills fit within plates attached to the axle, so that when the shafts are elevated, they will be securely held, and when the front ends are lowered, they can be easily slipped out from the said plates.

Claim.—The plate H and hook L, constructed and arranged as described, and combined with the axle A, clip P, and tongue or thills J, substantially as described, and for the purpose set forth.

80,627.—LEVI HEYWOOD, Gardner, Mass.—*Machine for Bending Wood.*—August 4, 1868.—The timber to be bent is secured to a pair of blocks or formers resting on tables which are made to move in slots, at equal rates of speed toward each other, the said blocks, when united, constituting the pattern or former of the shape desired to give the timber.

Claim.—1. Commencing to bend the wood from each end toward its center, instead of commencing to bend it from the center toward the ends, or from one end toward its other end, substantially as and for the purpose described.

2. The formers B B, with the geared tables c c, working in the rack D, and guided by the slots a a, in combination with a suitable chain, H, substantially as and for the purpose described.

80,628.—JOSEPH HOBART, Boston, Mass.—*Double Volute Spring.*—August 4, 1868.

Claim.—1. A double volute spring, composed of a single bar of metal, and made by bending said bar at the middle, doubling it upon itself, and coiling the same around a mandrel, or otherwise, substantially as described.

2. In making double volute springs, in the manner set forth in the foregoing clause, so bending the limbs that the edges thereof shall describe lines of unequal curvature, but so that the curvature, commencing at or near the point of junction of said limbs, shall increase from thence outward toward the extremities thereof, substantially as described.

3. In making a double volute spring, in the manner set forth in the first clause, bringing the two free ends near together, leaving an opening between the limbs, which narrows toward the end, substantially as described.

80,629.—ANDREW HUNTER, San Francisco, Cal.—*Machine for Separating and Concentrating Sulphurets.*—August 4, 1868; antedated July 25, 1868.—Improvement on his patent of May 23, 1865. A table, having a downward inclination from front to rear for a portion of its length, is suspended at its rear end in a frame by adjustable hangers, and is provided with a sieve and means for imparting a quick, vibratory motion.

Claim.—1. The formation of the trough or table B, with or without metallic lining, and alternately inclining and level, as shown by lines a b d, substantially as described, and for the uses and purposes as set forth.

2. The combination, with the table or trough B and its adjustable hangers, of the cam shaft and spring X, under the arrangement described, whereby both the oscillatory motion and percussion of the said table are effected for the purpose of separating the sulphurets and metals from the lighter particles, as set forth.

3. The eccentric strap Z, in combination with the trough B and cam, or equivalent means, for imparting an oscillatory movement to said trough, substantially as and for the purposes set forth.

4. The combination, with the table B and mechanism for imparting to the same an oscillatory movement, of the rocking trough E, arranged for operation, substantially as and for the purposes set forth.

5. The combination, with the oscillatory table or trough B, of the rotary scraper W, made of India-rubber or other suitable material, substantially as set forth, and for the purposes specified.

6. The combination, with the table or trough B, of the inclined screen T, and mechanism for imparting to the same a vibratory motion, under the arrangement and for operation as herein set forth.

7. The combination, with the oscillating trough and hanger, by which the rear end of the trough is held, of the wheels or rollers R, for supporting the front end of said trough, substantially as herein shown and described.

8. The combination of the table or trough B with eccentric troughs E and G, hangers D D, spring X, wheels or rollers R, scraper W, and sieve T, substantially as described, and for the uses and purposes as hereinbefore set forth.

80,630.—NOAH JACKSON and A. W. JACKSON, Napoleon, Ohio.—*Rotary Steam Engine.*—August 4, 1868.—A skeleton rim wheel is provided with flanges projecting on each side, between which are secured one or more partitions, so as to form separate steam-tight chambers, the whole being covered by a casing and provided with valves, and induction and exhaust pipes.

Claim.—1. The curved spring *a*, in combination with the L-shaped metal pieces *b b*, arranged in the valves F F, substantially as herein set forth.

2. The arrangement of the flanges O O, partitions N N, casing B, valves F F, induction spouts G G, and exhaust pipes H H, substantially as herein set forth.

80,631.—LEWIS JENNINGS, New York.—*Artesian Pump.*—August 4, 1868; antedated July 23, 1868.—The packing presents a metallic surface to the interior of the main pipe, and is provided with a cup leather, having its lower edges confined between collars in the fixed plunger. On the surface of the plunger is a spiral feather or projection which, in connection with ratchet rings, causes the plunger to partially rotate at each ascent.

Claim.—1. The within-described construction and arrangement of the packing D d' E, the same being composed of the soft and water-retaining cup leather E, and the hard and expansible exterior D, the latter being in the form of a ring or hollow cylinder, open on one side, with one or more offsets, d', at the joint, all these several parts being constructed and arranged, relatively to each other and to the box B and barrel A, substantially as and for the purpose herein set forth.

2. The partial spiral or incline B^5, and corresponding ratchet ring G^1 G^2 arranged as represented, the ring G^1 G^2 being allowed to traverse axially within the yoke or inclosing ring A^3, and to lock itself in new relations thereon as the bucket B descends, substantially as and for the purpose herein set forth.

80,632.—NELSON JOHNSON, Jasper, N. Y.—*Head Block for Saw Mill.*—August 4, 1868.—This invention consists in the employment of eccentric longitudinal rests which support and "dog" the log at both bottom and top, the entire length of the carriage. Provision is made for adjustably mounting the said rests, and also for operating dogs fitted to slide vertically in the head blocks or knees.

Claim.—1. The eccentric longitudinal rests L L', either or both, when constructed with a flat fall *l* and dogs l', and operating substantially as described, for the purpose specified.

2. The vertical slots i^6, when employed in combination with the upper longitudinal rest L, for the purpose of rendering said rest adjustable to suit different sizes and taper of logs, substantially as described.

3. The combination of the lever 3, ratchet rack 4, link 2, and vertically sliding dog 1, with the standard 5, substantially as and for the purpose specified.

80,633.—JOHN KELSHAW, Lafayette, Ind.—*Steam Generator.*—August 4, 1868.—Water chambers are made to project from the upper and lower parts of the boiler into its interior, around which chambers pass the fire and heat.

Claim.—A zigzag or undulating flue, formed by the alternately projecting water chambers C C, substantially as herein described.

80,634.—WILLIAM KESTER, Cherryville, Pa.—*Machine for Grinding and Polishing School Slates.*—August 4, 1868.—The slates are supported upon a car which runs under the grinding stones or wheels, and alternately raises the slates against or depresses them from the stones. The cars are caused to rise and fall gradually, and yet preserve a perfect level, by means of a series of inclines.

Claim.—1. The track *b* b', when composed of the double inclines *t* t', and used in connection with the cars G G and grinding stones D D, in the manner and for the purpose specified.

2. The combination of the movable bed H, springs *s s*, and body of the car G, substantially as and for the purpose specified.

80,635.—T. J. KINDLEBERGER, Eaton, Ohio.—*Water Wheel.*—August 4, 1868.—Two series of buckets, arranged one above the other, are held in place between annular rims and plates, which have an inclination for a portion of their surfaces toward the center. The gates are opened and closed by means of a pinion and segmental rack pivoted to the top plate and connected by a rod to a collar surrounding the main shaft.

Claim.—1. The water wheel, consisting of the plate A and rims B and C, with the two tiers of buckets E and F, all constructed and arranged substantially as herein described.

2. The rim C and buckles F, when constructed and combined as set forth.

3. The combination of the pinion I, segmental rack H, rod P, and collar G, when arranged in connection with the case and vertical gates of a water wheel, as herein shown and described.

80,636.—WILLOUGHBY F. KISTLER, Chicago, Ill., assignor to himself and GEORGE W. GILLETTE.—*Cooking Stove.*—August 4, 1868.—The oven doors are constructed with a chamber or passage, through which the heat and smoke are caused to pass on their way to the escape flue.

Claim.—A stove, so constructed that the heat and smoke may pass through a chamber, space, or flue in the doors of the oven, substantially as and for the purposes specified.

80,637.—THOMAS LALOR, Toronto, Canada, assignor to JOHN DEWE, GEORGE HARDING, and BARTHOLOMEW LALOR.—*Indicator Lock.*—August 4, 1868.—The key, on being inserted, acts first on the tumblers, so as to free the cylinder and to allow a slide to be raised, and it then raises the slide so as to turn the cylinder. The slide bolt is replaced in its original position by the turning back of the key after the lock has been opened.

Claim.—1. The cylinder *a*, arranged in the lock in such a manner that it will cause the motion of the indicator, whenever the key is operated, to open the lock, as set forth.

2. The slide bolt *d*, by which the cylinder *a* is moved, as described.

3. So constructing the tumblers of a lock that they will lock the cylinder *a* substantially in the manner herein shown and described.

4. The guard p', attached to the slide bolt *d*, for the purpose of protecting the bolts *n*, to prevent the lock from being picked, as set forth.

5. The application of indicator wheels *f g h*, or their equivalents, to a lock, the same being moved or set, whenever the key is turned in the lock, substantially as and for the purpose herein shown and described.

6. The combination of the indicator wheels with the locking pin *i*, which can be protected by a seal, as set forth.

80,638.—JOHN Y. LANFAIR, Queensbury, N. Y.—*Water Wheel.*—August 4, 1868.—The upper portion of each bucket is larger than the lower part, and is in such position as to receive the percussive force of the water at right angles with the direction of the flow of the same, and both parts are also so inclined as to receive a power from the water as it escapes from the wheel by reaction.

Claim.—The wheel A, constructed or cast with buckets J, having two parts *b* b', arranged as shown in combination with the curved throats H H, all arranged substantially as and for the purpose specified.

80,639.—ELIJAH LINDSLEY, Neenah, Wis.—*Hinge.*—August 4, 1868.—The pivot pin which connects the two portions of the hinge together is encircled at the center by a shoulder, and has two short bends near the same, so as to form an eccentric which adjusts itself to place whenever the hinge is opened or closed either way.

Claim.—The bent pivot *b*, in combination with shoulder *a* and plates *d d*, the whole forming a right and left hand, substantially as herein shown and described.

80,640.—R. O. LOWREY, Salem, N. Y.—*Mode of Water-Proofing Paper, Cloth, &c.*—August 4, 1868.—This invention consists in the application of soap, salt, and alum, to the materials of which the fabrics are composed, while in the raw state, or to the fabric or article into which it is made, after being manufactured.

Claim.—1. The process of making paper, cloth, and all similar fabrics, as well as leather, comparatively water-proof, as herein described.

2. The products resulting from the application of my process to pulp, paper, cloth, and similar fabrics, as well as leather, as herein described.

80,641.—R. O. Lowrey, Salem, N. Y.—*Artificial Gum for Coating and Water-Proofing.*—August 4, 1868.—An artificial gum is formed of a combination of soap with alum and salts, which will unite with oils, resins, wax, and other similar substances, to produce a varnish or paint.

Claim.—1. The composition, made by mixing a solution of salt and alum with a solution of soap, as herein described, for the purpose of producing an artificial gum.

2. The composition, made by mixing my artificial gum with oils, resins, grease, gum, wax, fibrous materials, or their equivalents, substantially as herein described, and for the purpose set forth.

80,642.—William L. Lowrey, Saratoga Springs, N. Y.—*Manufacture of Illuminating Gas.*—August 4, 1868.—In a bench of retorts of the usual construction is placed a pot which is nearly filled with hydrate of lime. A similar pot is then filled partially with coal tar, over which is spread a layer of coke dust, fine coal, peat, saw-dust, and sand, mixed with a solution of soap or any suitable gelatinous compound. The eliminated gas breaks through this covering into the chamber of the retort and mingles with the hydrogen from the hydrate of lime.

Claim.—1. The process of distilling illuminating gas from coal tar, hydrocarbon oils, resins, wax, and the residuum of petroleum, substantially as herein described.

2. The use of the hydrate of lime, within the chamber or retort, in the manufacture of illuminating gas, in the ordinary way or by my process, substantially as herein described.

80,643.—George F. Lynch, Milwaukee, Wis.—*Rotary Cultivator.*—August 4, 1868.—The invention consists in defining a rule for determining the shape of a fixed tooth on a cylinder, so that the whole line of the tooth will enter the ground at the point where it first strikes the same. The teeth are placed on separate heads, each having an independent movement on the same axle.

Claim.—1. The shape of the tooth and the manner of finding the curve of the same, to suit any sized head or cylinder, as herein recited.

2. Having the heads loose on the axle, to prevent clogging or choking, as herein described, in combination with the attaching the heads to the truck by straps, so as to permit each head or cylinder to act and move over obstructions independently.

80,644.—Philander Macy, Rochester, N. Y.—*Valve Arrangement.*—August 4, 1868.—The valve is so constructed and arranged as to admit of the ports being opened and closed by the direct action of the piston head itself, without the use of eccentrics or other attachments, and also of reversing the engine while under full motion.

Claim.—1. The construction of the valve K with opening *d*, bars *f f*, lugs *h h*, offset *k k*, and projection *r*, as herein set forth.

2. The combination of the rod M, provided with the turning hook *s* and collar *t*, and the lever L and spring *n*, with the valve K and its projection *r*, operating substantially in the manner and for the purposes specified.

80,645.—A. J. Magoon, Providence, R. I.—*Stove Grate.*—August 4, 1868.—Two circular grates are pivoted to a horizontal shaft, and so connected to gearing that when rotated in one direction the coal will be sifted, and when turned in the opposite direction the grates will be dumped.

Claim.—The combination and arrangement of the revolving grates C C, horizontal shaft B, lugs *e e*, tubular shafts *a a*, and beveled pinions *b b*, all operating as described, whereby the grates are revolved separately and dumped simultaneously, as set forth and shown.

80,646.—Peter Martin, Forest Grove, Oregon.—*Manufacturing and Purifying Spirits.*—August 4, 1868; antedated April 4, 1868.—The grain, from which the liquor is to be made, is soaked in water and the latter is then drawn off; more water is again added to the grain to soak the same, and is then drawn off and added to the first. After fermentation the whole is run through a still. A part is again run through the still and a quantity of salt being added, the whole is again run through the still.

Claim.—1. The manufacture of alcohol, and other spirits, in the manner substantially as herein described.

2. The use of saline matter for manufacturing and purifying spirits, in combination with my said process, substantially as described.

80,647.—James A. McClelland, Vernon, Ind.—*Device for Feeding Saw Dust, &c., to Furnace.*—August 4, 1868.—A curved spout is conveniently arranged to suck up the shavings and dust from a wood working machine, the shavings, &c., being carried to the furnace for consumption by a continuation of spouts. Valves and spouts are arranged to convey the shavings outside of the building if desirable.

Claim.—1. The application of a suction and blast fan to planing, circular saw, sand belt, or other wood working machinery, when arranged in the manner shown, or in an equivalent way, to draw the shavings or saw dust from the machine and feed them to a furnace or discharge them from the building or shop, substantially as set forth.

2. The arrangement of the two fans D D′, spouts G K L F, and the valves I J, to operate substantially as and for the purpose specified.

3. The air escape pipe H, in combination with the spouts G K L F, and valves J I, all arranged for joint operation, substantially as and for the purpose set forth.

80,648.—Charles H. Mellor, Philadelphia, Pa.—*Molding Machine.*—August 4, 1868.—The mandrel of the cutter head has two projections, (one at or near each end,) on one of which the strap runs when the mandrel rotates in one direction, and on the other when rotating in an opposite direction. The top of the frame is elevated or depressed by means of a screw plate acting on inclined faces on the sliding frame.

Claim.—The combination of the vertical cutter bearing mandrel N, having glands for controlling the belt with the table D, made adjustable vertically by wedges placed on a frame C, controlled by hand wheel F and screw *f*, all constructed and operated substantially as described.

80,649.—Benjamin F. Merrill, West Lebanon, N. H.—*Gauge.*—August 4, 1868.—The gauge is inserted in a key hole and adjusted to the proper angle to fit the two inclined sides of the same, and the parts being secured in position, the gauge is removed and the proper measurement taken for forming the key, the object being to provide a gauge for measuring key holes in machinery.

Claim.—An adjustable measure for key holes, consisting of the strips B C, adapted to be forced apart by the action of springs, and clamped in the desired position by means of set screws or nuts, substantially as herein shown and described.

80,650.—Lucius E. Michell, Cincinnati, Ohio.—*Curtain Fixture.*—August 4, 1868.—The pulley around which the cord passes is attached to a spring catch which is pivoted to a frame provided with perforations in any one of which the catch may be held by means of a stud on the rear of the same.

Claim.—The combination, substantially as described, of the perforated plate B *b*, pivoted spring catch C D, stud *d*, and pulley E, for the purpose specified.

80,651.—Charles E. Miller, Indianapolis, Ind.—*Wash Boiler.*—August 4, 1868.—Apertures in the rim of the pit cover afford a communication from the body of the boiler to the spout. A perforated diaphragm extends obliquely across the pit and directs the heated suds into the upright pipe.

Claim.—The arrangement of cover D, having perforated rim *d'* and unperforated top *d*, oblique and perforated diaphragm E, pipe G, and nozzles *g g'*, substantially as set forth.

80,652.—LEVI MOORE, Baraboo, Wis.—*Clay Mill.*—August 4, 1868.—A revolving disk provided with wedge-shaped projections receives the clay from the hopper, and passes it outward over the periphery of the disk to the floor below, where it is further ground. The lumps, sticks, &c., are worked outward and discharged through doors, while the plastic clay is conducted by chutes to the central opening to grinding plates below.

Claim.—The disk L, with its projections, in combination with the grinding plates *a* and N, the floor D, having chutes and opening O, the horizontal grinding plates G P, having wedge-shaped projections, the shaft I, floor H, and doors Q Q, all substantially as and for the purpose shown and described.

80,653.—AARON MOREHOUSE and ALFRED R. HEATH, Danbury, Conn.—*Tuck Creaser for Sewing Machine.*—August 4, 1868.—An upright arm attached to the presser piston is provided with a tapering slot curving to one side so as to carry the upper portion of the tuck out of the way of the needle. An arm or bar attached to a stud on the said slotted arm has at one end a curved guide, and on the other end a marker which carries a pencil to mark the line for the folded edge of the next succeeding tuck.

Claim.—1. The bent arm C, attached to the presser piston A, when constructed with the slot D, needle hole B, spring guide J, and guide swell O, substantially as and for the purpose set forth.

2. The combination of the slotted arm C, constructed as described, with the adjustable bar N, and spring presser F, as set forth.

3. The combination of the presser piston A, slotted arm C, spring guide J, guide O, and spring presser F, with the adjustable guide H or marker I, arranged to operate substantially as described.

80,654.—CHARLES W. MOSHER, East Leon, N. Y.—*Log Sled.*—August 4, 1868.—An angular frame provided with trunnions at each end of its base or lower portion, with bearings in the sides of the sled, is so connected with a chain and log hooks, that the draught force of the team will act to raise the log and draw it forward upon the sled.

Claim.—A log sled, having the roller *f*, chain *a*, swinging frame B and its accessory roller *e*, chain *a'*, and any log hooks *d*, all substantially as shown and described, and for the purpose set forth.

80,655.—JOSEPH NEWCOMER, Baltimore, Md.—*Composition for Destroying Insects in Wheat.*—August 4, 1868.—The wheat, previous to being planted, is soaked in a solution of salt brine and copperas; after being sufficiently soaked it is placed on a floor and slaked lime is sifted over it.

Claim.—The compound of the salt brine and copperas in the proportion, and the mode of treating the wheat, as hereinbefore fully described.

80,656.—J. NICHOLAI, Boston, Mass.—*Folding Chair.*—August 4, 1868.—Improvement on his patent of November 19, 1867. The legs and seat are so connected that the parts will move simultaneously in folding and unfolding the chair, and the same be held in position when unfolded, without straps or arms.

Claim.—1. A folding chair, having its seat C and legs A A connected by the bar D, rings *e e*, and guide rods *d d*, all arranged substantially in the manner as and for the purpose set forth.

2. The lugs or steps *f f*, attached to the seat C, in combination with the bar D, rings *e e*, and guide rods *d d*, for the purpose specified.

80,657.—JOSEPH W. NORMAN, Eugene, Ind.—*Portable Fence.*—August 4, 1868.—The panels are connected together and to the pickets by hooked rods and links so as to allow the whole to be rolled or folded together. The pickets are secured to cast-iron supporting posts by sliding collars.

Claim.—The combination of the pickets A' A', the rings or collars *m m*, the posts B B, having the sockets *s s*, the rods *r r*, and the links *i i*, substantially as described.

80,658.—JOSIAH OOTHOUDT, Minneapolis, Minn., assignor to himself and HENRY C. JERAULD, same place.—*Churn.*—August 4, 1868.—The churn and dasher have each a rotary motion in opposite directions, being connected respectively to shafts, one of which is hollow and surrounds the other, and operated by suitable gearing.

Claim.—The tub C, dasher B, sleeve or casing *c*, hollow shaft E, wheel F, shaft D, and gear *e e*, when all are combined and arranged substantially as and for the purpose specified.

80,659.—W. H. PARKER, Memphis, Tenn.—*Smoke Stack.*—August 4, 1868.—An extra smoke stack formed in telescopic sections serves as a fire jacket to the original stack, and in case the latter is injured by a shot or accident, the sections of the extra stack are elevated by means of levers acting upon latches or pawls engaging in racks on the said sections, the sections being held in an elevated position by spring catches.

Claim.—The combination of three sections, E, F, and G, with the levers A A A, with the latches C C, the springs D D, the racks B B, the three or more springs I I, the fulcrum *g*, constructed and operated substantially as herein set forth.

80,660.—W. A. PHILIPS, Perry Center, N. Y.—*Compound for Destroying Insects in Plants.*—August 4, 1868.—The ingredients are tobacco, lime, and soft soap boiled in water and strained.

Claim.—The composition prepared of the ingredients and in the proportions and manner substantially as herein described and set forth.

80,661.—S. B. PIERCE, Homer, N. Y.—*Fence.*—August 4, 1868; antedated July 29, 1868.—The posts, to which the panels are attached, are secured to each other by a T-shaped clasp having a screw thread on its shank.

Claim.—The combination of the fence panels B B, clasp C, as constructed, and posts A, for forming a portable fence, as set forth.

80,662.—HENRY E. POND, Franklin, Mass.—*Carriage-Curtain Fastener.*—August 4, 1868.—A metallic plate containing a sliding bolt, shutting into or through a hollow stud on the carriage top, is applied to the outer surface of the curtain, and another plate is attached to the inner surface of the curtain.

Claim.—The improved device before described, for fastening the curtains of wheeled vehicles, consisting of the two perforated plates, *a* and *b*, riveted to opposite sides of the curtain, as represented, and with the outer one provided with a locking bolt, for locking into the stud *d*, the whole being in manner and to operate as before described.

80,663.—LEVI W. POND, Eau Claire, Wis., assignor to himself and EAU CLAIRE LUMBER COMPANY, same place.—*Device for Sheering Booms.*—August 4, 1868.—The boom is hinged at one end to a firm support on the shore, and on the "down stream" side are pivoted rudders, connected together by rods, so that they will all move simultaneously.

Claim.—The combination of the rudders B with the boom A, whether said boom be made in one or more parts or pieces, substantially as herein shown and described, and for the purpose set forth.

80,664.—E. N. PORTER and P. P. ROBERTS, Morrisville, Vt.—*Swift or Reel.*—August 4, 1868.—The swift is provided with a hook, so that it can be moved to the side of its support, and be used as a reel; and the pivot around which the arms revolve is provided with a spring, so as to hold them steady and in place.

Claim.—The arrangement of the spiral spring *a*, pin E, perforated arms F F, with the block C, hook

D, and standard A, substantially as and for the purposes herein set forth.

80,665.—EDWARD J. REDDY, Bayville, N. Y.—*Bundling Machine.*—August 4, 1868.—Designed more especially for bunching or bundling asparagus and other vegetables. The handle is adjusted in position to expand the bands or straps for receiving the article to be bound, when it is drawn down, and, by a slight turn of the hand piece the machine will be locked and the bundle be held securely until tied up.

Claim.—The handle C, having the movable hand piece c^1 and stop c^2, the toothed segment H, shaft B, and segments F, constructed to operate the flexible bands E, as herein described, for the purpose specified.

80,666.—OTIS N. RICH, Geneva, Ill., assignor to himself and WILLIAM H. HOWELL.—*Grain Separator.*—August 4, 1868.—A circular disk is secured to a shaft, and has its under side of a shape to conform to a concave perforated plate arranged independently of the shaft. Beneath this plate is a funnel-shaped receiver, which discharges into a spout on one side, while a separate discharge is provided for the perforated concave.

Claim.—1. The combination of the disk H and perforated plate I, with their adjacent faces inclined downward, substantially in the manner and for the purpose set forth.

2. In combination with said disk H and plate I, the arrangement of a receiver, J, substantially as specified and shown.

3. The combination of the disk H, perforated plate I, receiver J, and chutes K L, arranged to operate substantially in the manner described.

4. The rim M, provided with openings or notches *m*, when arranged with respect to the passages *n*, in the manner specified.

80,667.—WILLIAM D. RICHARDSON, Springfield, Ill.—*Lead Pipe Connection.*—August 4, 1868.—A ring of lead is placed over the male part of the pipe, and the joint is made by crowding the two sections of pipe together with great force.

Claim.—The improved pipe joint herein described, the lead E being compressed within the flaring lip D, by compressing the lengths of pipe forcibly together, and a space, C′, being left around the extreme end of the male part to allow the parts to be set at a slight angle without difficulty, all substantially as and for the purposes herein set forth.

80,668.—LORENZO W. ROATH, Lexington, Ohio.—*Bedstead.*—August 4, 1868.—The cords extending from one section to the other are secured in a cross-rail at the intersection of the two parts by means of loops, in order to preserve their tension.

Claim.—The cross-rail K, loops *d*, as arranged in combination with the cord F and sections H G, substantially as and for the purpose set forth.

80,669.—WILLIAM W. ROGERS, Hampden Corner, Me.—*Dumping Cart and Wagon.*—August 4, 1868.—As the cart or wagon body is tipped up to dump the load, the tail board will be raised automatically, and will drop back again into place and fasten itself as the said body is again raised into a horizontal position.

Claim.—1. The combination of the spring bolts G, cords or chains H, and pulleys I, with the hinged tail board E, stakes J, and body D of the cart or wagon, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the brace rods K and cross-bar L with the stakes J and shafts C, substantially as herein shown and described, and for the purpose set forth.

80,670.—J. F. SARGENT, North Turnbridge, Vt.—*Carriage Top.*—August 4, 1868.—The pivoted interior rod extends up through the hollow upper part of the jointed staff, and to its upper end is attached a grooved disk to which are secured the ribs. A sliding ferrule covers the joint in the staff. The top is designed to be readily attached to or detached from a carriage seat and compactly folded.

Claim.—The pivoted interior rod D, in combination with the double-jointed tubular shaft C, slotted near its center, sliding ferrule I, grooved and notched ring flange H, disk E, braces G, and curved radial ribs F, all constructed and operating as described for the purpose specified.

80,671.—PETER SCHMITT and PETER JACOB SCHMITT, Waterloo, Ill.—*Grain Drill Shoe.*—August 4, 1868.—Two coupling links are attached to the traction rod by a single pivot pin so as to allow of a vertical play of the parts, and a similar attachment is made between the back ends of the said links and a lug on the shoe. A rivet pin in connection with the segmental slot in the shoe lug permits the latter to give way when the machine is backed.

Claim.—1. The shoe A, when provided with a slotted lug, *a*, and combined with the rod B and links C, as herein described and shown.

2. The rod B, when provided with adjusting holes b^2, and coupled with the links C, by means of the joint pin *b*, and the wooden pin b^4.

3. The arrangement of the curved slot a', pin c', and links C, substantially in the manner herein shown and described.

80,672.—JOHANN SCHNELL, New York, N. Y.—*Sash and Window Frame.*—August 4, 1868.—The frame which confines the sashes is hung to the window casing so that it may be turned like a folded window, for convenience in washing and replacing broken panes of glass. The end of each sash cord is secured to the edge of the sash by means of a spring catch, so that the cord can be taken off and replaced without taking the sash out of the frame.

Claim.—1. The hinged frame B, in which the sashes C D slide up and down, as specified.

2. The arrangement of the window sashes C D, in a frame, B, which is hinged to the casing A, all constructed to operate substantially as herein shown and described, for the purpose specified.

3. The bars or plates G, when removably secured to the sashes, and held by means of the catch *i g*, all constructed and arranged to operate in the manner and for the purpose substantially as herein set forth and shown.

80,673.—WILLIAM SERVISS, Sidney, Ohio.—*Device for Soldering Tin Cans.*—August 4, 1868.—A tubular holder, having an annular lip near its top, against which the upper edge of the cylinder to be soldered rests, is made so as to be capable of being sprung apart to increase its diameter, and is held in any desired position by nuts and screws.

Claim.—The tubular holder A, when provided with the slots C, screws D, and nuts D′, arranged and operating substantially as and for the purpose described.

80,674.—F. M. SHIELDS, Macon, Miss., assignor to himself and JOHN W. SANDERS, same place.—*Yoke.*—August 4, 1868.—A hanging and a projecting hook are attached to a halter upon the neck or head of an animal, and so arranged as to hook into a fence, to prevent the animal from jumping the same.

Claim.—1. The combination with a halter of the yoke herein described, consisting of the strip C and hooks D and E, substantially as and for the purpose described.

2. The improved animal yoke, herein described, composed of the strip C, hooks D and E, substantially as and for the purpose described.

80,675.—DAVID SLAUGHTER, West Hempfield Township, Pa.—*Meat Cutter.*—August 4, 1868.—A series of circular knives attached to a central axis, revolving on side bearings, are made to traverse to-and-fro on a rotating block, by means of a crank and screw gearing, with an adjustable bearing or weighted pressure on the knives.

Claim.—The arrangement of the circular knives N and weighted sliding car and box Q, with its slotted arms I I′, in combination with a revolving block, L, and crank and screw shaft D S, substantially in the manner and for the purpose specified.

80,676.—GEORGE H. SOULÉ, Jersey City, N. J.—*Fastening for Bracelet.*—August 4, 1868.—The bracelet is fastened at or near one end to the device, while the other end is left free to slide in the fastener and may be secured at any desired point by means of a hinged lever and spring catch.

Claim.—The clasp or fastener A, as shown and described.

80,677.—John D. Stewart, La Porte, Ind.—*Balance Slide Valve.*—August 4, 1868.—In the top of the chamber of the valve chest, which is recessed for the purpose, are placed two plates, which are pressed by the steam into longitudinal grooves on the top of the valve, for the purpose of relieving the valve of friction and also of preventing the passage of the steam over the top of the valve.

Claim.—In combination with the slide valve B, valve chest G, and cover G^1, and steam chamber F, the packing plates H, to the back of which steam is admitted from the steam chamber, substantially as and for the purpose set forth.

80,678.—George W. Stouffer, Lewiston, Pa.—*Spoke Tenon.*—August 4, 1868.—The spoke tenon is formed with grooves or concavities in some or all of its sides, for the purpose of facilitating the driving of the spoke and preserving the fixedness of the wheel.

Claim.—The provision in a spoke-tenon of the grooves or concavities b, b^2, b^3, employed and operating as described, for the purposes specified.

80,679.—Sedgwick A. Sutton, Dixon, Ill., assignor to himself, W. Uhl, and Lysander Flagg.—*File Cutting Machine.*—August 4, 1868.—Designed as an improvement upon a machine patented to Edward Bucklin, February 27, 1866, and relates to the construction and arrangement of the hammer shaft, and the chisel by which the latter is prevented, in its ascent, from cutting off a tooth made by a previous cut. The pressure roller is also so arranged as to admit of its being always adjusted at a proper distance from the chisel.

Claim.—1. The combination and arrangement of the pivoted guide plate B, slides C and E, and the convex pressure roller F, substantially as and for the purpose specified.

2. The loaded lever I, arranged or applied substantially as shown, with the standard J and oblong slot *h*, in combination with the slides C E and convex pressure roller F, substantially as and for the purpose set forth.

3. The clamp K, composed of the jaws $j\ j'$, lever M, provided with the pins *n o*, and the catch L, applied to the clamp, and all arranged to operate in the manner substantially as and for the purpose specified.

80,680.—James Stewart, Hoffman's Ferry, N. Y.—*Corn and Potato Coverer.*—August 4, 1868.—The covering shares are so connected with the frame as to admit of their being readily adjusted to throw more or less soil over the rows, as desired. The rollers are mounted in hinged frames at the rear of the machine and are steadied by means of springs bearing upon the frames. The lead wheel is capable of a vertical adjustment.

Claim.—1. The covering shares G G′, constructed as represented and described, and provided with the adjustments g, g^{*}, a, and $g^1\ g^{1*}$, g^2, substantially as and for the purpose set forth.

2. The combined arrangement of the adjustable lead wheel E, shares or scrapers G G′, and spring rollers H H′, all substantially as described, for the purpose specified.

3. The springs J J′, in combination with the frames A I and rollers H H′, arranged and operating substantially as and for the purpose described.

4. The combination of the handles C, main frame A, hinged frame I, rollers H, and wheel E, all arranged to operate substantially as herein set forth.

80,681.—Benjamin F. Taft, Groton Junction, assignor to himself and Daniel Needham, Groton, Mass.—*Hay and Cotton Press.*—August 4, 1868.—Compressing power is applied through the agency of nooses in a series of ropes or chains, used for pressing hay, and through the agency of ropes, pulleys, and a follower, for pressing cotton.

Claim.—The within-described portable pressing apparatus, consisting of the mounted wagon body A S C D, windlasses E and R, with their connecting gear, ropes or chains *d d d d*, &c., pulleys *c c c c*, *h*, and *i*, follower S, and cam *a*, all constructed and arranged together substantially as herein shown and described.

80,682.—Spencer P. Taylor, Oxford, Ohio.—*Horse Collar.*—August 4, 1868.—Designed for the reception of hair or wool in one compartment, to render the collar easy for the horse's neck, the remaining two sections to be filled with some cheaper material.

Claim.—A horse collar, divided by a partition, *e*, into compartments for the reception of different materials, substantially as described.

80,683.—George S. True, Leavenworth, Kansas.—*Label Holder.*—August 4, 1868.—A card holder is so constructed as to hold blank cards having any desired direction marked thereon, and secured by clamps or springs in the said holder.

Claim.—The card-holder, consisting of the parts D E, the former being hinged to the latter, which is adapted to be so attached to the trunk as to form a magazine C, substantially as herein shown and described.

80,684.—Washington H. Tucker, Sunman, Ind.—*Wagon Brake.*—August 4, 1868.—The brake blocks are attached to swinging rods operated by a lever through the medium of rods and straps. A spring is used to keep the blocks from contact with the wheels.

Claim.—The blocks E, rods F and P, straps K and N, sheave O, rods L M, spring H, and lever J, all constructed and arranged substantially as and for the purpose set forth.

80,685.—T. W. Tyler, Corry, Pa.—*Churn Dasher.*—August 4, 1868.—The knives are secured in two wheels, and are made to incline in one direction in one of the wheels, and in the other direction in the other wheel, so that the two will revolve in opposite directions, as the dasher is moved up and down.

Claim.—The knife-wheels F E G, constructed and operating substantially as herein shown and described, in combination with the long tenon D of the dasher-handle C, as and for the purpose set forth.

80,686.—Isaac H. Walker, Newton, Ill.—*Combined Plow and Planter.*—August 4, 1868.—The front mold boards break the soil, while the rear ones throw up the clear soil from the bottom of the furrow. The seed is then dropped into the ground which is pulverized and compressed in a convex ridge over it by the harrow and roller.

Claim.—1. The mold boards C C, projecting rearwardly and inwardly from the front mold boards B B, at the same or a greater depth, substantially in the manner and for the purpose specified.

2. The combined arrangement of the seed box D D′ *d*, dropping slide G, crank lever F, and treadle E, all constructed and employed substantially as and for the purpose described.

3. The harrow J, constructed as described, and employed in combination with the plows B C, and planter D I, in the manner and for the purpose specified.

4. The combined arrangement of the plows B C, planter D I, harrow J, and roller L, all constructed and operating substantially as and for the purpose described.

5. The hollow colter or drill I, in combination with the mold boards C C and planter D, as and for the purpose set forth.

80,687.—John Wampach, Shakopee, Minn.—*Tire Cooler.*—August 4, 1868.—The object is to so construct the tire frame that the tire, when set, may be instantly cooled before it can injure the felloes, and without wasting the water.

Claim.—The combination of the connecting rods E, lever D, connecting rod G, and lever F, with each other, with the box B, beams C, and frame A, arranged substantially as herein shown and described, and for the purpose set forth.

80,688.—James White, Harrison, Ohio.—*Car Coupling.*—August 4, 1868.—The coupling pin is inclosed within a cylinder, and pressed down by a spiral spring. The pin, when the cars are uncoupled, rests upon a projection or spring bolt, which is pressed forward by a spring within a telescopic casing, and is released by the impingement of the entering link against the said bolt.

Claim.—1. The pin C, inclosed within the tight cylinder B F, and operated by a spring E, substantially as and for the purposes described.

2. In combination with the above, the lugs or projections J K, telescopic hollow stem *j*, L, and spring M, all constructed, arranged, and employed as and for the purposes specified.

80,689.—Richard Whiting and Albert Hamilton, New York, N. Y.—*Grate for Stove Range and Heater.*—August 4, 1868.—The back part of the grate can be raised or lowered to any desired angle by means of a lever in the center of the stove. The front half can be raised or lowered vertically, by a similar device, connected with a lever in a slot in the side, under the grate bars.

Claim.—An "adjustable grate," so constructed that the size of the fire space may be readily increased or diminished, by raising or lowering one section of the grate perpendicularly, or by inclining the other section or sections thereof to any required angle, by means of a cam, lever, or other device, using either movement separately, or both combined in one stove, range, furnace, or heater.

80,690. — Hironimus Will, Columbus City, Iowa.—*Thill Coupling.*—August 4, 1868.—A hook on the end of the shaft engages with a pin or piece attached to the cross bar or axle, and is secured by means of a clutch, which is held in place by a spring.

Claim.—A shaft coupling, having pieces A and B, clutch D, and spring E, constructed, combined, arranged and operating substantially as specified.

80,691.—Isaac Williams, Westfield, Ind.—*Weather-Board Gauge and Rest.*—August 4, 1868.—Designed for gauging the distance apart of the edges of weather-boards, and at the same time to support the board while being nailed on, so as to avoid the necessity of driving in nails to support each board.

Claim.—The combination of the hollow shouldered part A, having the parts a^1 a^2, the graduated adjustable stem B, and the sliding wedge D, all constructed, arranged, and operating as herein described, for the purpose specified.

80,692. — Isaac Williams, Westfield, Ind.—*Gauge for Weather-Board.*—August 4, 1868.—Designed for measuring the exact length of the space between the window frames and other places, so that the board, when marked and sawed off, may exactly fit into the desired space, without the necessity of using the plane upon the ends of the board.

Claim.—The bars A, provided each at its outer end with an adjustable pivoted blade, B, and socketed at their inner ends for the reception of the sliding connection D, which is adapted to be clamped in the desired position; said bars A being provided with flanges *a*, all constructed, arranged, and operating substantially as and for the purpose herein set forth and shown.

80,693.—W. Windors, Fond Du Lac, Wis.—*Tanning.*—August 4, 1868.—The skins are first fermented in a compound of brown sugar and wheat bran in water. A tanning liquor is then applied, composed of an aqueous solution of alum, saltpeter, common salt, yolks of eggs, and wheat flour.

Claim.—1. The employment of a sugar and bran dump, in combination with the usual tanning process, all substantially as and for the purpose set forth.

2. The alum and saltpeter tanning liquor, in combination with the preceding process, or other equivalent processes, all substantially as set forth.

80,694.—C. W. Witt and B. F. Witt, Indianapolis, Ind., assignors to B. F. Witt.—*Harvester.*—August 4, 1868.—The tipping rake consists of a bar pivoted to the side of the body next to the platform, and having rigidly attached to it a series of rods, the ends of which engage under the lower edge of the apron. Across the center of the box is a bar which serves as a seat or rest for the operator, and against which the sheaf of grain is held so as to allow it to be bound.

Claim.—1. The tipping rake, when constructed and arranged to receive the grain as it is cut, and deliver it to the binder, substantially as described.

2. The box A, with the seat or binding table *d*, in combination with the tipping rake, substantially as described.

3. The combination of the reciprocating bar *m* and plate L, having the grooved rollers *o* arranged thereon to form the supports of the bar *m*, all substantially as set forth.

80,695.—John S. Wood, Lansing, Mich.—*Car Brake and Starter.*—August 4, 1868.—A metallic cylindrical case, open at one end, is attached by radial arms at the other end to a hub, through which the axle passes loosely. Within the cylinder are spiral springs attached in duplicate sets to the sleeve of a wheel at the open end of the cylinder. By means of clutches and levers the springs are wound up to aid in stopping the car, and the accumulated power is employed to start the car.

Claim.—1. The combination of the cylinder B, wheel D, clutches E and F, and flanges G, when constructed and arranged substantially as described.

2. The combination of the levers H, flanges G, and clutches E and F, when so arranged that as the flanges are disengaged from the arm, the clutch on the same side will be engaged with the teeth on the hub, substantially as set forth.

3. The combination of the cylinder B and wheel D with the flanges G, when, respectively, so constructed that a projection from the flanges may be made to engage the arms B^2 or D', and prevent the revolution of the wheel or cylinder, substantially as and for the purpose set forth.

80,696.—Charles F. Woodruff, Newbern, Tenn.—*Excavator.*—August 4, 1868.—The bottom of the excavator is composed of two plates hinged at one edge, so that as the body is rotated, the plates will drop upon the lower round and form a box into which the excavated dirt is received. The instrument is held in position, by means of a ratchet and pawl, which are released by a lever when necessary.

Claim.—1. In a revolving scraper or excavator, the combination of the swinging plates F F′ and the rounds d d^2, or their equivalents, substantially as and for the purposes specified.

2. The combination of the lever M, having the handle *m* and the hook *n*, with the pawl *p*, ratchet *w*, and body B, when the parts are constructed to operate substantially in the manner and for the purpose specified.

80,697.—William H. Abel, Greenville, R. I.—*Sleeve of Knitted Garment.*—August 4, 1868; antedated July 27, 1868.—The object is to so unite the selvage edges as to avoid the "bulgy" seam when the sleeve and body of the garment and cuff, or border, are connected. The gussets of sleeves made with selvage edges are formed by folding over the ends or corners.

Claim.—1. Making the short sleeves of undershirts, vests, and similar garments, of tapes or strips which have selvage edges, and in which the courses of stitches or loops run in the same direction as in the body of the garment, for the purpose and substantially as described.

2. Forming the gusset of such sleeves in the manner and for the purpose substantially as described.

80,698.—L. H. Allen and John B. Wilford, Tamaqua, Pa.—*Steam-Engine Slide Valve.*—August 4, 1868.—The bars on the face of the valve will close the exhaust ports until the exhaust steam has acted on the piston and moved the valve.

Claim.—The arrangement of the bars *m m* with the exhaust openings L L and passages *i i*, whereby to complete the stroke of the valve C, so as to make the maximum opening of the ports, substantially as set forth.

80,699.—Henry Ansley, Washington, D. C.—*Button.*—August 4, 1868.—A coil is secured by a cross brace to the shank which is fixed to a disk, and the button is attached to the garment by screwing it through the button holes.

Claim.—A button or stud, constructed with the parts A, B, C, and C′, arranged in relation to one another, substantially as described.

80,700.—John Ashcroft, New York, N. Y.—*Low Water Detector for Boiler.*—August 4, 1868.—When the water descends below the perforations in the low-water tube the steam will enter and dissolve the fusible plug and sound the whistle, while an undue pressure of steam will raise the weighted valve and sound the alarm.

Claim.—1. The construction, arrangement, and combination of the low-water detector tube B and fusible plug D, with the steam alarm tube F, weighted valve H, and steam whistle I, substantially as shown and described.

2. The steam connection pipe N and valve O, in combination with the fusible plug D and steam whistle I, substantially as herein shown, described, and set forth.

80,701.—James F. Babcock, Boston, Mass.—*Apparatus for Extinguishing Fire.*—August 4, 1868.—The inner tube is provided near its upper part with an aperture, just above which is a wire or open partition, for supporting a charge, by the combustion of which a gas is evolved, and the pressure of the same will eject the water from the vessel through a suitable aperture or pipe.

Claim.—A liquid-ejecting apparatus, having a main water or liquid chamber or reservoir, *a*, and a gas-generating tube, *d*, this tube having provision, at its upper part, for holding the gas-generating composition to be burned, and the tube and main chamber being constructed and arranged substantially as described.

80,702.—Robert J. Barr, Philadelphia, Pa.—*Centrifugal Machine for Filtering, Draining, and Drying.*—August 4, 1868.—A yielding forked bar partially embraces a suspended vertical shaft and reduces any gyration resulting from the suspended vessel being unevenly loaded, but yielding sufficiently before the gyration is reduced to prevent the violent shocks and vibrations incident to an unyielding bearing.

Claim—1. A forked bar, E, having a yielding bearing, and arranged adjacent to and bearing with its forked end against the suspended shaft of a centrifugal drying machine, substantially as and for the purpose described.

2. The said bar, secured in a frame hinged to the outer casing or other permanent part of the machine, for the purpose set forth.

80,703.—Samuel G. Blackman, Waterbury, Conn.—*Car Seat.*—August 4, 1868.—By pressing down the back the seat is raised so as to form a back facing in the other direction, while what was before the back becomes the seat.

Claim.—A reversible or adjustable seat, constructed in the manner described; that is to say, the two parts which form the back and seat, according to the position in which the seat is adjusted, are pivoted upon a common center, so that both are turned to reverse the seat, substantially in the manner herein set forth.

80,704.—Sanford O. Blanding, Smithfield, R. I.—*Union Valve Coupling.*—August 4, 1868.—Between the faces of the coupling is interposed a circular disk of leather with a segmental piece taken out so as to leave a central circular portion attached to one side which forms a stop valve, the concentric portion of the same forming a packing.

Claim.—A combined coupling and check valve, constructed and arranged substantially as described, for the purpose specified.

80,705.—Henry H. Boucher, Doylestown, Pa. *Lamp.*—August 4, 1868.—The lamp is provided with a reservoir and adjustable regulator for the supply of oil, and also with a safety attachment to allow any gas which may be generated in the closed reservoir to pass off.

Claim.—1. The combination, with a lamp, and a separate oil reservoir communicating therewith, of the tubular level regulator E, two-way cock G, and tube F, arranged and operating substantially as described.

2. The tube F, in combination with an oil reservoir and an escape cock, substantially as described.

80,706.—George W. Burling, Trenton, N. J.—*Stove Leg.*—August 4, 1868.—A dove-tailed lip cast on the upper portion of the leg fits within circular slots in the bottom of the stove and secures the leg in place.

Claim.—The circular slot A, when combined with the grooved recess *a a*, and the dove-tailed lip C, or their equivalents, substantially as and for the purpose described.

80,707.—Remus D. Burr, Kingsborough, N. Y.—*Glove.*—August 4, 1868.

Claim.—1. Cutting the front of the hand, thumb, and all the fingers, joined in one and the same piece of material, substantially as shown and described.

2. In combination with the front, cut in one piece, as above claimed, cutting the whole or three sides of the fore-finger, also joined in said piece, substantially as described.

3. Cutting the back of the hand and thumb, and the back and sides of the middle and little fingers, all joined in one and the same piece of stuff, substantially as described.

4. Cutting the back of the hand, with the back and sides of the middle and little fingers, all in one piece, as shown and described.

5. In combination with the back of the hand and the middle and little fingers, cut as above claimed, the back and sides of the ring finger, cut in one piece and sewed to the back, substantially as described.

6. In combination with the elements of the first claim, cutting the back of the thumb separate from the back of the hand, and joining it thereto by a seam.

7. In combination with the elements of the third and fourth claims, cutting the front of the thumb separate from the front of the hand, and joining it thereto by a seam.

8. In combination with the front of a mitten, cut as claimed in the first claim, cutting the back of a mitten with the back of the thumb in one piece, substantially as described.

80,708.—William S. Carr, New York, N. Y.—*Water Closet.*—August 4, 1868.—The hopper is formed of one piece or casting, and the pan can be readily withdrawn for repairs without disturbing the hopper, the pan being mounted on an axis formed of two parts so as to allow of its being introduced. An adjustable slotted link is arranged between the pull and lever to allow for variations in the position of the pull.

Claim.—1. A water-closet hopper or container, having the inward flange *e* at the upper end, in combination with the pan *d*, the parts being formed substantially as specified, so that the pan can be introduced or withdrawn through the opening in said flange *e*, and the pan, when in place, shall set up against the under side of said flange, as set forth.

2. The divided axis *k m*, formed as shown, in combination with the pan *d* and socket *o*, as and for the purposes set forth.

3. The slotted adjustable link *u*, in combination with the lever *r* and pull *w v*, as and for the purposes set forth.

80,709.—James Chalmers, London, England, assignor to James Chalmers, Jr., same place.—*Non-Conductor of Heat.*—August 4, 1868.—Designed to prevent the radiation of heat from steam-engine boilers, pipes, &c; also to protect water pipes, cisterns, conduits, &c.

Claim.—The mixture, in the proportions above described, of glutinous and silicious clay, as the basis of a non-conducting compound, the calcination or half-charring of saw dust, in the manner proposed, so as to preserve its fibrous nature and non-conducting qualities, and the use of wood, and other pulp or fiber, and hoofs, prepared as above, for binding and consolidating the non-conductor compound, and for adding to its non-conducting qualities.

80,710.—GEORGE D. CLARK, Plainville, Conn., assignor to himself and CLARK & COWLES, same place.—*Fastening for Button.*—August 4, 1868.—A plate or washer is formed with a central slot having its edges turned up. The eye of the button is passed through the cloth and into the slot, when the raised portion is struck down and thus secures the eye.

Claim.—The herein described button fastener, as an article of manufacture, consisting of the plate A, with the slot *a*, and one or more projections, *d*, substantially as set forth.

80,711.—JAMES J. DE BARRY, Brooklyn, N. Y. —*Changeable Stencil Plate.*—August 4, 1868.—The slots, through which the numbered or lettered strips are passed, are arranged alternately nearer to and farther from the central hole, so as to hold the strips in contact with each other and firmly in place.

Claim.—The within-described slots C D E F, arranged relatively to the opening *a* and the strips B, the whole being adapted to form an adjustable stencil plate, possessing the advantages and characteristics herein set forth.

80,712.—T. PARSONS DICKERMAN, New Haven, Conn.—*Base Burning Stove.*—August 4, 1868.—A slide or cut-off is arranged in the base of the feeding reservoir to cut off the supply of coal in case the fire is extinguished.

Claim.—In combination with the reservoir or cylinder B of a base-burning stove, the slide or cut-off D, arranged and applied substantially in the manner herein set forth.

80,713.—EDWIN A. DUER, Decatur, Ill., assignor to GEORGE W. PATTERSON, same place.—*Hominy and Pearling Mill.*—August 4, 1868.—A longitudinal recess on the interior of the cylinder serves to arrest the grain as it is carried round by the beaters, and a diaphragm near one end prevents a too rapid passage of the grain from the cylinder.

Claim.—The combination and arrangement of the cylinder B, having recess D, diaphragm I, passage K, and slotted sliding gate M, rotary shaft C, provided with beaters *a*, rotary screen Q, fan blower N, deflector O, chutes H *h* P, hopper E, vibrating shoe F, and conveyer on shaft C, all substantially as herein shown and described, and for the purposes specified.

80,714.—A. B. EDMONDS, Melrose, Mass.—*Water Meter.*—August 4, 1868.

Claim. — A water meter or motor, made with valve blades or flaps, hinged to and swinging against and from an axial drum, such blades being rotated by pressure of the water entering the meter case through the eduction pipe, and each valve blade being thrown out from the drum, as its outer edge passes the abutment or wall, substantially as set forth.

80,715.—JOHN FISHER, Middletown, Pa.—*Plow.* —August 4, 1868.—An adjustable wing is secured to the same post with the subsoil plow, so that the operator may regulate the amount or quantity of the subsoil turned or brought up to the surface.

Claim.—The adjustable wing C, when used in combination with a subsoil plow, B, and constructed and arranged as and for the purpose herein fully set forth.

80,716.—SAMUEL P. FORGY, Allensville, Ky.—*Bee Hive.*—August 4, 1868.—The plate closes the entrance to the hive and is so pivoted, at an inclination, that the weight of the bee, in crawling up the plate, will depress the same sufficiently to permit an entrance, and in coming out the bee will raise the lower edge, the plate being self-closing.

Claim.—The application, to the box or frame, of the self adjusting transparent light on pivots, which will, at a given or proper time, allow the bee both ingress and egress, as herein described, using for that purpose any transparent substance which will produce the intended effect.

80,717.—WILLIAM S. FREEMAN, West Union, Ohio.—*Hand Loom.*—August 4, 1868.—The driving shaft, at the front end of the machine, is provided at its middle with a crank, so as to enable the weaver to use both hands when required, and also to reach any broken thread in the warp. A feed pawl attached to a fly-wheel on the driving shaft operates a ratchet wheel on a rearward shaft, provided with tappets which depress in succession the treadles. The picker staff projects from a shaft journaled vertically to the batten, and on this shaft is a strap, the ends of which are divided and secured to the alternate treadles.

Claim.—1. The driving shaft M, pawl P, ratchet wheel Q, shaft R, with tappets S, and treadles C, all constructed, arranged, and operating substantially as described, for the purpose set forth.

2. In combination with the elements of claim first, the picker staff U *u* and strap V.

80,718.—EMIL FRESE, San Francisco, Cal.—*Medicine.*—August 4, 1868.—Composed of Alexandria senna, manna, coriander seed, lavender flowers, and tartaric acid, designed for a cathartic.

Claim. — The above described composition for cathartic tea, made of the ingredients enumerated, mixed and compounded in about the proportions specified.

80,719.—JOHN F. FRYE, Lowell, Mass.—*Ventilator.*—August 4, 1868.

Claim.—The combination of a metallic chimney with an adjoining heat-conducting tube or box, in which the air is heated by the chimney, and conveyed to rooms above the level of the fire, said tube or box being controlled by valves at both ends, so that it may be used as a ventilator in the warm season.

80,720.—EDWARD A. GALBRAITH, Boston, Mass. —*Compound for Extinguishing Fires.*—August 4, 1868.—The solutions or fire extinguishing substances are designed to be projected upon fire by pressure or force from a suitable machine.

Claim.—1. A solution of salt cake of commerce in water, for extinguishing fires.

2. A solution of chloride of magnesium and silicate of soda, in combination with salt cake of commerce, or its equivalent, for use in extinguishing fires, substantially as set forth.

3. A solution of any soluble silicate, Epsom salts, and bicarbonate of soda, in combination with salt cake, or sal-nixon, or their equivalents, for the purpose set forth.

4. A solution of chloride of calcium, and soluble silicate, any bicarbonate of soda, in combination with salt cake of commerce, or its equivalent, for use in extinguishing fires.

80,721.—CHARLES H. GARDNER, Rochester, N. Y.—*Tuck Folder for Sewing Machine.*—August 4, 1868.—The device is made in two parts or pieces, one of which consists of a plate raised at the outer end with a half-round conically-shaped channel; the other consists of a slotted horizontal plate having a flaring raised lip, a presser, and a spring lip having an open-eyed slot, for the purpose of keeping the material in a perfect fold, until after the needle has made the stitch, the open eyelet allowing the formed stitch to pass out.

Claim.—1. The piece B, constructed as described, and consisting of the parts L *u* H, spring *a*, with open eyelet *e*, all constructed as and for the purposes set forth.

2. In combination with the above, the part A, consisting of the raised block *c* and adjustable plate H′, all constructed as described, and operating together for the purpose set forth.

80,722.—O. H. GARDNER, Fulton, N. Y.—*Vise.* —August 4, 1868.—A ball on the lower end of the shank of the movable jaw fits in a socket in the outer part of a cylindrical slide bar, in which latter is a spring that serves to hold the movable jaw open. A sliding dog on the movable jaw is made to overlap the upper edges of the slide bar, to prevent the movement of the shank upon the socket joint when the movable jaw is to be held parallel with the stationary jaw. By means of a flanged and a slotted plate the shank of the rear jaw may be adjusted to any desired horizontal angle with the bench.

Claim.—1. The combination of the spring J with the ball H, formed upon the lower end of the shank *g'*, and with the cylindrical slide bar I, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the sliding dog O with the shank *g'* of the front jaw G, and with the outer end of the cylindrical sliding bar I, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the spring catch P with the shank *g'*, and with the sliding dog O, substantially as herein shown and described, and for the purpose set forth.

4. The described construction of the flanged plate D, and the recessed and slotted plate E, the former being attached to the shank of the jaw B by a screw, in order to be removable, as herein shown and described.

80,723.—Elias Gill, New York, N. Y.—*Extension Wardrobe Frame.*—August 4, 1868.—The four posts of the frame are connected longitudinally and transversely, with toggle levers or slotted extension bars, so that the wardrobe can be readily adjusted to any desired size.

Claim.—1. An extension skeleton frame, for portable wardrobes, constructed and operating substantially as described, so that it can be longitudinally and laterally extended and contracted and folded together, as set forth.

2. The posts A A, B B, when connected and combined with the grooved bars C C, and with the extension bars D D, E E, and with the jointed levers H H, or their respective equivalents, all made and operating substantially as herein shown and described, for the purpose specified.

80,724.—Darius Goff, Pawtucket, R. I.—*Machinery for Picking and Separating Cotton Waste.*—August 4, 1868.—The claw-hooked teeth upon the rapidly revolving cylinder, catch and disentangle the bunches of spun yarn and thread which are wound upon the cylinder, while the unspun portion of the waste is separated and thrown off from the cylinder through an opening provided with a door in the casing. A toothed feed-roll, in connection with a retaining bar, are so arranged as to cause the portion of yarns and thread caught by the revolving teeth to be drawn out from the mass and wound parallel upon the cylinder instead of breaking and tearing the same asunder.

Claim.—1. A cylinder, B, armed with claw-hooked teeth L, so constructed that when set, their points shall all travel foremost as the cylinder revolves, substantially in a line concentric with the surface of the cylinder, in combination with the feed roller G, or other suitable feeding mechanism, as described.

2. The combination of the cylinder B, as described, with a casing or jacket, *m*, constructed with a suitable opening, H, and a door for closing the same, substantially as and for the purpose specified.

3. The combination of the cylinder B, as described, with the feed roller G and retaining bar R, or other suitable mechanism for delivering and retaining hold of the material, substantially as described, while it is subjected to the action of the cylinder, as specified.

80,725.—A. G. Gray, St. John, New Brunswick, assignor to himself and James T. Magee, same place.—*Machine for Cutting and Folding Sheet Metal.*—August 4, 1868.—The knife is so arranged as to have a vertical reciprocating motion in advance of a pressure bar of thin recessed section, and with a reciprocating and rocking lower knife and folder, in order to cut and fold by one operation sheets of metal. Provision is also made for cutting and folding in separate operations.

Claim.—1. The rectilinear reciprocating cutter-head E and knife B, as arranged with an independent pressure bar, F, of the cross-section shown, and a rectilinear reciprocating and rocking lower knife and folder, substantially as described.

2. The connecting rod *i*, having its opening about shaft M elongated vertically, as arranged with trunnion blocks *h*, coupling screw *n*, lifting and depression screws *m* and *o*, and cams *p* and *q*, substantially as and for the purpose described.

3. The pressure bar F, having notched standards *f*, as arranged with cutter head E, spring *g*, and cams *e*, as and for the purpose described.

4. The arrangement of the pressure bar F as described, in combination with the rectilinear reciprocating and rocking folder N, carrying knife C, substantially as described.

80,726.—Harrison Hoag, Bernville, Pa., assignor to George W. Yager, Reading, Pa.—*Machine for Making Wheels.*—August 4, 1868.—A tool, operated by a suitable handle, is arranged to slide longitudinally in bearings secured to the face of a disk, which may be so adjusted as to hold the tool at any desired angle. A sliding cross-piece is provided with two arms which are adjusted to hold the felloe in position while being bored by a set screw having a handle.

Claim.—1. A disk, J, adjustable, as described, on a standard, I, and carrying a tool, *k*, to which both a longitudinal and a rotary motion may be imparted for the purpose set forth.

2. The cross-head G, with its arms *v v* and screw rods H and *x*, sliding on the vertical standards F F', so that when in an elevated position it will serve to retain a hub, and when depressed will hold a felloe, all as and for the purpose specified.

80,727.—Alexander W. Hall, New York, N. Y.—*Wash Boiler.*—August 4, 1868.—A circulating chamber is arranged within the space between the bottom of an inner shell and the bottom of the boiler, and having suitable communications with the shell and boiler.

Claim.—The combination of the circulating chamber C, attached to the shell B, with the boiler A, provided with apertures communicating with each, all constructed and arranged substantially as described.

80,728.—Joseph L. Hall, Cincinnati, Ohio.—*Fire-Proof Safe.*—August 4, 1868.—The stoppers of the imbedded vessels are perforated, and the perforations are closed with glue or mucilage, and the steam from the heated contents passes through perforations in the inner lining of the safe. Angle-irons are placed over metal strips or bars on the external corners of the safe.

Claim.—1. Arranging a series of jars or other anti-corrosive vessels, C, containing water or other suitable liquid, when the same are imbedded in concrete, hydraulic, or other cement, between the inner and outer casings B and A respectively, of fire-proof safes, substantially as and for the purpose shown and specified.

2. The combination, in the construction of safes, of the case A, bars *a*, and the angle irons L, when arranged as described.

3. The perforated lining B, to permit the escape of the steam to the interior of the safe, substantially as and for the purpose set forth.

80,729.—George H. Hammond, Davenport, N. Y.—*Clothes Drier.*—August 4, 1868.—On a central staff are fixed two hubs, formed with jaws, in which are pivoted folding arms. A jointed brace holds the arms rigidly extended.

Claim.—A clothes rack, having folding radial arms, *b*, ropes, *f*, and jointed braces, *d e*, in combination with two hubs fixed rigidly on a central staff, A, all substantially as shown and described, and for the purpose set forth.

80,730.—Clinton R. Hardy, Lexington, Ind.—*Car Coupling.*—August 4, 1868.—A pivoted block is arranged within a slotted coupling bar, provided with a spring in the rear part. The ends of the said block are received and held in mortised springs, from which the block is readily released in case the cars are thrown from the track.

Claim.—The slotted coupling bar A, pivoted block B, spring C, and mortised spring bars D, with each other and with the draught bars of the cars, substantially as herein shown and described, and for the purpose set forth.

80,731.—D. Hattan, Zanesville, Ohio.—*Fire-place.*—August 4, 1868.—A horizontal sliding plate is arranged in the back of a fireplace, below which is placed an air tube for the purpose of supplying air to aid in the consumption of the gases.

Claim.—In combination with a fireplace back, provided with a sliding plate, C, one or more air tubes, E, arranged in and through the back, beneath the plate, substantially as set forth.

80,732.—C. M. Hawes, New York, N. Y.—*Pattern for Trimming Hat Brim.*—August 4, 1868.—The pattern is attached to a revolving frame so constructed and arranged as to admit of one pattern being readily detached from the frame, and another, of a different size, readily applied to it.

Claim.—The revolving plate C, with upright springs or elastic bars F attached, provided with pins a, at their upper ends, to fit in holes in the pattern G, all arranged substantially in the manner as and for the purpose set forth.

80,733.—George H. Hawkins, New York, N. Y.—*Machine for Blocking and Stretching Hats.*—August 4, 1868.—A cast-iron block is held and adjusted within a concentric base by set screws. Supported on the base rim is a curved upper rim encompassed by a perforated gas tube.

Claim.—The combination of a block or former, to form the crown and body from the inside, and a rim or former, to form the brim from the upper side, with a base rim, to aid in holding the material while it is being molded or formed, substantially as described.

80,734.—Eben Hester, Suffield, Conn.—*Belt Punch.*—August 4, 1868.—A square shank set in a handle is provided with two punches for cutting holes in the belt, and two punches having concave points for heading rivets. It is also provided with a flat lacing awl.

Claim.—A belt tool, constructed substantially as and for the purpose described.

80,735.—Omer Hewes, Kankakee, Ill.—*Car Coupling.*—August 4, 1868.—The coupling pin is secured between jaws which are attached to springs, that hold the pin when the cars are coupled. The springs are forced apart, to release the coupling pin, by means of a cam.

Claim.—The lever jaws E, pivoted in the angle between the bumper head B and the side bars C, and attached at their inner ends to the slotted springs F, in combination with the cam G, whereby the coupling pin D is released from the lever jaws by the action of the cam upon the springs, as herein shown and described.

80,736.—George Higginson, Newark, N. J.—*Support for Car Seat Back.*—August 4, 1868.—Blocks or bolts secured to the sides of the seat are made to rest upon spring or other elastic bearings upon which the arms to which the back is secured are supported, so as to prevent injury in case the back is reversed and allowed to fall.

Claim.—1. The elastic bearings, consisting of the spring E and sliding blocks C C, for car and other seat backs, made and operating substantially as herein shown and described.

2. The blocks C C, when combined with the springs E and cases D, and when having pins c, that fit into the slotted or grooved cases, substantially as herein shown and described.

80,737.—Wilhelm Holdman, New York, N. Y.—*Method of Separating Fibers from Mulberry Trees.*—August 4, 1868.—The bark of branches taken from the mulberry tree is steeped in potash lye, and then washed first in warm water and afterward in cold water. The resulting fibrous material is then steeped in an alum solution, and again washed in warm and cold water.

Claim.—The method herein described of producing silk from mulberry trees.

80,738.—William D. Hooker, San Francisco, Cal.—*Valve for Steam Engine.*—August 4, 1868.—Recesses in the engine piston are kept at the bottom of the engine cylinder, and opposite the small ports, by any suitable connection made to the piston rod outside of the engine cylinder. Steam admitted to the said recesses forms a cushion for the piston and insures a steam-tight joint between the piston and small ports. The valve chamber and ports through the same are so arranged in relation to the valve, that the steam shall be allowed to escape freely before the valve has arrived at the end of its stroke, and also allowing the valve to cushion on the air or steam pent up at the end of the valve chamber.

Claim.—1. The recesses o o' in the piston b, arranged with reference to the ports h h', substantially as herein set forth and shown.

2. The arrangement, with relation to the cylinder a, valve chamber c, and the additional puppet valve chamber of the valve d d', with its recesses u u', supply port f, ports g g', h h', i i', e e', vents q q', exhaust ports j j', ports s s', and puppet valves r r', substantially as herein described and shown.

80,739.—Alfred Horn, Silver City, Nevada.—*Amalgamator.*—August 4, 1868.—Around the inner periphery of the bottom of the pan, and the conical center, are annular channels or grooves, and beneath the dies between the said grooves, and connecting with the same, in the bottom of the pan are other grooves which allow the mercury to pass from one to the other. Projections on the ends of the shoes serve to take up the mercury and distribute it through the pulp. Curved wings arrest the rotary current of the pulp toward the rim of the pan.

Claim.—1. In combination with the annular chambers B and B′, the connecting groove or grooves D D, substantially as and for the purpose specified.

2. The incline projection or scrapers F F, cast at the end of the shoe, conforming to the natural wear of the shoes and dies without adjustment, substantially as described.

3. Attaching the wings G G by the beveled slots H H and lugs H′ H′, substantially as described.

80,740.—Clark S. Hutchinson, Burlington, N. J.—*Apparatus for Distilling Spirits.*—August 4 1868.—To each of the sides of a flat upright condenser are secured inclined shelves, the same being a little higher on one side than the other, so as to alternately overlap each other. At the bottom of the shelves are pools connecting with pipes on the exterior of the condenser for the extraction of the fusel oil, and a pipe and doubler lead from the still to the condenser, so that liquors of different qualities can be produced, and also a superior quality at one distillation.

Claim.—1. The flat upright condenser C, having arranged within it the shelves d^1 d^2, overlapping each other, and shaped as described, with outlets for the escape of spirits of different grades, substantially as shown and described.

2. The pools n', either inside or outside of the condenser C, in combination with the outlet pipes g g', arranged and operating substantially as described.

3. The doubler M, constructed as described, between the still and the condenser, having the two pipes m^1 m^2, intermediate valve p, and inlet pipe R, and operating substantially as shown and described.

4. The arrangement and combination of the condenser with its shelves d^1 d^2, the pool n, with its exit pipes g g' and the doubler M, connected and operating in conjunction, as described.

80,741.—Thomas Jacobs, Philadelphia, Pa., assignor to himself, James E. Kennedy, and John H. Kennedy, same place.—*Passenger Register.*—August 4, 1868.—On the passage of each passenger through the entrance, a gate is turned the requisite distance around to cause a vertical rod to operate suitable mechanism to turn the dial hand of a register. A lever under control of the conductor prevents the reversal of the gate by the passengers passing out.

Claim.—1. The combination of the check lever W with the gate C, arranged and operating substantially as described.

2. The combination and arrangement of the ratchet wheel U and spring pawl V, with the rod D and gate C, substantially in the manner described and for the purpose specified.

80,742.—P. N. Jacobus, Flat Brookville, N. J. —*Screw.*—August 4, 1868.

Claim.—The screw A, having its head provided with the triangular notches *b*, extending entirely through the same, longitudinally of the screw, and adapted to receive the jaws of the screw driver in such a manner that said jaws shall complete the beveled circumference of the head, as herein described, for the purpose specified.

80,743.—John Janeway, Indianapolis, Ind.—*Bedstead Fastener.*—August 4, 1868.—The plate is set into a dovetailed groove cut in the post, and fastened without the aid of screws, in connection with a wedge.

Claim.—The plate B, consisting of the curved and beveled edges A, and secured by the wedge K, fastening the same in the post, when made, constructed, and operated substantially as set forth.

80,744.—William H. Johnson, Philadelphia, Pa.—*Socket for Tool Handle.*—August 4, 1868.—The screw socket is cast with open spaces between the threads, except at the connection of the longitudinal ribs with the bases of the ribs, the object being to decrease the weight of the screw socket.

Claim.—A cast screw socket, B, for tool handles, when the screw threads *a* have open spaces *b* between them, formed by means of a sand or composition core H, substantially as and for the purposes herein set forth.

80,845.—William H. H. Jones and Edward S. Harris, Harrison, Ill.—*Terret.*—August 4, 1868.—The hinged section is pressed outwardly by a spring, and yields to a pressure from without, so as to permit the line to be passed into the eye of the terret on one side of the same.

Claim.—A terret, in which the spring D acts upon the hinged section C, and the latter and the section B are fitted into one another at the ends, said parts being constructed and arranged in relation to one another, substantially as described.

80,746.—John F. Klinglesmith, Hardin County, Ky.—*Hand Corn Planter.*—August 4, 1868.—On the end of a cylinder in the bottom of the seed hopper is a crank, so connected with the lower section of the staff that, by lifting the upper section, the gravity of the lower section will cause the cylinder to make a semi-revolution, and carry a seed receptacle, on its periphery, from an upright position in the bottom of the hopper to an inverted position over the hollow of the staff, to discharge the seed.

Claim.—A rocking cylinder, F, and seed receptacles S therein, placed in the bottom of the hopper E, over a delivery tube in a divided shaft, A A′, when combined by means of a crank, G, and pivoted connecting link H, with a slotted guide plate, B, secured in the lower section A′ of said shaft A A′, the whole being constructed, arranged, and made to operate substantially in the manner and for the purpose herein set forth.

80,747.—S. R. Krom, New York, N. Y.—*Apparatus for Concentrating Ores and Minerals.*—August 4, 1868.—The ore bed is composed of tubes or hollow, bar-like divisions, arranged within a frame so as to run in the direction of the length of the bed, and at a short distance apart. The tubes are made of wire gauze or other perforated material, and open at one end.

Claim.—1. An ore bed, composed of tubes or hollow bars, constructed and arranged to admit of the passages within and through, or out of them, of a current or currents of air or water, in such manner as that said air or water in escaping therefrom will meet in the center and cross the ore passages or openings in the bed, substantially as specified.

2. An ore bed made up of tubes of a reticulated character, having an air or water inlent or opening at their end or ends, and made either with or without bottoms, *d*, essentially as and for the purpose or purposes herein set forth.

80,748.—Thomas Leach, Taunton, Mass., assignor to Reed and Barton.—*Ice Pitcher.*—August 4, 1868.—The interior lining is confined within the pitcher by means of a metal ring provided with a flange projecting downward inside. Under a lip which covers the nose of the pitcher is a filter, having a lid or valve, which opens upward, the whole being connected together and secured in place by means of a screw rod.

Claim.—1. The combination of a detachable and removable glass, earthenware, or chinaware lining, or interior pitcher with the metallic pitcher A, and a ring, plate, or other equivalent device for holding the pitcher and lining together, and yet permitting the lining to be removed when necessary.

2. The ring G, having the rim or flange *g*, when used in connection with the walls A and the lining F, in the manner and for the purpose set forth.

3. The combination of the ring G, filter H, and valve J, forming a neat attachable and removable apparatus for ice pitchers, substantially as set forth.

4. The combination of the apparatus above referred to with the wall A and the screw rod *r*, substantially as described.

80,749.—William W. Levering, New York, N.Y.—*Writing and Drawing Desk.*—August 4, 1868.—On the top plate of the table part of the desk is arranged a slate, and on the front of the folding lid is a removable plate of ground glass. A stationary blackboard is placed on the back of the desk, and a drawer is so arranged as to be drawn out, half in front and half in the rear, as desired.

Claim.—1. The described arrangement of the slate G in the part F, the sliding frame and removable ground-glass plate J in the hinged portion D of the desk, the blackboard L on the back of the upper desk, and the drawer E, having the partition *c* and stop or stops *d*, all constructed to operate in the manner and for the purposes substantially as herein set forth and shown.

2. The within-described combination of writing desk, blackboard, drawing slate, and writing slate, as set forth.

80,750.—Davis E. Long, Pawtucket, R. I.—*Curtain Fixture.*—August 4, 1868.—Two plates provided with spurs are attached to the stick in the lower part of the curtain. In a recess in each plate are received the bent ends of a bent piece of iron, forming a spring, in the lower end of which is an eye for the tassel cord to pass through.

Claim.—The plates C C, with the spurs *a* attached, in combination with the spring D, all constructed, arranged, and applied in the manner substantially as and for the purpose set forth.

80,751.—M. W. Long, Bangor, Me.—*Stove Oven.*—August 4, 1868.—A circular grate is provided with projections on its under side, which fit in inclined recesses in a disk below the grate, so arranged that as the grate is rotated it will be gradually raised, and thus allow of an air passage beneath it, in order to diminish the heat when desirable.

Claim.—1. The grate *f*, when constructed and operated substantially in the manner specified.

2. In combination with the grate *f*, the disk *a*, fitted to revolve, in the manner and for the purpose substantially as shown and described.

3. The device for raising the grate, consisting of pins *k*, upon the under side of the grate, and the inclines *i* in the disk, whereby the grate is raised or lowered at will by revolving it relatively to the disk, substantially as and for the purposes specified.

80,752.—J. W. Loraine, Philadelphia, Pa.—*Hanger for Shafting.*—August 4, 1868.—The permanent portion of the hanger is provided with a plummet, which is suspended over a projection in the said portion. The lower portion of the hanger, which carries the upper and lower bearings, is so connected with the permanent portion as to admit of the bearings being properly adjusted at any time.

Claim.—1. The combination, with a hanger, of a plummet, B, and projection *m*, the latter being arranged in respect to the center of the bearing and the point of suspension of the plummet, as set forth, for the purpose specified.

2. The within-described hanger, composed of the permanent portion A, with its plummet B and projection *m*, and the adjustable portion D, carrying

the bearings E and E′, the whole being combined and arranged substantially as and for the purpose described.

3. The cap F, arranged to confine the bearings E and E′, secured in front to the portion D of the hanger by a bolt or screw, and fitting at the rear in a recess in the said portion D, all substantially as and for the purpose herein set forth.

80,753.—William Marot Marshall, Philadelphia, Pa., assignor to himself and Joseph B. Alexander, Washington, D. C.—*Foot Muff.*—August 4, 1868.—Consists of a covering for the front of the foot, and reaching to the top of the instep; to be made of cloth or other suitable material, and secured to the foot by a strap passing round the heel.

Claim.—As an article of manufacture, a foot muff, as and for the purposes and in the manner as herein described.

80,754—William Marot Marshall, Philadelphia, Pa., assignor to himself and Joseph B. Alexander, Washington, D. C.—*Gilding and Silvering Mica and Glass.*—August 4, 1868.—Consists in gilding or silvering mica or glass by means of the ordinary chemical solutions of gold and silver when rocked together in a peculiarly constructed pan under the action of moist or steam heat at a low pressure.

Claim.—The method of gilding or silvering mica and glass, in the manner and for the purposes substantially as described and set forth.

80,755.—James E. McBeth, New Orleans, La. —*Thimble.*—August 4, 1868.

Claim.—A thimble, whose body is provided with a series of openings, at the lower end of which is a circumferential projecting rim, *a*, and whose lower part, A, is suitably indented, all as herein shown and described.

80,756.—George W. Miller, West Meriden, Conn.—*Tool for Mending Belts.*—August 4, 1868.—The knife and tool are so constructed as to combine in one handle the different articles generally used for mending belts. A bolt is so arranged in the handle as to secure any one article in an open or closed position.

Claim.—1. The bolt *m*, with spring *t*, in combination with the punch *e*, and awl *d* of a belt-mending implement, for the blades of pocket cutlery, when constructed and operating substantially as herein described, and for the purposes specified.

2. The punch *e*, blade *c*, and awl *d*, or any two of them, when secured in one handle for pocket use, substantially as herein described and for the purposes specified.

3. A belt punch, having the sharp edge *f* and cutting point *f′* at one end, and the shoulder and heel *o*, at the other end, and secured in a handle by means of a pivot, *i*, substantially as herein described and set forth.

80,757.—J. D. Miller, Enon, Ohio.—*Hame Fastener.*—August 4, 1868.—The hook is so constructed as to be readily attached and detached without liability of becoming unfastened in use, and when broken can be easily replaced.

Claim.—1. The lever D, constructed with the shoulder F, and a recess behind it, in which to receive the ring B, when in working position, substantially as described.

2. The hook D, with the point returned within the fold of the hook as described, in combination with a link, proportioned so that, while naked, it may be passed over the point of the hook, but not where the strap C is present, substantially as set forth.

3. The lever D and crooked link E, constructed so as to operate in the manner and for the purpose described.

80,758.—John W. Morrett and Hiram Watts, Shepherdstown, Pa.—*Roller Wagon Skein.*—August 4, 1868.—The rollers turn the friction of the hub upon the axle from sliding to rolling friction.

Claim.—The rectangular metallic bar *a*, embedded in the axle *h*, and curving at *x*, in an arc along the axletree *g*, and fastened thereto by the screw *f*, the rollers *d* and *e* resting their axles in the ends of the trapezoidal block *b*, and *c*, which slide and are adjusted in the trapezoidal gutter in the skein, all constructed and operating in the manner and for the purpose herein set forth.

80,759.—Ichabod H. Mulford, Orange, N. J. —*Shaft Coupling for Wagon.*—August 4, 1868.—Open or hook-shaped jaws are made to receive the shaft irons with a rubber block forming a backing or packing and provided with an adjusting or tightening screw, which latter serves to admit of the detachment of the shafts without separately removing the shaft pins forming the trunnions.

Claim.—1. The arrangement and combination of the set screw E, passing through the clip *a* and axle bed B, with the rubber-carrying plate *e*, substantially as shown and described.

2. The rubber-supporting plate *e*, or its equivalent, in combination with the hook-shaped jaws A, when so applied as to be capable of removal for detachment of the thill or whiffletree without detachment of screws or nuts, substantially as set forth.

3. A thill or whiffletree coupling, so constructed that by the operation of a set screw alone, on an intermediate block, the thills may be secured to the axle or detached therefrom, substantially as shown and described.

80,760.—S. H. Nesbit, Monmouth, Ill., assignor to himself and James Nesbit, same place.—*Quilting Frame.*—August 4, 1868.—Two rollers are journaled in the front ends of the frame and one in the rear. On the outer front roller is wound the outside portion of the article to be quilted, and on the inner roller is wound the lining. The part quilted is wound on the rear roller.

Claim.—The rollers E F H, pulleys *z*, and cord U, and pawl *n*, in combination with the frame A D G I, constructed and arranged as described, and for the purpose set forth.

80,761.—S. W. Palmer and J. F. Palmer, Auburn, N. Y., assignor to E. G. Storke, S. U. Palmer, and Clara M. Palmer, same place.—*Machine for Grinding Cutters of Mowing Machines.*—August 4, 1868.—Motion is imparted to the grinding wheel by means of beveled gearing, so arranged as to throw the crank out of the way of the work. The grinding wheel is supported in conical bearings which can be moved toward or away from the center so as to insure a proper meshing of the gears. The table upon which the article to be ground is held is adapted to move laterally across the wheel.

Claim.—1. The combination, with the grinding wheel, and the conical adjustable bearings in which it is hung, of the beveled gearing and crank for driving said wheel, under the arrangement and for the operation as set forth.

2. The construction of the wa[illegible] trough, stuffing box, and frame or bearings, in which the grinding mechanism is supported, in one piece, substantially as herein and for the purposes set forth.

3. The combination, with the frame of the machine, of the adjustable rod and treadle, for holding and steadying the same while in use, as herein shown and specified.

4. The adjustable swivel clamp, for holding the machine in position without the use of legs or other like supports, constructed and operated substantially as herein described.

5. The cutter bar, supporting table O P, when constructed and hinged to frame of the machine, in the manner described, so that it may be adjusted both laterally and toward and away from the grinding wheel, as and for the purposes set forth.

6. In combination with the parts claimed in the preceding clause, the pivoted slotted bar, having its swinging end held in a segmental slot formed in said table, and the cutter-bar clamp, with or without the angle plate S, the said parts being arranged and operated substantially as shown and specified.

7. The employment, in connection with the mechanism herein described, or its equivalent, for holding and adjusting the position of reaper sections and like articles to be ground, of a grinding wheel, the surface or rim of which has a double beveled form, so that both edges of the section may be ground

without materially changing the position of the cutter bar, as herein shown and set forth.

8. The combination, with the arms n^1, their central supporting pin, the hollow post or socket for receiving said pin, and the adjusting screw for holding the same, of the knife or cutter-bar clamp, its supporting plate, and the horizontal rod upon which the same are mounted and slide, the said rod being provided with a radial arm, curved rod and spring, as described, and the whole being arranged to operate in connection with the grinding wheel, as and for the purposes set forth.

80,762.—JESSE PANNABACKER, Eagle Mills, Durlach, Pa.—*Mode of Dressing Millstones.*—August 4, 1868.—The invention consists in drilling or cutting deep, isolated cavities into the face or landsides of the stones.

Claim.—The millstone dress, with the furrows *a*, the landsides or rubbing surfaces *b*, having deep holes or cells formed therein, in the manner and for the purpose substantially as described.

80,763.—STEPHEN T. PEARCE, New York, N. Y.—*Machine for Separating Ores and Other Materials.*—August 4, 1868.—The granulated and sized substance to be acted upon is discharged upon the surface of a cone of polished metal, by the rotary motion of which the said substance will fall into various receptacles, arranged with reference to the various positions in which the particles will fall, to separate them in the order of their falling.

Claim.—1. A mechanism, arranged to separate the particles of pulverized ore or other granular substance, by impelling it, by the joint action of gravity and centrifugal force, over a metallic or other polished surface, which will modify, by the frictional contact of the same, the direction imparted to the particles of such substance, substantially as and for the purpose set forth.

2. The combination, with rotating cone A, of the receptacle D, divided into compartments, substantially as and for the purpose described.

80,764.—STEPHEN T. PEARCE, New York, N. Y.—*Machine for Separating Ores and Other Granular Substances.*—August 4, 1868.—The pulverized ore is fed by any suitable means to a vertical, hollow, rotating cylinder, provided with lateral discharging tubes near the bottom, through which the ore is impelled by the centrifugal force due to the rotation of the cylinder, the substance being discharged into graduated annular receptacles under the said cylinder.

Claim.—1. The employment of means for impelling ores and other granular substances by centrifugal force, in combination with graduated receptacles for separating them, either in the atmosphere or in *vacuo*, substantially as and for the purpose described.

2. The combination of the adjustable tube A, provided with the lateral tubes E, or their equivalent, with the receptacles F, substantially as and for the purpose described.

80,765.—J. H. QUACKENBUSH, Springfield, Mass., assignor to himself and J. H. RILEY, same place.—*Harness Round Knife.*—August 4, 1868.—The blade is made movable in its handle or socket, so that each corner of the blade may be more readily adjusted for certain operations in cutting out different kinds of work.

Claim.—The blade A, having the curved slot *e* therein, and hung in the slot *i* of the socket *b* by means of the pivot *c*, and secured in position in said slot *i* by means of the screw *d* passing through, or partially through, the socket *b*, and through the curved slot *e*, the whole forming a harness knife, and constructed and operating substantially as herein described, and for the purposes specified.

80,766.—JOSEPH H. RACEY, Jr., New York, N. Y.—*Refrigerating Chamber.*—August 4, 1868.—The vent pipe allows the escape of cool air or gases generated therein, into the body of the structure, which causes a circulation, and expels the warmer air through the inverted cone vent.

Claim.—1. The pockets H, constructed of a series of flutes or corrugations, connected in a tight manner at their upper ends with the chamber E, and at their lower ends with the trough I, said trough being provided with a waste pipe J, and vent pipe K, so arranged that the water from the melting ice shall accumulate in the trough, and prevent the circulation of air through the refrigerant contained in said pockets, substantially as set forth.

2. The combination of the vent pipe K with the inverted cone vent *a*, arranged and operating essentially as shown and described.

80,767.—JOHN B. REITH, New York, N. Y.—*Sofa and Bed.*—August 4, 1868.—The lower section of the seat of the sofa is hung on journals, and is connected to the back section by means of a rod attached to pins or wrists, so that when one of the sections moves, it also causes the other to move.

Claim.—The sections C and D, in combination with section B and frame A, substantially as herein shown and described, and for the purposes set forth.

80,768.—SAMUEL RICE, Westford, Vt.—*Wagon Jack.*—August 4, 1868.—A cast-iron rack is let into the inner side of each of two posts between which the lever is fitted, so that the weight of the lever may be readily adjusted without being detached from the supporting frame.

Claim.—The cast-iron racks D D, constructed substantially as described, and inserted in and held by the posts B B, as set forth.

80,769.—CHARLES F. RITCHELL, Chicago, Ill.—*Serial Crank.*—August 4, 1868.—The crank consists of inclined shafts having arms or pins at either end and in the same parallel plane. The arms to which the boring tools are attached pass through a stationary plate or frame, while those at the opposite end are passed through a movable plate which is rotated by ordinary crank pins, by which means a series of boring or drilling tools are simultaneously operated.

Claim.—1. The combination of a series of obtuse angled or inclined cranks, A A, constructed and arranged as described, and operating simultaneously, for the purpose of performing boring, drilling, or some other useful mechanical operation, substantially as herein set forth and specified.

2. In combination with the above, the stationary plate C and the movable plate D, frames or fixtures, to retain in position and to operate cranks A A, substantially as and in the manner herein described and specified.

80,770.—J. W. RUSSELL, Springfield, Mass.—*Lathe Dog.*—August 4, 1868.—Designed for holding nicely-finished work sufficiently firm so as to operate upon it in a lathe without injury by abrasion.

Claim.—The combination of the screw-bolt *h*, having the annular groove *o* thereon, the threaded clamp *d*, the hollow shank *a*, and the arm *b*, all constructed, arranged, and operating substantially as herein described, and for the purposes specified.

80,771.—AMAZIAH G. SHACKFORD, Malden, Mass.—*Lithographic Printing Press.*—August 4, 1868.—Does not admit of a brief description.

Claim.—1. The arrangement and combination of the thimble or counterbearing U, and arm 3, with the cog-wheels J L, and racks H M and S, substantially as and for the purpose described.

2. The swinging tooth 4, pin 7, spring 6, cog wheels Q, flange wheels R, shaft P, lever 31, shaft 32, crank 33, arranged and operating in combination with the cam c' d', substantially as and for the purpose described.

3. The truncated flange wheels R R, in combination with the carriage N, substantially as and for the purpose described.

4. Operating the tympan and nippers from the shaft P, by means of cam 18, and rod U, and gears W X Y Z, substantially as described.

5. The endless cloth X'', combined and arranged with water trough *r*, and damping roll *z*, and the squeezing rolls w w'', substantially in the manner and for the purpose described.

80,772.—T. H. SHREEVES, Greenbush, Ill.—*Horse Rake.*—August 4, 1868.—The rake is kept from revolving by a pawl which is released by means of a series of rods and levers. Hooks attached to the forward thills serve to hold the frame up off the ground.

Claim.—1. The pawl X, in combination with device *d*, *e*, F, G, H, and S, substantially as described, and for the purpose set forth.

2. The hooks *y y*, substantially as described, and in combination with the main frame, as set forth.

80,773.—WILLIAM SKIFF, Camanche, Iowa.—*Well Boring Apparatus.*—August 4, 1868.—An auger is provided with adjustable extensible lips, operated by means of an extensible shaft, whereby earth may be taken from under a curbing or stone wall, and removed from the well. A drilling device may be substituted for the auger and operated upon any rock found in digging a well.

Claim.—1. The arrangement of the drums *m* and *b*, with the arms B B, points L L, and inclines *v v*, for purposes set forth.

2. The arrangement of the auger with the adjustable lips N N, with shaft R, all constructed as herein set forth.

3. The combination and arrangement of the drill *y*, rope *x*, lever *w*, lever *f*, and inclines on drum *b*, for the purposes herein described.

80,774.—JOSEPH SLADDIN, Lawrence, Mass., assignor to himself and JOHN LORD, same place.—*Machine for Making Harness for Loom.*—August 4, 1868.—The object of the invention is to form, by an automatically operating machine, the heddle-eyes, and at the same time firmly secure the yarn to the rig-bands.

Claim.—1. The combination, with the twister *d*, of the means, substantially as described, for operating the same, as and for the purpose specified.

2. The combination of the spoon "hookers" *g g* with the hooker fingers c^1 c^1 and the needles *i i*, substantially as and for the purpose described.

3. The combination of the lapper cylinders, having guide eyes, as described, with the spoon-shaped hook *g g* and needles *i i*, substantially as and for the purpose described.

4. The combination, with the needle guide and support *j j*, of the presser wheels j^2 j^2, when arranged and operating as and for the purpose specified.

5. The combination with the devices for forming the loops, substantially as described, of the devices for knitting the heddles onto the rig-bands, substantially as and for the purpose described.

6. The combination, with the knitting devices herein described, of the lifting guide-bars *k k*, as and for the purpose described.

80,775.—ANTON JULIUS SMIDTH, Copenhagen, Denmark.—*Conveying Live Fish.*—August 4, 1868.

Claim.—Pumping or otherwise forcing and mixing air with sea water, contained in tanks, in which salt-water fish are placed, for the purpose of keeping such fish alive, substantially as above described.

80,776.—JAMES SMITH, St. Louis, Mo.—*Stop Boxes for Cocks or Valves of Water and Gas Pipes.*—August 4, 1868.—The stop box is composed of two tubes, fitting one within the other, and provided each with caps. On the outer surface of the inner portion are formed screw threads in which fit a pin attached to the inner side of the outer part, so that by turning the inner portion the top of the stop box may be readily adjusted to the surface of the ground.

Claim.—1. An extensible stop box, constructed of the two parts A and B, and so arranged as to permit adjustment by means of screw threads or rings, substantially as herein described.

2. In combination with the above, the caps *a* and C, when constructed and applied as and for the purpose described.

80,777.—JAMES P. SMITH, Oshawa, Canada, assignor to himself and FRANCIS W. GLENN, same place.—*Pulley.*—August 4, 1868.—Cast metal pulleys are formed with grooves or recesses in their peripheries to receive pieces or strips of wood, to which leather, rubber, or other suitable facing may be secured, so that the same may readily be applied and removed.

Claim.—1. A metal pulley provided with grooves or recesses in its periphery, for the purpose set forth.

2. A grooved or recessed metal pulley in combination with the strips or pieces *b* and the facing C, substantially as described.

80,778.—LEMUEL A. SMITH, Pekin, Ill.—*Horseshoe.*—August 4, 1868.—The rearmost clips are adjusted toward and from each other by means of slotted braces secured to the shoe by screws, to suit the desired size of the hoof.

Claim.—The braces E E, constructed and regulated as described, for the purpose of moving the clips D D in or out, as may be desired, substantially as herein set forth.

80,779.—SIMON SNYDER, Cincinnati, Ohio.—*Tanning.*—August 4, 1868.—The hides or skins are smoothly stretched or folded in an air-tight vat, and stratified with bark or matting interposed, so that they can be reversed and adjusted at will by manual power, or at set times by mechanism. The position of the vat is then variously changed.

Claim.—The method of tanning, substantially as hereinbefore described.

80,780.—L. F. STANDISH, Springfield, Mass.—*Pen and Pencil Case.*—August 4, 1868.—A knife blade and a pen or other convenient tool are attached to the opposite ends of a slide within a slotted tube, and are moved in either direction by a pin projecting through the slot.

Claim.—The combination of the slotted handle A, with the slide B, having the knife blade H at one end, and a pen or other convenient tool at the other, and operated by the pin D working in the slot E, substantially as shown.

80,781.—IRA H. STOCKWELL and LIZZIE C. GOODWIN, Worcester, Mass.—*Tatting Shuttle.*—August 4, 1868.—The shuttle is formed with a stationary point, and with an elongated stud or stand, composed of a curved piece of metal with round or semicircular ends.

Claim.—As a new article of manufacture, a tatting shuttle, having one of the ends of one of its sides sharpened to or provided with a point, substantially as and for the purpose specified.

80,782.—ALBERT STRASSER and B. M. LEWY, Montgomery, Ala.—*Stand for Mosquito Nets.*—August 4, 1868.—A frame bearing a mosquito net is supported on the top of an adjustable support attached to a table or stand, and so constructed as to be susceptible of adjustment either to a vertical or inclined position.

Claim.—1. The stand A, provided with the slide C, braces K, link E, and extension F, constructed and arranged as and for the purpose described.

2. The combination with the same of the skeleton frame I, or other equivalent means for supporting a mosquito net, substantially as and for the purpose described.

80,783.—JAMES S. STREETER, Providence, R. I., assignor to himself and CITY MACHINE CO.—*Fly-Frame Flier.*—August 4, 1868.—The tube of the fly-frame flier is formed up, without drilling or reaming, and the top or back ear is rolled or wound over.

Claim.—Constructing fly-frame fliers of malleable or annealed cast iron, with one or both legs cast with a groove upon a core, or its equivalent, and with an ear, the flanges of said legs and the ear being rolled down, to form the grooved tube *a*, as herein shown and described.

80,784.—ROBERT K. TOMLINSON, Brownsburg, Pa.—*Washing and Wringing Machine.*—August 4, 1868.—The clothes are thinly spread between two rubbing surfaces, to which latter are given a quick and short alternately reciprocating motion.

Claim.—1. Imparting an alternate reciprocating motion to each series of upper and lower rollers A A' by means of the cams D, and a rotary motion to each roller by the double series of cords *i*, when the cords of the upper series are driven from the upper wringer roll and the cords of the lower series from the lower wringer roll, as herein described, for the purpose specified.

2. The cam wheels D D, in combination with the rubbing surfaces A A, by which the reciprocal motion to these surfaces is imparted.

3. The combination of the upper and lower series of rollers A A′, cams D, levers P, bar R, double series of cords *i*, and wringing rolls J, arranged and operating as described, for the purpose specified.

80,785.—William F. Turner, Philadelphia, Pa.—*Umbrella.*—August 4, 1868.—Designed as an improvement on his patent of October 29, 1867. A hollow cane is provided with a detachable ferrule, head and cap, so as to be convertible into an umbrella when desired, the ribs, stretchers, and runner of the umbrella portion being inclosed in the hollow cane.

Claim.—1. The notches in the permanently attached thimble D, or the ferrule end of the cane, wherein to hook or attach the ends of the ribs, as herein described and represented.

2. The notched runner, Figs. 5 and 11, provided with the spring L, having a detaining pin, the slide M, and the encircling ring O, and adapted to occupy the detachable head of the walking stick, as herein described and represented.

80,786.—Louis D. Valetton, Philadelphia, Pa., assignor to Hensel, Richert, Wolff & Company.—*Loom for Weaving Fringe.*—August 4, 1868.—This invention consists in providing a loom for weaving fringes with such additional machinery as is capable of weaving and completing twist fringe of any description.

Claim.—1. The slotted shuttle G, constructed with a hook, *g′*, and applied to operate in the manner and for the purpose specified.

2. The twisting hook H, having an intermittent rotary and vertical and horizontal motion, and arranged to operate in conjunction with the shuttle G, substantially as and for the purpose set forth.

3. The spools N and N^1, attached to a bar, N^2, having a vertical movement within the frame, and being connected with the lever N^7 through the medium of the rods n n^1 n^2 and levers N^3 and N^4, all as herein described and for the purpose set forth.

4. The pin l^3, applied and operating substantially as and for the purpose set forth.

80,787.—Friederich Wagner, Danville, Pa.—*Cock for Racking off Beer.*—August 4, 1868.—The cock is arranged to convey beer or other liquids from hogsheads, or other large reservoirs, into smaller barrels or vessels, so that the said liquor may be kept constantly flowing after having once been started.

Claim.—For the purpose specified, the arrangement in a T-shaped tube of a cock, B, in the main part of the tube, so constructed as to be capable of shutting off the whole flow, and a deflecting cock, C, at the junction of the cross-tube with the main tube, so constructed that by turning it at different angles the fluid coming from the main tube can be deflected totally or partially into either arm of the cross tube, without the possibility of arresting in any degree the flow of the liquid through the main tube, the several parts of the apparatus being constructed and operating in the manner herein set forth.

80,788.—Sylvester G. Walker, Croydon, N. H., assignor to himself, William C. Allen, and Abijah Powers.—*Adjustable Ox Yoke.*—August 4, 1868.—The neck pieces are hung to the beam by means of bolts and cap pieces in place of the iron bands commonly used. Levers are attached each at one end to the neck pieces by bolts, and at the other end to the advantage ring by screws, on which they partially turn as the ring revolves in one or the other direction.

Claim.—1. The method of hanging the neck pieces B B′ to the beam A by means of the bolts *a a′ a″ a‴*, the guide blocks D D′, the slots M M′, and the cap pieces C C′, as above described.

2. The method of making the neck pieces B B′ stationary at any given points, equidistant or not equidistant from the center block F, within the limits of the reciprocating motions of the said neck pieces, by removing the blocks K K′ from the slots M M′, and screwing down tightly the cap pieces C C′ upon the beam A, as above described.

80,789.—Daniel Weaver, Guilderland, N. Y.—*Sewing Machine.*—August 4, 1868.—The hook-needle is provided with a latch, which recedes as the needle rises, so that the hook will catch the thread presented to it, and, forming a loop, carry it down through the material, the loop of the thread being retained in the hook by a latch, which also prevents the hook, in its descent, from catching in the material. As the needle rises again, the loop is released from the hook.

Claim.—1. The spring *f* and tappet arm *g*, in combination with the latch *e* and hook needle *n*, substantially as and for the purpose set forth.

2. The stop *h*, in combination with the spring *f*, latch *e*, and hook-needle *n*, which is secured in a bar attached to the wrist pin *a*, substantially as and for the purpose described.

3. The spring *q* and bracket *m*, sliding on the shank of the fork-feeder, and compressing the spring as the needle rises, in combination with said fork-feeder and needle, constructed and operating substantially as and for the purpose set forth.

4. The slide *u* and hinged bracket I, in combination with the needle-bar G, feed fork *k*, and lever K, or its equivalent, substantially as and for the purpose described.

80,790.—William Westlake, Chicago, Ill.—*Strainer.*—August 4, 1868.—A piece of wire gauze is secured within a continuous band of metal, so that it can be readily inserted in and removed from a pail or other vessel.

Claim.—The removable strainer A, when constructed and attached substantially as specified.

80,791.—Elonzo S. Wheeler, Westport, Conn.—*Rivet.*—August 4, 1868.—A tube, provided with a head, is passed through two pieces of leather, or other article, to be united together. The end of the said tube passes into another head, and by pressure the ends of the tube are spread and secured within the said head.

Claim.—A rivet, consisting of a tube, A, with its head B formed or attached thereon, substantially as described, with its corresponding head C, constructed so as to be attached thereto, as herein set forth, as a new article of manufacture.

80,792.—Henry F. Wheeler, Boston, Mass.—*Nut Squaring Chuck.*—August 4, 1868.—One end of the chuck is threaded so as to screw into the revolving spindle; the other end of the chuck is made with screw threads and mortised through, and a movable shoulder is pivoted in the mortise, against which shoulder one end of each nut bears, while the other is subjected to the operation of the cutting tool.

Claim.—A chuck, for the purpose described, as made with the screw-threaded end *c*, provided with a movable shoulder, *d*, arranged to operate substantially as set forth.

80,793.—William H. Woods, Philadelphia, Pa.—*Curtain Fixture.*—August 4, 1868.—A shade bracket is provided with a barrel in which are inserted a shaft and a coiled spring, so arranged as to hold the shade in any desired position.

Claim.—The combination and arrangement of barrel B with coiled spring S, plate D, and shaft T, for the purpose herein set forth.

80,794.—Elijah Youngs, Tuscarora, N. Y.—*Mop and Clothes Wringer.*—August 4, 1868.—Two rollers are journaled in slotted ears attached to each side of a pail, and to one of the rollers is connected a bent lever, operated by the foot to move the same to or from the other roller. The ears are secured to the pail by means of a socket plate and cam button.

Claim.—1. The ear B, provided with the slot F, curved as described, and for the purpose set forth.

2. The combination of the ears B B, provided with slots F F, curved as described, with the rollers C C′, and the lever E, substantially as and for the purpose set forth.

3. The socket plate G, provided with a cam but-

ton, H, or its equivalent, in combination with the ear B, substantially as and for the purpose set forth.

80,795.—Henry Cowing, New Orleans, La.—*Agricultural Machine.*—August 4, 1868.—A combination of plows, harrows, seeders, and markers, with steering apparatus, elevating and depressing devices, draught attachment and adjusting apparatus, by which the plows, &c., can be used in different combinations for different agricultural purposes.

Claim.—1. The application and combination of the double block system of equalizing draught, as above set forth.

2. The application and combination of the single block system, in combination with the double block system.

3. The quadruple whiffletree.

4. The application and combination of the cross-bar H^2 with the tongue, for the purposes specified.

5. The slotted slide-bar O for the whiffletrees to slide upon, as set forth.

6. The joint in the tongue, as and for the purposes set forth.

7. The rotary grooved cylinder, as and for the purposes specified.

8. The adjustable thumb screw *l*, in combination with a slide valve for regulating the quantity of grain sown.

9. The application of a steering apparatus to agricultural machines, composed of the wheels I, cross-bar K, sheaves *i i′*, standards I′, rope or chain J, stirrups *j j*, cross-bar *l*, and the levers L and L′.

10. The standards I′ and the adjustable cross-beam K.

11. The standards D^1 D^2 of the canopy, the cross-bars provided with screws *d d*, for the purposes set forth.

12. The curved standards e^3 and box straps e^4, for the purposes specified.

13. The semicircular rack-lever E, and handle and stop-lever spring *f*, for the purposes herein set forth.

14. The tripping lever *p* and cord or chain *p′*, for the purpose herein set forth.

15. The application of horse or other power that may be employed to draw the machine, for raising the plows and instruments out of, and from the ground, as set forth.

16. The application and combination of a scraper and presser to a gang of plows, for the purposes herein set forth.

17. The cross-bars A^3 A^4, for the purpose herein specified.

18. The construction of an axle, so that the wheels can be moved further apart or nearer together, to suit the widths of rows, as above specified.

19. In combination with a gang of plows, the digging wheel K.

20. The digging wheel, in combination with the arrangement for raising and lowering it, as set forth.

21. The three-toothed harrow G, or its equivalent, as and for the purpose set forth.

22. Making the shares and colter in one piece, as and for the purposes above specified.

23. The application and combination of a canopy to a gang of plows or harvesting machines, for the purposes above specified.

24. The manner of making canopies with an expansive cord, as and for the purpose above specified.

25. The tube on which the main wheels revolve, for the purposes herein specified.

26. The curved plow standards and the springs, for the purpose above specified,

27. The constructing of a plow so that in raking a root or stone it will be thrown out and forced immediately back, as above specified.

28. The nest of cups in the cylinder, for the purpose herein set forth.

29. The combination, as seen in Figs. 1 and 2, for the purpose of planting or sowing, as above specified.

30. The application and combination of the cross-bar H′ with the tongue H, Fig. 3, for the purposes herein set forth.

31. The combination, as seen in Figs. 4 and 5, and the particular shape of the third plow with the incline for raising up the soil before turning over, as above set forth.

32. The mole plow, in combination with the beams seen in Fig. 15, wheel-raising apparatus, quadruple trees and their arrangement, for the purposes herein specified.

33. The opening of the mold at different depths, and taking off the front molds and using their standards only, and using them all at once or separately, as above set forth.

34. The application and combination, as seen in Fig. 8, with its modifications, for the purposes herein set forth.

35. The application and combination, as seen in Figs. 10 and 11, of the gangs of plows, and the tines in the center, or before or behind the plows, as above set forth.

36. The stubble lowerer Q, and the arrangement herein set forth, for opening a deep furrow and turning the stubble into it, and the arrangement and combination of the plows, as seen in Fig. 12, or their equivalent, as set forth.

37. The arrangement and combination, as seen in Fig. 13, for covering the eaves, as set forth.

38. The single-hinged arm, for the purpose herein set forth.

39. The arrangement for ditching, as set forth, and under-draining by the mold plow, as set forth.

80,796.—Charles E. Abbot, Malden, Mass.—*Extinguisher for Lamp.*—August 11, 1868.—Extinguishes the flame without creating smoke and unpleasant odor.

Claim.—The lid *a*, so hinged and supported that when the wick C is lowered, the lid will fall over it and close the mouth of the wick tube B, substantially as set forth.

80,797.—Joseph Adams, Cleveland, Ohio.—*Wash Boiler.*—August 11, 1868.—The base has a cover of cloth, or wire gauze, and openings, arranged in such relation to a central upright wire frame, that the water on being heated will circulate through the clothes which are supported upon said base and around the frame.

Claim.—1. The open frame or rack F, in combination with the removable base B and boiler, all constructed and operating substantially as set forth.

2. The apron G and base B, in combination with the rack or frame F, substantially as and for the purpose set forth.

80,798.—John F. Alexander, Shelby, N. C., assignor to himself and Peter S. Michie.—*Process of Desulphurizing Ores.*—August 11, 1868.—The ores are mixed with carbonaceous material, such as graphite, or plumbago, or charcoal, and heated, in a sealed retort, to the required temperature.

Claim.—The method herein described of desulphurizing ores, by exposing them to heat, in a closed vessel or retort, in contact with charcoal, graphite, or other carbonaceous materials.

80,799.—James H. Barker, Washington, D. C., assignor to himself and D. R. B. Nevins, same place.—*Shutter Operator.*—August 11, 1868.—When the crank is turned the screw shaft moves the nut outward or inward, and the nut carries with it the jointed bar; the shutter being thereby opened or closed and held in any desired position.

Claim.—The jointed bar G, constructed in the form herein set forth, and applied to the window blind and casing, substantially as and for the purposes set forth.

80,800.—James A. Bennet, Millerton, N. Y.—*Milk Can.*—August 11, 1868.—The can is formed with two sheet metal jackets, one near the top and the other near the bottom of the outside of the can, leaving the intermediate portion exposed. The can is thus adapted to protect the milk from the heat of the sun, and yet allow the new milk to cool. After the milk has cooled a removable band is applied to the exposed portion of the can.

Claim.—1. A milk can, made with the hollow sheet-metal jackets *g h*, forming non-conducting air chambers, between which jackets the can is exposed, for the purposes and as set forth.

2. The removable band *m*, in combination with the jackets *g h*, for covering the can between said jackets, as specified.

80,801.—A. E. Blood, J. B. Blood, and F. W. Pope, Lynn, Mass.—*Couch or Cradle.*—August 11, 1868; antedated July 29, 1868.—The alternate compression and relaxation of the bows contained in the couch body are designed to produce an effect similar to tossing the child in the arms.

Claim.—1. In constructing an infant's couch, the combination of the sides A A, in combination with the bows B B, substantially as and for the purpose set forth.

2. Suspending a couch by elastic or spring hangings, so that it may be capable of vertical reciprocating movements, and also admit of being swung laterally, substantially as described.

3. Arranging the treadle bar G, in such relation to the couch that it can be raised to connect with and operate the same, and, when not in use, to drop clear of the couch, and allow it to be swung laterally, substantially as described.

80,802.—Charles Brada, Charlestown, Mass. —*Reclining Chair.*—August 11, 1868.—By bringing the weight of the body to bear on the forward portion of the seat, the latter is depressed and the foot-rest elevated for the accommodation of the lower limbs, while the back adjusts itself to a reclining position of the body. The rear portion of the seat is disconnected from the back, and the latter is self-adjustable in consequence of the sliding movement of the seat.

Claim.—1. The seat frame *b*, resting loosely on the rear of the main frame, and connected with the foot-rest *c*, when constructed and operating substantially as set forth.

2. The combination and arrangement of the pivoted back frame *f g*, the sliding seat frame *b*, and the foot-rest *c*, when constructed and operating substantially as and for the purposes set forth.

80,803.—Charles S. Brown, Pittston, Me.—*Supporting Attachment for Sail.*—August 11, 1868.—The object is to hold the sail extended and taut, and properly sustain it at its corner, so that the strain shall devolve upon the bolt rope thereof.

Claim.—The combination of the adjustable hook E, and its runner D, with the yard A, such being to operate in manner and for the purpose specified.

80,804.—Oramus W. Burnham, Hillsborough, and **Henry F. Burnham**, Acworth, N. H.—*Elevator for Sirup Pan.*—August 11, 1868; antedated March 9, 1868.—The pan is attached to a crane and may be raised and lowered by a lever and otherwise moved toward and away from the arch or furnace.

Claim.—1. The evener N, rods *h h h h*, cross H, in combination with arm C, and brace D, lever L, and standard B, arranged substantially as and for the purposes herein set forth.

2. The pan G, in combination with the hooks *k k k k*, cross H, substantially as and for the purpose specified.

80,805.—Ensign A. Bushnell, Horicon, Wis. —*Machine for Sharpening Horseshoe Calks.*—August 11, 1868; antedated July 18, 1868.—A cap, carrying the burr, is attached to the end of the main stock by means of a slot and set screw, rendering it adjustable to varying lengths of calks. A guide fits upon the spring and is adjusted by a set screw.

Claim.—The slotted adjustable gauge R, and loop D, with the screw bolt and set screw, in combination with the solid spring B, main stock and burr E, as herein described, for the purpose specified.

80,806.—Alexander H. Caryl, Groton, Mass. —*Hay Spreader.*—August 11, 1868.—The shaft, to which the spreading teeth are attached, is driven by gears fixed to the ground wheel, and the connections between said spreader shaft and the rock shaft enable the spreader to be raised and lowered by the hand lever.

Claim.—The combination of the rock shaft G, provided with arms F, hand lever H, links E, levers C, and spreader shaft B, arranged and operating substantially as and for the purposes set forth.

80,807.—Ethan R. Cheney, South Boston, Mass.—*Die for Making Toe Calks for Horseshoes.*—August 11, 1868.—The bar is of I-form in transverse section, and is cut by these dies, at one or more operations, into the desired form of calk, two being simultaneously produced from each length.

Claim.—The dies B B′ and C C′, or their equivalent, constructed and operating substantially as described, for the purpose specified.

80,808.—Henry F. Clark, Lowell, Mich.—*Bed Spring.*—August 11, 1868.—The springs are attached to the under side of transverse bars which are firmly secured to the head and foot boards or rails. The lower slats are fastened to said springs and support the cross pieces to which the upper slats are secured.

Claim.—The bed bottom, consisting of the double set of slats F D, when combined and arranged between the blocks A, and operating with the independent cross pieces E and springs C, in the manner and for the purposes described.

80,809.—John W. Cobb, Melrose, and **Edwin A. Hill**, Quincy, Mass.—*Manufacture of Rubber and other Coated Cloth and Fabrics.*—August 11, 1868.—The rubber or caoutchouc is placed in the space between the main cylinder and the uppermost of the two small, hollow cylinders, which has an accelerated motion, in order to grind the material and lay or spread it on the main cylinder. The sheet of cloth is run in upon the lower small cylinder, and thence between the main cylinder and the steam jacket and under the guide roller, being led off in an upward direction. Steam may be admitted to all the hollow cylinders.

Claim.—1. The combination of mechanism for spreading rubber or a vulcanizable material on a surface or cylinder, and applying the coating to cloth, in manner as set forth, with mechanism for vulcanizing the coating of rubber or vulcanizable material, while it with the cloth may be passing about the surface or cylinder on which the rubber or said material may be spread.

2. The combination and arrangement of the steam jacket or heater K, with the steam heating cylinder A, and the two cylinders E H, arranged and connected so as to operate as and for the purposes specified.

3. The combination and arrangement of the air protective space *r*, the steam chamber *q*, and the steam cylinders A E H, arranged and connected so as to operate substantially in manner and for the purposes as specified.

4. Our process of applying rubber or caoutchouc or a vulcanizable material to cloth, and vulcanizing such rubber or material after such application of it, the same consisting in spreading the rubber or vulcanizable material on a cylinder, and forcing a sheet of cloth in contact with the coating so spread, and vulcanizing it while on the cloth, and while the latter with the rubber or vulcanizable material may be passed about the cylinder, such vulcanizing of the rubber or its equivalent being effected by heat applied to the cylinder or cylinders used in the process of spreading the rubber, as set forth, or to them and a steam jacket, as described.

5. The process of making a sheet of rubber or vulcanizable material, and vulcanizing it, the same consisting in spreading the rubber or material on a cylinder by means as described, and vulcanizing the rubber while on such cylinder by heat produced therein, by means of steam let into it, as set forth, or into it and a steam jacket arranged with it as specified.

80,810.—George Crompton, Worcester, Mass. —*Loom.*—August 11, 1868.—The improvement consists in making each lifter, depresser, and evener bar as a bent lever, or with a vertical arm projecting from the lever proper, the vertical arm carrying a pin which slides in or against a groove or incline as the levers rise or fall, the inclination of the groove imparting a lateral movement to the arm, which produces a corresponding movement of the lever or bar, and thereby effects the required inclination of the lifter, depresser, or evener.

Claim.—1. In combination with the harness levers operated by hooked jacks, angular lifter, and depresser levers, the inclination in which, is effected by pins or projections from arms *l*, working in or against inclines *n*, substantially as described.

2. The eveners, in combination with the inclines, constructed substantially as described, for producing the inclination of the evener levers.

3. The adjustable inclines for varying the extent of inclination of the levers, substantially as described.

80,811.—ANDREW J. CURTIS, Monroe, Me.—*Meat Chopper.*—August 11, 1868.—The lever bearing the knife which cuts the meat in the tub is raised by the cams and depressed by the spring. Attached to the knife lever is the impelling pawl which actuates the ratchet to give an intermitted rotary movement to the tub holding the meat.

Claim.—1. The arrangement of the impelling pawl N, the arm O, the ratchet P, the spring I, the knife lever D, and the cams *d* E′, as applied to the knife or knives, and the tub, as set forth.

2. The arrangement and combination of the depressing spring I, its abutment K, and adjusting screw L, with the knife lever D, and the series of cams E′, for operating it, as set forth.

3. The arrangement of the studs *d′ b b* and the holes *f g g*, with the tub B and the ratchet P, arranged therewith in manner and so as to be operated by an impelling pawl driven by the knife lever, as set forth.

80,812.—CHARLES M. DABOLL, New London, Conn.—*Drill Stock.*—August 11, 1868.—The operator grasps the handle of the main non-rotating stock, and, holding the rest against his breast or front, turns the bit by means of the gearing and its handle. The plug of the tool pocket is fitted in a countersink in order that the breast of the operator shall not be subjected to injury or discomfort thereby.

Claim.—The arrangement of the several parts, as herein described, the rest B, pocket *k*, and flanged plug *m*, being included in said arrangement.

80,813.—JAMES DEVARAUX, Marshall, Mich.—*Rotary Excavator.*—August 11, 1868.—An apparatus for the sinking of wells and shafts, and raising the earth excavated by the same to the surface and there dumping it.

Claim.—An excavator, composed of the standards A, table B, disk 7, sheave blocks E and F, sweep Z, frame K, buttons O, pins P, stirrups L, hinges N, excavator buckets M, bearing wheels Q, chains W, ropes X, the vertical rotating shaft D, metallic point C, horizontal arms G, adjustable guide wheels H, dogs S, springs T, pulleys V, cord U, and capstan Y, when arranged and operating substantially as described and for the purpose specified.

80,814.—ANDREW DICKEY, Albany, N. Y.—*Sad-Iron Support for Stove.*—August 11, 1868.—The bracket is adapted for attachment to the side of a stove plate section to admit of the sad-irons being placed in front of the illuminating openings of a base-burning stove in the best position for heating them. To remove the bracket lift it slightly and withdraw its arm from the opening through the stove plate.

Claim.—A removable sad-iron bracket B, constructed and adapted for being applied to a stove, substantially as described.

80,815.—A. H. ENHOLM, St. Louis, Mo.—*Motive Power for Sewing Machine.*—August 11, 1868.—The invention has reference to the means for winding up the springs to the peculiar system of gearing through which motion is transmitted to the point where the connection with the sewing machine is to be made, and to the mode of regulating the speed by changing the position of fan wings in relation to their supporting shaft.

Claim.—1. The drums and springs, when the same are operated by the lever and intermediate pinion wheel, substantially as described, as and for the purpose specified.

2. The drums L L′, with their springs, when the same communicate their power to the main driving shaft of the machine, through a system of its intermediate gearing, and the whole is so combined and arranged as to operate substantially as described, as and for the purpose specified.

3. Regulating the speed of the machine by means of the sleeve E, lever G, and fan blades F F, when the same are constructed and arranged so as to operate substantially as described.

80,816.—JEFFERSON E. EVARTS, Madison, Conn. —*Coffin.*—August 11, 1868.

Claim.—The application of the substance known as papier-maché, to be used in the construction and manufacture of coffins, substantially as and for the purpose above specified.

80,817.—Canceled.

80,818.—JOSEPH FLETCHER.—Providence, R. I. —*Making Braid.*—August 11, 1868.—A single strand yarn is employed on each of the bobbins of the racers of the braiding machine, and while half or nearly half of the yarns are twisted in one direction, the others are twisted in the opposite direction; the effect being to counteract the tendency of a portion of the yarns to twist the finished braid in one direction by the tendency of the remainder to twist it in the opposite direction. Hence, braid thus formed does not twist, but will lie flat.

Claim.—The improved mode, substantially as herein described, of making braid by a braiding machine, such involving the making it of single strand yarns, and the arrangement of the twists of a portion of them in directions opposite to those of the rest, the same being as and for the purpose specified.

80,819.—ADDISON L. FOLGER and A. SMITH FOLGER, Sumner, and HENRY HENSHAW, Quakertown, Ind., assignors to A. L. FOLGER.—*Manufacture of Sugar from Sorghum Juice.*—August 11, 1868. —The sirup is subjected, first, to purification in the filters; secondly, to precipitation in the troughs; thirdly, to further purification in the hot filter after it has passed through the first pan; and, fourthly, to a further treatment by cold water used in the evaporating pans. A transparent box is employed for granulating, under the influence of solar light, the sugar placed therein.

Claim.—1. The arrangement of a consecutive series of filters, A C, and a consecutive series of precipitating troughs and connecting pipes, and of a series of evaporating pans, two, at least, of which are connected through a hot filter, substantially as set forth.

2. In combination with a series of evaporating pans, a water cistern, N, and a series of pipes for conducting the water into the pans, substantially as and for the purpose set forth.

3. A transparent granulator, O, substantially as and for the purpose set forth.

80,820.—LOREN B. FORESTER, Clyde, Mich.—*Hose Coupling.*—August 11, 1868.—The sections of pipe may be readily uncoupled by sliding the ring so as to free the ends of the levers, the latter being then swung back so as to release the shoulders; by engagement with the latter the coupling is effected by the levers when clamped against the sides of the pipe by the ring.

Claim.—1. The pipe B, attached to and surrounding the pipe A, the packing C, the ears D, the dog levers E, provided with shoulders F, and catches N, to form that part of the coupling attached to the pipe A, when operating substantially as and for the purposes herein described.

2. The coupling pipe H, provided with shoulder I, ring J, pin K, slot L, spring M, in connection with pipe G, when constructed and operating to form the other part of the coupling.

3. The combination and arrangement of all the above-named parts to form the two parts of a coupling, when constructed and operating substantially as and for the purposes herein set forth.

80,821.—JEROME B. GARDNER and CHARLES H. SWAIN, New York, N. Y.—*Steam Boiler Furnace.* —August 11, 1868.—Air, received from below, is admitted to the fire at a point above the grate, and the perforated pipe, through which the air is so admitted, is protected from heat by fire bricks.

Claim.—1. The combination of the feed chambers for the furnaces of steam boilers, with the perforated pipes or conductors, E, which are protected by suitable coverings, as described and set forth.

2. The arrangement of the grate bars F F, upon a concave frame, causing the fuel to fall to the center, in combination with the feed chambers and air pipes and conductors, as described and set forth.

80,822.—Jethro J. Griffith, Philadelphia, Pa. —*Artificial Teeth.*—August 11, 1868.—The depressions in the mold to form the backs of the teeth are first partially filled with the mineral substance, which is made to form shoulders to support the pins in an upright position while the filling of the depression is completed.

Claim.—The above-described mode of effecting the attachment of pins to artificial teeth in the process of molding.

80,823.—Rufus Ham and Joseph Durgin, Bangor, Me.—*Dumping Cart.*—August 11, 1868.—The rocker is secured to the spindle bolt in the head of the post, so as to turn readily upon the same, and is connected to the cart body by hinges. Suitable fastenings are employed to secure the body in a horizontal position. In turning the cart body to dump the load at either side, the trundles travel upon the circular plate and thus steady and support the load.

Claim.—The spindle-headed post E and the plate or circle F, in combination with the rocker H and the trundles I, I′, and I″, constructed and operating substantially in the manner and for the purposes as shown and described.

80,824.—Martin Hillabold, Syracuse, Ind.—*Saw Mill.*—August 11, 1868; antedated August 1, 1868.—When the head blocks are mounted on top of the rails, their inner ends extend a considerable distance further in toward the saw than when they are mounted on the graduated steps of said rails. The construction of the side rails enables the blocks to be so operated that very large logs may be slabbed with a comparatively small saw.

Claim.—The side rails *g g* of the saw carriage E, constructed in the manner and for the purposes substantially as described and set forth.

80,825.—Horace C. Jones, Dowagiac, Mich.—*Basket.*—August 11, 1868.—The two thicknesses of splints are secured between and held in place by loops applied to the inside and outside of the same.

Claim.—1. Constructing a basket of two thicknesses of staves or splints, the outer thickness or covering being composed of splints which extend from side to side of the basket, beneath its bottom, and the inner thickness or lining being composed of splints which extend from the center of the bottom of the basket to its top edge, substantially as described.

2. The cap *h*, and rivet *g*, fastening the tapering points of the lining splints *b* down to the splints *a*, forming the outer thickness of the basket, substantially as described.

80,826.—John Kershaw, Paterson, N. J.—*Machine for Cleaning Cotton.*—August 11, 1868.—The cotton is introduced at the smaller end of the casing, and has a progressive movement toward the discharge opening while being scutched against the grating by the beater blades. The fan operates to draw through the screen such foreign matter as does not fall through the grating. The traveling apron receives the cleaned cotton and discharges it into bins or upon the floor.

Claim.—1. The shaft C, with its disk plates H and beater blades I, in combination with the conically disposed grating B, covering E, openings K and F, and the outlet or discharge pipe L, all constructed as and for the purposes herein set forth.

2. The fan P, screen O, and apron N, when combined together, and with the conically-disposed grating B, of angular section, the cover E, the feed opening K, air opening F, outlet pipe L, shaft C, disks H, and beater blades I, or their equivalents, all arranged and operating substantially as and for the purposes herein shown and set forth.

80,827.—Israel Kinney, Detroit, Mich., assignor to Edward McGivern and John Webber, Hamilton, Canada.—*Wagon Seat.*—August 11, 1868. —The sides and back of the seat are of metal, cast or stamped into shape, and provided with a flange, to which a wooden seat may be attached, and with lugs for the attachment of a top.

Claim.—The ribs or lugs E, when constructed and connected as herein set forth.

80,828.—Richard C. Lambert, Raynham, assignor to David Whittemore, North Bridgewater, Mass.—*Machine for Trimming the Edges of Boots and Shoes.*—August 11, 1868.—Vertical, endwise, and rotary movements are imparted to the jack in which the shoe is clamped. The gauge runs between the sole and upper leather of the shoe, and prevents the paring knife from cutting into the upper leather. The cutter frame or head rests upon the periphery of the pattern which governs the depth of cut.

Claim.—The combination of the jack or shoe-holding carriage B, the pattern, the stop bolts *n n*, and the cutter carrier N, provided with mechanism for operating them, substantially as specified, such carrier being provided with a gauge, *y*, a paring knife, *x*, or the same and another tool or implement for smoothing or finishing the edge of a sole of a shoe.

80,829.—Patrick Lennox, Lynn, Mass.—*Machine for Beaming Hides.*—August 11, 1868.—These improvements have reference to the mode of effecting the reciprocating, rectilinear movements of the beaming tool carrier, and raising it above the surface of the operating bed; also to the mode of supporting and producing the vertical movements of the operating tablet; and, further, to an elastic cushion or bed piece to prevent the hide from slipping about upon the tablet under the action of the beaming tool.

Claim.—1. In a machine for beaming hides, or sleeking or dressing leather, actuating the movements of the working tool by means of the connecting rod *g* and eccentric rod *h*, the former being pivoted at one end of the sliding carriage, and the latter to the beaming tool carrier, and both being connected with the balance wheel by the means above described, the whole being arranged and operating as before described.

2. The application of the elastic apron to the revolving tablet, in manner and for the purposes as hereinbefore explained.

3. Applying the revolving tablet to the car truck frame in such manner as to be enabled to adjust its vertical positions, essentially as herein shown and described.

4. The means for accomplishing this vertical adjustment of the revolving tablet, the same consisting of the cross frame *o* and treadle *p*, combined and arranged and operating as before explained.

5. The inclination of the outer end of the horizontal beam or guide for elevating the beaming tool, substantially as before explained.

80,830.—Sebeus C. Maine, Boston, Mass.—*Folding Mosquito Frame.*—August 11, 1868.—This frame is supported by a strip or cornice, and when extended the cloth and netting attached thereto incloses the space about a table or bed and excludes flies and mosquitoes therefrom. The weight or rod confines the cloth to the top of the frame so that no apertures may exist.

Claim.—The folding frame B, with cloth C and netting D attached, in combination with roller A and weight E, the whole operating substantially in the manner and for the purposes specified.

80,831.—C. H. Mock, Quincy, Ill., assignor to himself and Israel Dixon, same place.—*Gridiron.* —August 11, 1868.—The juices eliminated in the form of vapor being retained within the spider by the closely-fitting cover, are condensed by the air entering at the openings in the handle.

Claim.—The spider A, cover B, projection and staple *b*, air passage C, and openings *c c*, for the purpose substantially as herein shown and described.

80,832.—Francis D. Pastorius, Philadelphia, Pa.—*Stove-Pipe Damper.*—August 11, 1868.—As the draught increases it closes the valve, and when it decreases the valve opens by its own weight. The valve seat has a number of holes, to maintain combustion and permit the gaseous products of combustion to escape when the damper is closed.

Claim.—1.—A valve seat and gas escape, in combination with an automatic or self-acting valve, for the purpose specified.

2. A valve seat and gas escape, in combination with the automatic or self-acting valve D, and the stove pipe, flue, or other suitable receptacle, A, as shown.

3. A valve seat and gas escape, B, in combination with the rod C, valve D, and the counterpoise E, as shown.

80,833.—LEONCE PICOT, Hoboken, N. J.—*Comb.*—August 11, 1868.

Claim.—A double comb, formed by coupling two combs together at their backs by a sliding coupling, so that they may be detached from each other at pleasure by sliding them apart and used as single combs, substantially as hereinbefore described.

80,834.—ELIZA W. PRUSSIA, Marlboro, Mass.—*Clasp for Boots and Shoes, Belts for Ladies' Dresses, &c.*—August 11, 1868.—The disk of the clasp contains a spiral groove, in which work the ends of hooks attached to the two ends of a lady's belt, or to the two sides of a shoe, for example. By turning the disk the hooks and the parts attached thereto may be drawn together. A modification as to the form of the clasp and its cover is proposed.

Claim.—1. The device of a spiral groove in a clasp, in the manner and for the purpose described.

2. The attachment of a cover to the clasp, substantially as described and for the purpose set forth.

80,835.—FERDINAND RENZ, Poughkeepsie, N. Y., assignor to himself and JOHN A. BAYLY, same place.—*Process of Manufacturing Sulphuric Ether.*—August 11, 1868.—The steam generated in the mash tub escapes into a receiver containing heated sulphuric acid, which is consequently converted into sulpho-vinic acid. The vapor of this product passes to a heated water bath or washer, whence it escapes to a receiver containing highly-heated sulphuric acid, the sulpho-vinic acid gas being thereby converted into sulphuric ether and water. The subsequent treatment is for removing impurities and excess of acid, and obtaining the ether in a pure condition.

Claim.—The method or process of making sulphuric ether direct from the steam of boiling mashes of corn, barley, or other grains, or molasses or sugar, substantially as hereinbefore described.

80,836.—FREDERICK K. SEYMOUR, Walcottville, assignor to himself and E. MILLER & COMPANY, Meriden, Conn.—*Machine for Burnishing and Spinning Metals.*—August 11, 1868.—This mechanism is designed for holding a roll or burnisher with a yielding or elastic power against the revolving sheet metal and former. By thus mechanically adapting the tool to yield to the curvatures of the former or chuck, the skilled hand labor heretofore involved in holding the tool is dispensed with.

Claim.—1. A revolving chuck or former, in combination with a tool fitted to yield and moved automatically, in spinning or burnishing articles of sheet metal upon said chuck or former, substantially as formed.

2. The lever *w*, in combination with the tool *t*, stock *t'*, and spring for withdrawing said tool from the work, as set forth.

3. The roll *t* and set screw 8, for converting said roll into a burnisher, as and for the purposes set forth.

4. The arrangement of the tool-holding slide *s*, nut *r'*, screw *r*, and slide rest *q*, and screws 10 10 10, for the purposes and as set forth.

5. The tool-holding slide *s*, tool *t*, spring *v*, lever *w*, slide rest *q*, secondary bed *l*, bed *k*, and hand wheel *p*, arranged and applied substantially as specified, for spinning or burnishing articles of sheet metal upon a revolving chuck or former, as set forth.

80,837.—A. R. SILVER, Salem, Ohio, assignor to himself and JOHN DERNING, same place.—*Hub-Boring Machine.*—August 11, 1868; antedated July 25, 1868.—The jaws of the chuck are adjustable simultaneously toward and from a common center, and serve to rigidly gripe and hold a hub in proper position for being bored and shouldered. The invention provides for readily withdrawing the mandrel, which carries the boring tool, after the operation is completed; also for preventing a progressive movement of the mandrel during the formation of the shoulders in the hub; also a gauge for regulating the depth of boring, the said gauge having a thread on one side and an adjustable jib at the opposite side, whereby the gauge may be adjusted upon its mandrel without turning or screwing.

Claim.—1. The combination of the radially-grooved chuck plate, sliding griping jaws J, adjusting screws H', pinions H, and center spur wheel G, substantially in the manner and for the purpose described.

2. The sections *h h* of the feed nut, fitted in slotted bed *g'* applied to a turning box or cap D, and constructed with a neck, *g*, substantially as described.

3. The combination of the expansible nut *h*, bed *g'*, neck *e*, set screw *e'*, and stock E, substantially as described.

4. The construction of the gauge plate C, with an oblong opening, *d*, through it, one side of which is screw-cut to fit the mandrel, and the other side is provided with an adjustable screw-cut jib, C, and a set screw, *c'*, substantially in the manner and for the purposes described.

80,838.—ANDREW SMITH and WILLIAM P. WATSON, Portland, Oregon, assignors to WILLIAM P. WATSON and T. J. CARTER.—*Gang Plow.*—August 11, 1868.—The vertical rod screws through a plate or bearing, so that when it is turned it raises or lowers the hinge plate, and the forward ends of the plow beams attached thereto. The plows may be elevated out of contact with the soil by means of the ratchet, rollers, and cord. The foot lever is for disengaging the pawl, to allow the plows to fall and assume their working position. The position of the tongue may be changed, for taking more or less land.

Claim.—1. The combination of the rod K, plate J, through which the rod K screws, and which is attached to the hinge joint I, hinge plate I, plow beams F F, and standards and plows G H, substantially as described.

2. The combination of the hinged beams F F, cord *c*, rollers M and N, ratchet *m*, pawl *p*, and foot lever *r*, substantially as described.

3. Attaching the rear end of the tongue to the axle by means of a clevis, *t*, and a series of holes arranged as described, by which the draught can be adjusted, substantially as above set forth.

80,839.—ANTHONY SMITH, Schellsburg, Pa.—*Horse Hay Fork.*—August 11, 1868.—The teeth, in lifting the load, are automatically locked without the agency of springs. Before raising the load the pins or skewers are inserted crosswise into the hay, and being suspended by a cord from the shank, their upper ends are drawn together and their lower ends made to compress the hay as the fork ascends.

Claim.—1. The combination, in a horse hay fork, of the shank, the pivoted teeth, the sliding bar, the vibrating locking-lever, and the loop, the combination being and operating substantially as set forth.

2. The combination of the shank, the locking lever, and the sliding loop, with the slide bar, having a lateral projection on its foot working in the slot of the shank, and pivoted to the teeth by links, for the purposes specified.

3. The combination, as set forth, of the rectangular slotted shank, the diagonally-arranged spear head, the oscillating teeth, the slide bar, the loop, and the locking lever, for the purposes specified.

4. The combination, in a horse hay fork, of a shank, a self-locking lever pivoted on and vibrating parallel with the shank, and a loop sliding on the shank and embracing the shank and locking lever, and operating the latter by its ascent, as set forth.

5. The combination, substantially as set forth, with a horse hay fork, of pins or skewers, to be inserted crosswise into the load, to bind together and compress the hay.

80,840.—Vinzenz Smith, Middlebury, Ohio.—*Screw Cutting Machine.*—August 11, 1868.—The socket which is fitted on the shaft, turned by the hand wheel, holds either the screw-cutting dies to thread the bolt, or a tap for threading nuts. The standard, which holds the bolt or nut to be threaded, is free to advance toward the socket, so as to feed the bolt or nut to threading device.

Claim.—Modifying the structure of the parts of said combination, and combining with said combination the several devices, in virtue of which the apparatus may be used as a drilling machine, as well as a bolt and nut-threading machine, all substantially as described and shown.

80,841.—William Stark, White Pigeon, Mich. —*Potato Digger.*—August 11, 1868.—The devices at the front of the machine gather the vines, sever them, and remove them to one side. The devices which then come into operation scoop up the potatoes from the earth, sift the dirt therefrom, and transfer the potatoes to an elevator, which delivers them to receptacles.

Claim.—1. The angular transverse frame U, in combination with bars T, hangers V, connecting bar 2 2, endless chain P, and arms Q, when operating for the purpose set forth.

2. Grated section X, in combination with grated scoop 5, box Y, escapement W, ratchet S, all operating as and for the purposes specified.

3. The combination of the above-named parts with elevator R, sickle bar K, pitman J, crank shaft F, reel I, rollers H, plate L, provided with angular projecting arms 6, when constructed, arranged, and operating substantially as and for the purposes herein set forth.

80,842.—John Star, Grand Rapids, Mich.—*Garden Hand Plow.*—August 11, 1868.—The hand plow is made double, and constructed in such a manner that, by being reversed or turned over, it may be made to turn the furrow in either direction.

Claim.—A double hand plow, when constructed substantially as and for any or all of the purposes specified.

80,843.—Edwin J. Toof, Madison, Iowa.—*Lamp Burner.*—August 11, 1868.—The hinged connection of the support being formed within the periphery of the air screen, the effect is that when the chimney is turned aside to trim the lamp, the outer portion of the clamping spring bears against the flange of said screen, causing the chimney to be griped with great firmness, so that it cannot become casually detached from the holder. The expanding vapor within the reservoir has free escape; but on the occurrence of a partial vacuum within the reservoir, the valve closes and cuts off communication between the flame and the interior.

Claim.—1. The springs F, which are so constructed as not only to act as a support to the elevated cone E, but, at the same time, to serve to clamp the chimney, whether the same be hinged to or have spring snap connection with the foraminous air-screen A, substantially as herein shown and described.

2. The hinge joint, formed by the bend of the spring support F, in connection with an aperture or depression in the disk A, or any attachment thereto, substantially as shown and described.

3. The spring catch *a*, formed by the extension of the spring support F, and arranged in relation to the cone E, and locking into the central elevated portion of the air screen, or other convenient attachment to the burner, substantially as shown and described.

4. The spring clamps F, constructed with variable widths or thicknesses, for the distribution of the spring and holding parts, substantially as set forth.

5. The clamps F, constructed of one continuous strip of metal, and serving to support the cone within the chimney, and to support and connect both with the foraminous screen, substantially as described.

6. The application of the valve *e* to the vapor tube of a lamp burner, substantially as and for the purpose set forth.

80,844.—John Vandercar, Brooklyn, N. Y., assignor to L. B. Tupper, New York, N. Y.—*Fire Grate.*—August 11, 1868.—The object is to afford free expansion and contraction both transversely and longitudinally.

Claim.—A furnace grate bar, provided with a central longitudinal bar, A, and two series of cross-bars, *d*, the latter running diagonally from the frame B to the said central bar A, and the bars of each series adjoining the said central bar at alternate points, thereby breaking joints with each other, substantially as herein shown and described.

80,845.—Elbertson W. Waite, New Haven, Conn.—*Carriage Prop Joint.*—August 11, 1868.—The prop is made with a double joint and link, doing away with the prominence of the ordinary joint and making it less difficult to finish up the joint externally.

Claim.—The carriage prop, made with the link *c* attached by the pins or screws *d d* to the bars *a* and *b*, in the manner and for the purposes specified.

80,846.—Charles Wendell, Albany, N. Y.—*Slate Frame.*—August 11, 1868.—The rubber rings are confined in place by the edge of the slate in the act of securing the slate and frame together.

Claim.—The application of cushion rings C to the frame of a slate or writing tablet, substantially in the manner and for the purpose described.

80,847.—Orren L. Wheeler, Lewiston, Me.—*Measuring Faucet.*—August 11, 1868.—The chamber being in a position to form communication between the vessel to be drawn from and the interior of the flexible tube, the disk is raised so as to draw liquid into said tube—the discharge end of the faucet being, in the mean time, closed. The chamber is then turned so as to reverse the direction of the tube's communication with the faucet, and the disk being then depressed the measured liquid is ejected from the tube through the outer end of the faucet.

Claim.—The measuring faucet, as described, having the chamber B, with vent hole *o*, gauged stock *i*, disk *k*, collapsable tube *m*, projection *a*, with opening 2, in combination with the nozzle C, having the socket *b* to receive the projection *a*, all as and to operate for the purposes herein set forth.

80,848.—Samuel Woodhull, Linden, Mich.—*Apparatus for Setting Axle of Wheel.*—August 11, 1868.—By adjusting the graduated arms of the instrument in accordance with the dish and height of the wheel, the pitch of the axle arm may be readily determined; the object being to avoid the geometrical calculations usually involved.

Claim.—The arms K, in an axle gauge, constructed as herein described and shown.

80,849.—John Ashworth, North Andover, Mass., assignor to George L. Davis, John A. Wiley, and Joseph M. Stone, same place.—*Ring Spinning Frame.*—August 11, 1868.—The ring is secured to the rail by means of a clamping screw and two set screws, by the joint action of which it may be moved a short distance in any direction parallel to the plane of revolution of the spindle, so that each ring may be made concentric with the spindle independently of the other.

Claim.—The ring, secured to the rail, and adjustable to the spindle by the clamping screw and two set screws, substantially as described.

80,850.—Theodore Barker, Mexico, N. Y., assignor to Japhet Lingenfelter, same place.—*Brick Machine.*—August 11, 1868.—A belt is employed for transmitting motion from the main driving shaft of the pug mill to the followers, in order to guard against breakage or derangement in the event of the machine being clogged by foreign substances in the clay. A tension regulating device is applied to said belt. The empty mold boxes are fed from a receiving table to a point beneath the press box, and, being filled, are moved upon a delivery table in front of the press box. The plunger, which forces the clay from the press box into the mold boxes, receives a vertical reciprocating motion, but has intervals of rest to allow the filled mold to be pushed out and an empty mold cell to be moved in line with the press box. An elevator supplies the clay to the pug mill at the upper part thereof.

Claim.—1. Combining with the two tables F and E, arranged at right angles to each other, and the two followers S and G, the connecting rod I, vibrating lever J, and slotted device J, arranged and operating substantially in the manner and for the purposes specified.

2. The arrangement of the slotted side table F, ledges *v v*, follower *s*, suspending guide ways *l*, and the suspended follower G, in a brick machine, substantially in the manner shown and described.

3. The combination and arrangement of the guide rods *e e*, applied to the plunger B^2, and provided with stops f' f', the cross-head *f*, its connections with the driving shaft, the adjusting screw *g*, and tubular socket or sleeve g^1, all substantially in the manner and for the purpose described.

4. The belt K, with its necessary adjuncts between the spur-geared driving power of the pug mill and press, and the mechanism, constructed and arranged substantially as described, for bringing the mold boxes into proper position, in the manner and for the purpose substantially as set forth.

5. The combination and arrangement of the devices set forth for automatically feeding, elevating, and discharging clay into the pug mill, in the manner substantially as and for the purposes described.

80,851.—John Barson, Ephraim Daniels, and Joanna Farrell, New York, N. Y.—*Lamp.*—August 11, 1868.—The movable roller is adjusted, by means of its screw, to such a position with respect to the opposite roller as to compress the intervening wick sufficiently to cause it to be moved upward or downward upon rotating the feed roller.

Claim.—In combination with the ordinary stationary roller D, the roller D′, mounted on a sliding box, G, operated by the swivel screw K, substantially as and for the purpose described.

80,852.—Oscar B. Blake and Ormond E. Colony, Keene, N. H. —*Measuring Faucet.*—August 11, 1868.—Designed more particularly for drawing oils into small cans or oilers for lubricating machinery, only a sufficient quantity to fill such can or oiler being allowed to escape at each draught.

Claim.—The inclined tube or induction pipe A, and converging measuring receptacle B, in connection with the faucet, having an outer casing, C, with orifices, D, E, and F, and a semi-rotating plug C′, having chambers H and I, and stop pin L, arranged so as to form alternately the induction and eduction passages for the supply and discharge of the liquids to and from the measuring receptacle B, the same being provided with passages M and N, or their equivalents, for the admission of air to supply the place of the liquids as they are drawn from the can or reservoir; the whole being constructed and arranged substantially as herein shown and described.

80,853.—Charles W. Blakeslee and Anthony G. Davis, Watertown, and Ebenezer B. Beecher, Westville, Conn.—*Knitting Machine.*—August 11, 1868.—Relates to the manner of mounting and operating a traveling thread-carrying arm, and to a means for varying its length of circuit of travel, for widening and narrowing, without arresting its movements, in a continuous course. These, together with the other features of the invention, are particularly applicable to such machines as have two parallel rows of reciprocating needles, and a single thread guide or eye which delivers yarn first to one and then to the other, in order to knit tubular goods.

Claim.—1. The combination, with a thread-carrying arm or bar, of a swiveling support, substantially as described, which is arranged to slide upon said arm to admit of its being held in proper place while going around the end of the machine.

2. The combination, with such arm and a swiveling support, of an adjustable rod or rods, for arresting the range of travel of the yarn-delivering eye, and causing the arm to turn around the end of the machine.

3. The combination, with such thread-carrying arm, of an automatic locking and releasing device, operating substantially as and for the purpose set forth.

4. The combination, with such thread-carrying arm, of a tubular eye, constructed to serve as a pin or pivoting center for the thread-carrying arm, as well as to perform its duty of supplying yarn to all the needles which are brought into action for knitting.

80,854.—Joseph Bogan and John B. McCray, Clarksville, Ohio.—*Ointment.*—August 11, 1868.—Sulphate of iron, yolk of egg, saltpeter, salt, and lard.

Claim.—The within-described compound, when mixed and used substantially as and for the purpose specified.

80,855.—George F. H. Brown, Leominster, Mass., assignor to the Union Comb Company, same place.—*Machine for Sawing Combs.*—August 11, 1868.—The carrier, with the stock from which the comb is produced, receives a succession of movements, each advancing the comb the distance of a tooth's width. The saws enter and recede in unison with these movements, and the pointers cut nicks as starting points for the saws, which act subsequently.

Claim.—1. The combination of the shaft F, having the cams or eccentrics G and G′ on it, and the two saw frames H and H′, with saws A and A′, for the purpose of cutting both sides of a comb at the same time, the parts being constructed and arranged substantially as shown.

2. In combination with the saws A and A′, the automatic arrangement of the pointers D and D′, substantially as and for the purpose shown.

80,856.—Philip Caduc, San Francisco, and W. H. De Valin, Sacramento, Cal.—*Street Pavement.*—August 11, 1868.—Asphaltum, sulphur, sand, and gravel or broken stone form a compound which may be spread upon a cobble-stone pavement, or molded into blocks. The blocks have the form of truncated, square-based pyramids, and are laid with their smaller faces upward, the interstices being filled with a composition of the same kind.

Claim.—1. The application, to a cobble-stone pavement or walk, of the herein-described composition, substantially in the manner set forth.

2. The tapering or inclined-sided blocks, molded and formed from the composition herein described, in the manner set forth.

3. A pavement or walk made of composition blocks, molded and formed as set forth, and united or cemented together after being laid or placed in position, in the manner specified.

80,857.—John Decker, Sparta, N. J., assignor to J. B. Boss and C. C. Clarke.—*Platform Scale.*—August 11, 1868.—The bow or curved part of the yoke-shaped lever is supported by the hooked rod of a spring balance, while the two ends of the lever rest upon stationary supports. The object of the curved plates and elastic straps is to keep the weight at an unvarying distance from the fulcral supports of the lever.

Claim.—1. A combined platform and spring balance scale, made and operating substantially as herein shown and described.

2. The yoke-shaped lever, when pivoted at its end to stationary uprights, while its middle portion is suspended from a spring, the weighing platform being suspended from the lever, between the supported and suspended part of the same, substantially as herein shown and described.

3. The combination of the elastic straps *b b* with the curved plates *c c*, for the purpose of suspending the platform from the yoke-shaped lever, substantially as herein shown and described.

4. The arrangement and combination with each other of the platform D, straps *b b*, plates *c c*, lever A, uprights B, and spring balance C, all made and operating substantially as herein shown and described.

80,858.—J. H. Densmore, Boston, Mass., assignor to himself and Hiram Fuller, Hallowell, Me.—*Car Truck.*—August 11, 1868.—If the axle should break, the sleeve would afford a bearing for the stump of the axle, and the wheel continue to run upon the rail with sufficient steadiness for the time being.

Claim.—The construction and arrangement of safety sleeve H, substantially as shown and described, in combination with the axles and wheels of car or tender trucks, when the said sleeves are made in two parts and affixed to safety beams *f f*, all as set forth.

80,859.—JOHN G. FETZER, Brunswick, assignor to FETZER & WOODSON, St. Louis, Mo.—*Plow.*—August 11, 1868.—The landside has a triangular attachment by means of which the said landside, the mold board and share are coupled together.

Claim.—The landside D, when constructed with the assembling bars *d* and *d'*, the whole being arranged as herein shown and described.

80,860.—WILLIAM HUTSON FORD, J. DICKSON BRUNS, and L. C. CLARKE, New Orleans, La.—*Distilling Spirits from Grain.*—August 11, 1868.—In the preliminary process of saccharification and fermentation of the grain or other farinaceous substance, the latter is boiled in dilute acid, either sulphuric, hydrochloric or other that will produce like effects, in order to convert all the starch into glucose. The acid is neutralized by milk of chalk, carbonate of lime or any chemical equivalent thereof which will not affect the fermentation injuriously. When this is done the liquid represents a solution of glucose, in which remains the glutinous matter on which the fermentation depends, and which, therefore, after being evolved, is ready for the admission of yeast. In distilling, fermentation is begun at a lower temperature than usual, and the temperature is maintained by means of cold water circulating through the mass in pipes.

Claim.—The process of neutralizing the acid and controlling the fermentation of mash from grain, or other farinaceous substance, which has been boiled or otherwise treated with acids for the purpose of effecting a more complete saccharification, whereby the usual loss of alcohol is obviated, by the means and in the manner substantially as set forth.

80,861.—GEORGE H. FOX and JOSEPH HUBBARD, Boston, Mass.—*Sewing Machine.*—August 11, 1868.—The general characteristics of this machine are illustrated in United States letters patent, No. 67,535. The improvements consist in the arrangement of a screw and nut so as to clamp both the needle guide and the stripper plate, and in combining therewith a spring so disposed as to prevent the slipping of either the guide or stripper when the screw is loosened.

Claim.—1. In combination with the adjustable fulcrum and guide plate *m*, and the adjustable stripper plate *j*, the screw and nut, arranged to hold both plates in position, substantially as shown and described.

2. In combination with the two plates *m* and *j*, and the screw and nut, the friction spring q^2, arranged to operate substantially as shown and described.

80,862.—FRED E. FREY, Bucyrus, Ohio, assignor to himself, D. J. SHEKLER, and JAMES M. KELLEY.—*Brick Machine.*—August 11, 1868.—The cams at the top of the shaft operate two levers, one of which acts in conjunction with an adjustable pitman and press board, to press the clay from the press box into the brick molds, while the other acts through suitable attachments, to push the brick molds, when filled, from under the press box on an adjustable platform, and replace them with empty ones.

Claim.—1. The lever *j*, compressible pitman X, spring L, nut M, lever O, the rack shaft A, and pinions *q q*, rack P P, and press board G, when constructed, combined and arranged in the manner and to operate substantially as described.

2. In combination with the rack shaft A, pinions *q q*, and racks P P, the adjustable plate *y*, friction rollers *e e*, and set screws *f f*, when combined and arranged as described, and to operate in the manner and for the purposes set forth.

80,863.—JAMES E. HOOPER, Woodbury, Md., and BENJAMIN ARNOLD, East Greenwich, R. I.—*Spinning Machine.*—August 11, 1868.—These devices are applied to a spinning or twisting frame for the purpose of "doffing" the bobbins, that is to say, removing the bobbins of yarn when full, and supplying their places with empty bobbins.

Claim.—1. The combination of the bar *o*, or its mechanical equivalent, with the ring rail, for the purpose of throwing off the empty bobbins, substantially as herein set forth.

2. The combination, with a spinning machine, substantially as described, of the notched bar and sliding thread separator.

3. The rail *k*, and the mechanism for operating it, all constructed substantially as described, and for the purpose set forth.

80,864.—N. G. HUGHES, Waynesburg, Pa., assignor to himself and THOMAS BRADEN, same place.—*Fruit Picker.*—August 11, 1868.—The instrument being raised so as to place the ring just beneath the fruit, the cord is pulled and the cover brought down. The fruit is thereby detached and made to fall into the hose.

Claim.—The lid or cover D, spring E, ring B, hose F, and cord G, constructed and arranged as described, for the purpose specified.

80,865.—J. M. JONES, Palmyra, N. Y., assignor to himself, HENRY JOHNSON, and GEORGE M. BOWMAN.—*Printing Presses.*—August 11, 1868.—Special devices are made to bring the platen nearly up to the form, and there leave it, to be taken by arms that interlock therewith, and move it against the form to effect the impression. The disengagement of said arms from the platen is effected by the rocker arms. Said impression arms may be so held by a hooked lever or levers that they cannot connect with the platen as the machine is running. By vibrating a lever, the hook that grasps the upper edge of the chase may be raised and lowered to release the form from, or attach it to, the bed. A lever is so arranged in connection with the frame for carrying the ink roller over the form that the ink roller may be detained upon the ink cylinder, for distributing the ink or for other purpose. The frame carrying the platen has a box for the printed matter to fall into, said box constituting a counterbalance to the platen.

Claim.—1. The arm or arms N, or its or their equivalents, in combination with the platen Q, or its equivalent, when arranged to engage with the said platen, and to draw it against the form to which it has been previously raised, substantially as and for the purpose described.

2. The rocker arm or arms Q^2, or its or their equivalents, arranged for operation upon the arm or arms N, or equivalent therefor, substantially as described, for the purpose specified.

3. The lever or levers M^3, or equivalent therefor, when arranged for operation upon the rocker arm or arms Q^2 of the lifting device to the impression arms N, substantially as and for the purpose described.

4. A movable hook or clasp for holding the chase to the bed of the press, when operated by lever *d*, and arranged for operation substantially as specified.

5. The lever G^3, or its equivalent, in combination with the frame carrying the ink rollers to the press, when arranged for operation therewith, substantially as and for the purpose described.

6. A box or receptacle, in combination with the frame carrying the platen, when arranged thereon for operation, substantially as and for the purpose set forth.

80,866.—SAMUEL LARKIN, Bridgeport, Conn., assignor to BRIDGEPORT KNITTING COMPANY, same place.—*Knitting Machine.*—August 11, 1868.—The object is to knit in stripes with two colors, that is, to make alternate stitches with different-colored threads. The lever holds the thread away from and so as to pass alternate needles, and hence the same color is brought continually to the same needle.

Claim.—The finger *d*, constructed and operated as described, so as to carry the threads over any given number of needles, to form the stitches in the relative position to each other, substantially as set forth.

80,867.—JOHN MAGEE, Chelsea, Mass., assignor to MAGEE FURNACE COMPANY.—*Cooking Stove.*—August 11, 1868.—The front of the fire box consists of a series of grate bars, between which the heat is directly conveyed into the roasting closet.

Claim.—A roasting closet, C, with a movable lid at its top, when said roasting closet is placed over or above a warming closet, F, and in front of the fire chamber of a cooking stove, substantially as and for the purpose set forth.

80,868.—Edmond H. Meigs, East Berlin, Conn., assignor to Roys, Wilcox and Company, same place. *Hand Axe.*—August 11, 1868.—The body of the axe is cast upon the cast steel piece, which forms the cutting edge. In casting, a surplus amount of iron is supplied at the point where the iron and steel unite, to prevent too sudden chilling of the adhering surfaces.

Claim.—A hand axe, produced substantially as described, as an improved article of manufacture.

80,869.—Christian Gotthold Meinhardt, Altoona, assignor to himself and Benjamin F. Bell, Antistown, Pa.—*Ship's Davit.*—August 11, 1868.—The vertical, axial support of the davit frame is secured to the railing and deck of the vessel by means of the hook, pointed foot, turn buckle, and screw. In using this davit for lowering boats, persons may get into the boat on the deck of the vessel, and be hoisted, swung round, and lowered with the boat.

Claim.—The casing B, in one end, which swings the davit A, provided with a caster, g^2, swinging around the bar G, which is secured by the three-pointed foot g^1 and hook H, and operated by the sleeve I, substantially as and for the purposes described.

80,870.—Wm. A. Middleton and John A. Haller, Harrisburg, Pa.—*Horse Hitch.*—August 11, 1868.—This device comprises three parts or castings, namely: the frame, the floor piece, and the journaled tongue or holder, which binds the strap against the floor. The trunnions of the holder rest upon ears formed upon the floor-piece, and as said ears occupy recesses in the sides of the frame, the latter, when screwed to its fixture, holds the floor-piece and tongue in place. The strap is passed through the upper slot of the frame, around the tongue, and out again at the bottom of the frame.

Claim.—1. So forming the slot K in the top of the frame O O′, as to serve the several purposes, substantially in the manner as herein set forth.

2. The adjustable floor Z Z′, provided with the trunnion rests *n n′*, and the serrated part 1, 2, 3, &c., in combination with the frame W W′, substantially as herein set forth.

3. The holder S, when made with the equidistant wings *a a′*, and the thumb piece R, in combination with the frame O O′, W W′, and floor Z Z′, for the purpose specified.

80,871.—W. B. Noyes and C. S. Baker, Manchester, N. H.—*Saw Set and Gauge.*—August 11, 1868.—The end to which the screws are applied may be used as a wrench. The semicircular elevation at the middle of the bar, with its opening, is employed after the manner of a common saw set. The teeth are passed successively between the screws, in order to be adjusted in line if they shall have been set irregularly.

Claim.—The within-described device for gauging and setting the teeth of saws, substantially as described.

80,872.—Horace Palmer and Asa N. Case, Kingsville, Ohio.—*Doubletree.*—August 11, 1868.—The resistance offered to the power applied to the ends of the wooden bar is sustained at the center thereof by the iron brace rod.

Claim.—The brace rod D, whose ends enter recesses in the rear edge of the wooden bar A, and are connected therein to the clevices B, when said rod is adjusted nearer to or further from the bar by the eye bolt E, embracing its center, as herein shown and described.

80,873.—Isaac Pardee, Buena Vista, N. J., assignor to himself and Orson Reed, same place.—*Stump Machine.*—August 11, 1868.—The main levers, when vibrated, act through the links upon the windlas, and wind the pulling chain thereon. Levers are employed to disengage the pawls and links from the toothed wheels, and handles, by which the machine may be carried, are pivoted to the legs, so that they may be folded out of the way when not in use.

Claim.—1. The machine, consisting of the frame A, having the shaft B, with the wheels C mounted thereon, with the levers E F, stirrups I, and pawls *c*, constructed and arranged to operate substantially as described.

2. In combination with the levers E and stirrups I, the levers *c*, arranged as described, for raising the stirrups from the wheels C.

3. The pivoted handles H, provided with the stop rod *l*, and arranged to operate as set forth.

4. The hinged bars *h*, for supporting the levers E, when arranged as shown and described.

80,874.—O. M. Pike, North Leverett, Mass., assignor to himself and S. S. Graves, same place.—*Water Wheel.*—August 11, 1868.—The periphery of the drum completely closes the end of the case, and joining the chute through which the water enters the case, prevents water from passing out of the case at that point. All the water that enters the case is thus compelled to act upon the buckets. The slots through the drum allow the buckets to pass.

Claim.—The rotary slotted drum or cylinder J, in combination with the wheel B and case C, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

80,875.—Edwin A. Platt, Bristol, and George Platt, East Hartford, assignors to themselves and and Linus Wilcox, Middletown, Conn.—*Well Tube.*—August 11, 1868.—The object is to secure a free flow of water, and prevent dirt from packing at the lower end of the tube.

Claim.—A well tube, having lateral perforations and pebbles caged in the lower section, when so arranged that the pebbles shall be moved in their position by the action of the pump, all substantially as and for the purpose described.

80,876.—Osgood Plummer and James Schofield, Worcester, Mass.—*Mechanism for Operating Harness in Looms.*—August 11, 1868.—The double-slotted cam-piece, which imparts motion to the harness actuating mechanism, derives motion from a shaft traversing the lower part of the frame longitudinally. The various features cannot be briefly described.

Claim.—1. The combination, with the double-slotted cam piece F, of the slotted arm *f*, and connection H, substantially as and for the purposes set forth.

2. The combination, with the arms D D, of the plates E E′, or their equivalents, substantially as and for the purposes set forth.

3. The combination, with the arms D and plates E E′, for lifting and depressing the bars L, of the pieces C and B, with which the front ends of said arms are connected, substantially as and for the purposes set forth.

4. The combination, with the bars L, or their equivalents, of the lifting and depressing plates E E′, and arms D, substantially as and for the purposes set forth.

5. The combination, with the bars L, of the roll N, or its equivalent, substantially as and for the purposes set forth.

6. The combination, with the mechanism which works against the pattern wheel or chain of a fancy loom, of mechanism for freeing the pattern wheel or chain from contact with said mechanism, for the purposes set forth.

7. The jacks J, provided with the slots 12 and 13, substantially as and for the purposes set forth.

8. The combination, in a fancy loom, having elevating and depressing arms, working on fixed fulcra forward of the cloth-making point, of a series of jacks, constructed substantially as described, combined with a series of harnesses by means of cords, or mechanical equivalents, passing over a roll or rolls L″, so as to give to the harnesses a greater throw or motion than is imparted to the lifting and depressing arms, for the purposes set forth.

9. The combination, with a jack, J, and bar con-

structed as described, of a spring, 15, substantially as and for the purposes set forth.

10. The combination, with a knee jack, J J′, of a bar L, having two front projections, *i* and *j*, and a rear projection, *k*, substantially as and for the purposes set forth.

80,877.—GEORGE W. RAWSON, Cambridgeport, Mass., assignor to himself and MICHAEL HITTINGER.—*Hydraulic Press.*—August 11, 1868.—Used in the manufacture of lard oil. The lard, contained in bags, is pressed between the platform and a plate secured to the under side of the press floor.

Claim.—The combination of the platform G, hydraulic press C D, rods *a*, and plate H, arranged to operate substantially as described, for the purpose set forth.

80,878.—JOHN SAXBY and JOHN STINSON FARMER, Kilburn, England.—*Switch and Signal.*—August 11, 1868.—The effect of this arrangement is, that after the adjustment of a switch, the switchman is not required to exercise his judgment as to what signals should be displayed, his duty being merely to draw back such levers as he finds to be movable, when the proper signals cannot fail to be exhibited.

Claim.—A series of levers, and the within-described slides or their equivalents, combined with the switches and signals of a railway junction, substantially as set forth, the whole being arranged and so operating that, after a change in the position of a switch, the levers, connected to signals properly displayed to indicate the condition of the road, are locked in their positions, while the remaining levers may be adjusted so as to change the position of the signals or switches which are improperly arranged, all substantially as specified.

80,879.—FRANK SCHURGER and NICHOLAS ALLSTATTER, Hamilton, Ohio.—*Harvester Rake.*—August 11, 1868.—The rake has intervals of rest while the reel continues to operate. The apparatus is needed only in light grain, where, at a single revolution of the reel, enough grain is not cut to form a sheaf.

Claim.—1. The combination of the catch L, sliding bearing I, and frame or quadrant K, with each other and with the stop U, rake shaft H, and shaft C, substantially as herein shown and described, for the purpose of preventing any motion of the said shaft H but one revolution on its axis while the rake head is sweeping over the platform.

2. The combination of the curved racks P and R with each other and with the frame K and rake shaft H, substantially as herein shown and described, for the purpose of partially rotating the shaft H, and causing the rake head to sweep over the platform.

3. The combination of the fingers N and M with each other and with the shaft H and catch L, substantially as herein shown and described, for the purpose of releasing the catch L from the stop U at the proper time.

4. The combination of the clutch Y, lever A′, and arm B′, with each other and with the shaft C, collar or sleeve W, and frame or quadrant K, substantially as herein shown and described, and for the purpose set forth.

80,880.—JASPER N. SMITH and WILLIAM O. BUCKLEY, Washington, Ill.—*Machine for Cutting Open Ditches.*—August 11, 1868.—The slides and knives are bolted to the nose, so that their rear ends may be set nearer to or further from each other, to adapt the machine for cutting a wider or narrower ditch.

Claim.—1. The hanging the ditcher in a frame, as shown in the drawings, thus avoiding the use of a beam, and avoiding all clogging under the beam in machines which make use of it.

2. The movable slides A A, in connection with the movable knives B B, so constructed as to carry out a greater or less width of earth as the machine is cutting.

3. The form of the rear of the nose, that is, the rear carried up, as shown, to avoid friction, and expanded, as shown, to support the slides.

80,881.—JULIUS SMITH and ISAAC E. HALL, Logan, Ohio.—*Cooking Utensil.*—August 11, 1868.—The vessels upon the interior stand contain the articles to be cooked. The spaces between the cover and lining and between the casing and reservoir protect the apparatus from the cool air, thus preventing condensation.

Claim.—1. Confining the lid of a steamer by means of spiral springs, whereby all danger from excessive pressure of steam is avoided, substantially as herein set forth.

2. The cooking apparatus, composed of the reservoir A, cover B, lining C, shell D, stand E, vessels F, and strings G, when constructed in the manner and for the purpose substantially as herein specified.

80,882.—JOSEPH STADLER, Detroit, and GEORGE M. STRONG, Plymouth, Mich.—*Churn.*—August 11, 1868.—The shifting wings may be made to offer greater or less resistance to the whirling contents of the churn.

Claim.—1. The vessel A, in combination with the rotating dasher shaft F, and revolving dasher wings or boards *f f′*, and the shifting wings *a*, substantially as shown and described, and for the purposes set forth.

2. The shifting wings *c*, in combination with the vessel A, substantially as shown and described, and for the purposes set forth.

80,883.—WILLIAM STEFFE, Philadelphia, Pa., assignor to himself and JAMES REYNOLDS, same place.—*Radiator.*—August 11, 1868.—Relates to the class of drums or radiators which are used in the air chambers of heaters, and through which the products of combustion pass. This drum, unlike those in common use, is a permanent fixture, having door-guarded openings or pipes rendering the interior accessible for cleaning purposes. The mode of disposing the plates or partitions of the drum is intended to enlarge the radiating surface.

Claim.—A permanent wrought-iron drum or radiator, constructed substantially as herein specified.

80,884.—D. S. STEVENS and LAMBERT SNEDECOR, Red Bank, N. J.—*Securing Masts of Vessels.*—August 11, 1868.—The mast, having elastic supports, yields under the sudden and excessive force of wind, and is thus relieved of undue strain until the vessel responds to the impelling power.

Claim.—Supporting the masts of vessels in flexible and elastic partners and steps, substantially as and for the purpose described.

80,885.—JOHN J. SWITZER, Roxbury, assignor to himself and EDWIN H. FITTZ, Northborough, Mass.—*Stop Motion for Loom.*—August 11, 1868.—Consists in the use of a series of pivoted wings, from which warp-supporting rods or threads are suspended. So long as the warp-supporting rods or threads are kept tense by the warp thread, they hold the wings in such a position that the same do not interfere with the motion of a rising and falling flat board; but as soon as a warp thread breaks, it will cause the release of a warp-supporting rod or cord, whereupon the wing from which the same is suspended will swing upon its pivot, so as to arrest the downward motion of the flat board. The stopping of the flat board causes a vertically moving shaft to oscillate and thus impart motion to a lever, which, by means of cords, a sliding frame, a stop and bell-crank lever, is connected with a sliding rod which operates the belt-shifting lever. As soon as the rod is released by the withdrawal of the stop, it is moved by the action of a spring, so as to shift the belt to a loose pulley and thus stop the loom, the batten being simultaneously arrested by a stop on said rod.

Claim.—1. The wings K K, constructed substantially as described, and provided with the warp-supporting cords or rods, in combination with the rising and falling board, as and for the purpose set forth.

2. The flat board H, the vertically movable frame F, and the wings K, as and for the purpose set forth.

3. The vertically movable frame F, carrying the flat board H and the shaft G, substantially as herein shown and described.

4. The lugs *r*, projecting from the flat board, in

combination with the lugs p, projecting from the rock shaft G, all made and operating substantially as and for the purpose herein shown and described.

5. The slide J, connected with the shifting lever I, spring c', and elbow crank N, substantially as herein shown and described.

6. The devices, herein shown and described, for transferring motion from the rock shaft G to the elbow crank N, said devices consisting of the lever M, cord t, pin v, hook z, frame o, and string y, all made and operating substantially as herein shown and described, in combination with the vibrating lever R and block S, made as set forth.

7. A thread detector, consisting of the wings K K, threads m, frame F, shaft G, flat board H, lugs p, r, cam d', lever M, string t, pin v, hook z, frame o, cord y, elbow N, slide J, and shifting lever I, all made and operating substantially as herein shown and described.

8. The swinging arm M, cord t, pin v, and block w, in combination with the hook z, having the inner projection a' and hinged in the frame o, and combined with the slide S, all made as set forth.

80,886.—Merritt L. Thompson, Flemington, N. J., assignor to himself and John P. Rittenhouse, same place.—*Head for Barrel.*—August 11, 1868.—A turning button inside the head is operated from the outside, and serves to hold or release a movable section.

Claim.—1. A movable head for barrels or casks, formed in sections, with the last section that is introduced resting upon rebates, or the beveled edges of those previously introduced, and held down by a turning button, or equivalent clamp, substantially as set forth.

2. A turning button, applied to the inner side of a sectional head, and fitted substantially as specified, so as to be turned from the outside of said head and secure the sections in place, substantially as set forth.

80,887.—James Waldie, Ipswich, Mass., assignor to himself and George Kennedy, same place.—*Knitting Machine.*—August 11, 1868.—The periphery of the cam is provided with notches, the distance between which is such that, as the cam is revolved by the action of the driver upon the ratchet wheel, a sliding bar continues its connection with any bar, carrying the thread guides, sufficiently long to admit of it being slid back and forth to weave the desired number of courses of that color of yarn. The ratchet disk, with its flanges and levers, is designed as a substitute for the above devices.

Claim.—1. A ratchet wheel, G, with a single cam or eccentric H, operated by a single driver, F, for weaving any even numbers of courses of three or four colors, substantially as set forth.

2. A ratchet wheel or disk, P, provided with three or more flanges, constructed as described, in combination with a corresponding number of levers, R B, and operated by two drivers, B, for weaving odd or even courses of three or more colors, substantially as and for the purpose specified.

80,888.—Joel D. Weaver, Troy, N. Y., assignor to himself, C. A. Sherwood, and L. S. Bunnell, same place.—*Spirit Meter.*—August 11, 1868.—The valve is circular and oscillates in a horizontal plane to change the relation of its ports with the inlet and outlet ports. As the piston moves toward the left, the spring in the right hand end of the tube is compressed in consequence of the resistance opposed thereto by the arm projecting from the valve stem, but when the piston has nearly completed its stroke, said arm is freed and actuated by the compressed spring so as to suddenly reverse the valve. The springs being duplicated, the operation is the same under the opposite movement of the piston.

Claim.—1. The improved valve-actuating mechanism, substantially such as herein shown and described, for the purpose set forth.

2. The improved valve K, in combination with the valve chest I, provided with ports, arranged substantially as and for the purpose described.

3. The combination of the sliding rod E, valve stem c, and spring-actuated arm f, substantially as and for the purpose described.

4. The combination, with the arm f, of the tube G, provided with the springs K and K', and actuated by the slide E, substantially as and for the purpose described.

80,889.—William C. Willmarth, Philadelphia, Pa., assignor to W. B. Lacy & Co., same place.—*Sewing Machine.*—August 11, 1868.—The revolving disk and arm impart a vibrating as well as a vertically-reciprocating motion to the needle, so as to effect the feed thereby. The machine forms an ordinary chain stitch, the devices below the work plate serving to detain the loop which is left by the needle, and turn the same into such position that the needle penetrates it on descending. By raising or lowering the adjustable slotted plate the extent of the needles' vibration may be varied.

Claim.—The revolving disk k, arm L, carrying a detachable needle, n, and the adjustable slotted plate I', in combination with the vibrating lever o, its plate Q, projection q, and the adjustable stop t, the whole being constructed and operating as and for the purpose described.

80,890.—Philip N. Woliston, Springfield, Ohio, assignor to himself and Ferrell, Ludlow & Rodgers.—*Brick Machine.*—August 11, 1868.—The clay is pressed through the tubular die in a continuous piece, to be afterward cut into bricks. The rods terminate near the mouth of the die, and the clay, in being forced through the same, is retarded in the center and thus made to pass out uniformly. Such form is given to the mouth of the die that the corners of the prism of clay shall first emerge from the die, and thus avoid the distortion which would otherwise arise from the increased friction and retardation of the corners of the clay in the die.

Claim.—1. The die A, in combination with rods D, arranged in relation thereto, substantially as and for the purpose set forth.

2. Forming the mouth of the die with projections in the middle of the sides at A', substantially as and for the purpose set forth.

80,891.—Gorham D. Abbott, New York, N. Y.—*Globe.*—August 11, 1868.—The printed sections of the flexible material are sewed together and made up in the globe form, or they may be cemented to some firm material, such as canvas, leather, or felt, made up in the globe form in sections, or, in the case of felt, made without seams, like hat bodies.

Claim.—A globe, constructed of flexible material, and distended by means of an elastic inflatable rubber bag, or with cork, hair, sponge, or other light elastic substance, substantially as described.

80,892.—Henry Ackerman, Pittsburg, Pa.—*Corn Planter.*—August 11, 1868.—Means are afforded to allow the carriage to pass over irregular surfaces, and to raise and lower the drills as occasion requires. The marker is applied to the rotating spindle so that its ends shall enter the ground alternately, and leave marks which indicate the intervals at which the seed is dropped.

Claim.—1. Supporting the rear of the planter by a single wheel, B, mounted on a rigid frame, in combination with the side wheels O, mounted on hinged frames, substantially as and for the purpose described.

2. The cultivators m', secured at their upper ends to the angular levers m, substantially as and for the purpose described.

3. The removable T-shaped marker, substantially as and for the purpose described.

80,893.—Ezra, Ale, Clearfield, Pa.—*Secretary.*—August 11, 1868.—The pulleys are actuated by a crank on the lower shaft, and the interior receptacles moved so as to be accessible through an opening in the case.

Claim—The combination, with a secretary or book case, of the movable shelves or cases H, belts G, and pulleys E and F, substantially as and for the purpose described.

80,894.—Andrew Anderson, Madison, Wis.—*Clamp.*—August 11, 1868.—Upon swinging the upper end of the lever forward and backward the effect is to impart an opening and closing movement to each end of the jaws, and to reciprocate the plunger. The jaws have spikes which penetrate the joist and prevent the jaws from slipping when the plunger is used to press a floor plank to its place.

Claim.—The combination of the cams C C, the jaws A A, the lever E, the yoke H H, and the plunger F, all constructed, arranged, and operating as and for the purposes herein set forth.

80,895.—CARL F. AUSTEL, New York, N. Y.—*Machine for Printing Yarn.*—August 11, 1868.—The yarn is stretched on the two rollers of the movable carriage, which, being reciprocated, carries the yarn between the printing rollers.

Claim.—The movable carriage B, carrying two rollers, *a*, and a rack, *c*, in combination with printing rollers *e f*, suspended in the standard *g*, substantially as and for the purpose herein shown and described.

80,896.—ALEXANDER T. BALLANTINE, Titusville, Pa.—*Torpedoes for Oil Wells.*—August 11, 1868.—The plunger is first submerged, and then by pulling the lowering wire till the plunger strikes the bail, and suddenly releasing the wire, the plunger will be violently shot down by the pressure of the water upon its top and a corresponding area of the bottom of the body, the effect being to explode the percussion cap or pellet against the bottom of the pocket.

Claim.—1. The hollow and loaded exploding plunger E, acting by the pressure of the water on its end, to ignite the charge, substantially as specified.

2. The combination of the hollow and loaded exploding plunger E, with the close cylinder or pocket D, arranged to project down within the body or magazine A, said plunger and pocket being so constructed as that the latter forms an anvil, and the former carries a percussion cap or pellet, for operation together, to fire the charge in the plunger, and through the bursting of the latter and its pocket, also the charge in the body or magazine A, essentially as herein set forth.

3. The combination of the free or independent exploding plunger E with the body A, and its bail C, in such manner as that the torpedo is or may be suspended through a loop made in the lowering wire or rope, directly by said plunger, and indirectly by or through its bail, substantially as shown and described.

80,897.—GILBERT W. BARNES, Mount Vernon, N. Y.—*Safety Bridle.*—August 11, 1868.—The supplemental straps are united at one end to the sides of the check straps, and each is provided at that end with a buckle which holds the other end of said strap. In the loop thus formed the bit is suspended. On pulling the reins the check strap is drawn through the bit rings.

Claim.—The supplementary straps E, detachable and adjustable, as applied and combined with the single check strap A of the safety bridle, substantially as and for the purpose herein described.

80,899.—ELIAS BECKER, Pittsburg, Pa.—*Table, Desk, &c.*—August 11, 1868.—The writing attachment is inclosed within the table when not in use.

Claim.—The combination, with tables, desks, or other similar articles, of the sliding frame B, provided with the tablet C and spring E, substantially as and for the purpose described.

80,899.—HENRY BLAKE, East Pepperell, Mass., assignor to himself, GEORGE W. BLAKE, OTIS BLAKE, and JAMES BLAKE, same place.—*Belt Knife.*—August 11, 1868.—The shape of the blade is adapted to form the elongated perforations necessary for inserting the belt fastenings patented by G. W. Blake, March 26, 1861. The blade may be forced through the belt either by hand or by a mallet.

Claim.—The improved belt-punching knife, herein described, as a new article of manufacture.

80,900.—ROBERT BLAKE, Scranton, Pa.—*Machine for Punching Axe Polls.*—August 11, 1868.—The former or formers, made upon the dies, or operating in connection with them, prevent the necessity of trimming the bit end by giving the required shape to the bit end at the same time that the poll is punched. The edging dies gives the required outline to the edges of the poll in the act of cutting the same from the bar.

Claim.—1. In a machine for punching axe polls and other tools, the combination with the punching pin and squeezing dies of a bit-end former or die, constructed as herein specified, and applied to the end of the dies in which the bit end of the poll is received or shapen in the manner described: that is to say, so that when the squeezing dies are brought together, the said "former" shall completely close the said end of the dies, substantially as herein shown and set forth.

2. The combination with the shears of the edging dies or formers operating in connection therewith, in the manner described, so that the poll shall simultaneously be "edged" and severed from the stock, substantially as herein shown and set forth.

3. The combination of the shears and edging dies with the cross-head, which carries the squeezing-dies, under the arrangement and for operation as herein shown and specified.

4. The combination, in a machine such as described, of the squeesing dies, "bit-end" former, shears and edging dies, when the same are operated simultaneously from a single cross-head, substantially in the manner and for the purposes shown and set forth.

80,901.—AUGUSTUS O. BOURN, Cranston, R. I.—*Elbow Support for Flexible Hose.*—August 11, 1868.—The rings are placed within the hose to prevent the same from collapsing under the action of the pumps. The ribs of each ring project into the spaces of the adjacent ring, and form eyes through which a wire is roved. The eyes permit sufficient movement of the rings to afford the necessary flexibility to the hose.

Claim.—The improved hose-rings A A, constructed and held in connection, substantially as described for the purposes specified.

80,902.—JOHN STRICKER BRADFORD, New York, N. Y.—*Ferry Bridge.*—August 11, 1868.—Persons or objects falling upon the surface of the platform slide toward the bridge, the raised edge of the platform preventing them from sliding off into deep water. It is a safeguard against the loss of life by drowning in the event of a person falling overboard, either from the end of the boat or bridge.

Claim.—A platform or grating, attached to a ferry bridge, whether submerged, or at or above the surface of the water, constructed substantially as herein described, and for the purpose set forth.

80,903.—JAMES BRIGGS, Lyons, Ohio.—*Sewing Machine.*—August 11, 1868.—By means of the shifting sleeve clutch and gear arrangement, the roller upon which the log rests may be rotated in either direction, for the purpose of adjusting the log endwise. A winch is also provided for raising and lowering the slotted, pivoted ways in which the saw pitman slides, so as to cause the saw to rest properly upon the log.

Claim.—1. The shaft B, with gear wheel *b*, sleeve clutch b^1, loose gear wheels b^2, the spring E, lever F, shaft G, with gear wheel *g*, and pinion g', the shaft H, with gear-wheels *h* and roller h', the whole being combined and operated in the manner and for the purpose described.

2. The standard C C, shaft D, wheel *d*, pitman I, ways J, and stays J', in combination with standard K, shaft *k*, and strap k^1, when operated in the manner and for the purpose herein described.

80,904.—JACOB BROBST, Fort Wayne, Ind.—*Metallic Heel Pattern.*—August 11, 1868.—This adjustable heel pattern is for marking boot heels of different size. The device is set at the desired size, and the form is marked off the same as by solid patterns. The point of an awl is inserted through corresponding holes at the sides of the pattern, and a line drawn from these punctured points of the leather gives the front of the heel.

Claim.—1. Segments A A', hinged and operated in the manner and for the purposes described and set forth.

2. The combination of the hinged segments and

curved slotted arm and stud, and set screw, the same being constructed in the manner and for the purpose set forth.

3. Perforations a a' on the edge of sections A A', for the purpose of admitting the point of a sharp instrument, as described and for the purposes set forth.

80,905.—John Brockenshire, Oswego, N. Y.—*Pump.*—August 11, 1868.—The chamber situated between the barrels receives the elevated water at a point somewhat above the lower stationary valves, so that such water, on its way to the exit nozzle, shall be compelled to descend in said chamber, and produce a vacuum around the suction pipe therein, and thus aid the plungers in elevating the water.

Claim.—1. The internal chamber E E, in conjunction with the suction pipe D, as arranged relatively with the barrels A A, plungers B B, valves C C, and discharge outlet P, substantially as herein described and for the purpose set forth.

2. In combination with the parts above, the opening in the partition G, said opening being in line with the suction pipe D, as and for the purpose described.

80,906.—Nathaniel W. Broome, Baltimore, Md.—*Apparatus for Cutting Tobacco.*—August 11, 1868.—The apparatus is placed in a curing room, and the heated air, as well as the smoke and products of combustion of the burning fuel therein, ascend and pass through and around the tobacco.

Claim.—The arrangement of escape pipes and deflectors on the shell or jacket of the heater, so that the rising up of the heated air shall be passed outward and through the escaping products of combustion, and the former aid the latter in being uniformly disseminated throughout the curing apartment, substantially as described.

80,907.—A. R. Byrkit and C. S. Birket, Fairfield, Iowa.—*Sewing Machine.*—August 11, 1868.—The oblique action of the shuttle obviates the "twill" which is characteristic of machines of this class, by reason of the peculiarity of the stitch or passage of the locking thread in opposite directions from the double-pointed shuttle through the successive loops of the needle thread, first, in the direction of the feed and then reversely thereto. The heart-shaped cam admits of the machine being reversed at any time without missing a stitch.

1. The combination, with the shuttle face-plate, arranged obliquely to the feed movement, of the obliquely-moving vibrating carrier and double-pointed shuttle, substantially as and for the purpose set forth.

2. The combination of the heart-shaped cam N with the feeding mechanism described, for operating the feed, in whichever direction the machine is run, essentially as herein set forth.

80,908.—Julius Callan, Bridgeport, Conn.—*Needle-Sharpening Attachment for Sewing Machines.*—August 11, 1868.—The needle may be repointed or sharpened by the grinding wheel.

Claim.—The combination with the bobbin winder of a sewing machine, a grinding wheel H, arranged upon the revolving mandrel, substantially in the manner and for the purpose set forth.

80,909.—William Carleton, Boston, Mass.—*Lamp Burner.*—August 11, 1868.—This invention relates to that class of burners in which the chimney, resting upon a seat formed below the elevated deflector, is sustained in position by means of springs bearing outwardly against its inner surface; and the improvements have reference principally to the method of supporting the deflector in its elevated position, and of forming the chimney-holding springs.

Claim.—1. Forming the elevated deflector and the supporting standards upon its periphery in one continuous piece of metal, substantially as and for the purpose set forth.

2. Forming the elevated deflector, its supporting standards, and the chimney-holding springs in one continuous piece, substantially as herein shown and set forth.

3. The arrangements of the standards and chimney-supporting springs in alternate order upon the periphery of the deflector, in the manner shown and described.

4. The combination with the air distributor and the elevated deflector, with its chimney-holding springs and standards, of a bent-over ring for holding the deflector to the air distributor, whether the said ring be formed in one piece with said standards or separately therefrom, as and for the purposes set forth.

5. The combination of the elevated deflector and its downwardly-extending peripheral springs with the chimney and chimney seat and shoulder formed on said seat or the air distributor to prevent the excessive yielding of said springs, as herein shown and set forth.

6. The combination with the base and wick tube of a sleeve for supporting the deflector and air distributor, held upon the base and wick tube in the manner described, and provided near its lower end with perforations or openings for the supply of air directly to the flame, as set forth.

80,910.—W. H. Carpenter, New York, N. Y.—*Form Block for Basket.*—August 11, 1868.—Designed to facilitate the removal of finished baskets from the block or former upon which they are placed in the process of manufacture.

Claim.—The combination of the expanding or movable sections E, the supporting ring D, and the conical wedge B, substantially as and for the purpose herein specified.

80,911.—John C. Carroll, Litchfield, Ill.—*Oil Cup for Steam Engines.*—August 11, 1868.—The measuring chamber allows a fixed quantity of the lubricant to pass down to the cylinder at each opening of the valves. The valves are raised and lowered by turning the lever and screw cap.

Claim.—1. The oil cup A, when provided with double valves B^1 B^2, and an intervening measuring chamber, b^1, substantially as herein shown and described.

2. The combination and arrangement of the screw-cap A^1, lever A^4 and valve rods B b^4, substantially as described and set forth.

80,912.—Edmund Castle, Lincolnton, N. C.—*Quartz Crusher.*—August 11, 1868.—The grooves in the housing plates enable the sides of the housing frame, the inclined tables, and the covering to be joined by water-tight joints without bolts or other fastenings. The swinging gate and adjustable table govern the delivery of the pulverized ore from the mill.

Claim.—1. The end housing plates C C of a quartz-crushing mill, provided with the grooves for holding the side portions, and the inclined tables D E, and the bottom of the hopper, substantially as and for the purpose described.

2. The combination, with a quartz mill, of the swinging gate I, provided with a metal plate, the inclined table D, and the adjustable plate f, substantially as and for the purpose described.

80,913.—George W. Chipman, Boston, Mass.—*Carpet Lining.*—August 11, 1868.—The sheets of paper and of soft, fibrous filling are secured together or from relative lateral displacement by spots or lines of cement distributed over the contiguous surfaces at such intervals as to permit the lining to preserve fullness and elasticity.

Claim.—A carpet lining, the wadding and paper sheets of which are confined together by the lines or spots of cement, substantially as set forth.

80,914.—Patrick G. Claney, Augusta, Me.—*Sheep Shears.*—August 11, 1868.—The under side of the central blade is beveled off in order to prevent the skin from being cut, and its extremity is rounded and reduced that it may readily penetrate the wool.

Claim.—The employment of the center blade C, constructed with parallel cutting edges, substantially as and for the purpose set forth.

80,915.—Leander Colt, Niagara Falls, N. Y.—*Auger.*—August 11, 1868.—This attachment may be slipped on a bit, auger, or gimlet, and fastened thereon for the purpose of boring a plug hole and screw hole in wood at the same time; and said attachment may be reversed and used for cutting plugs of wood of the proper size to fill the plug holes and cover the screws in the screw holes.

Claim.—The reversible attachment B B, constructed as described, that is, having a bit at one end, and hollow auger at the other, when operated in connection with the gauge c^* and auger A, as and for the purpose described.

80,916.—THOMAS COLWELL, Troy, N. Y.—*Cooking Stove.*—August 11, 1868.—The rake is attached to the grate at either the upper or under side thereof and vibrated horizontally to shake down the ashes.

Claim.—1. The employment of the rake C, constructed and arranged with zigzag bars *a*, substantially as shown at Fig. 6 of accompanying drawings, in combination with the stationary grate B, and with the ash pan or drawer A, the whole being arranged in the manner substantially as herein contained, described, and set forth.

2. The rake C, so arranged and constructed with zigzag bars *a*, substantially as shown at Fig. 6 of the accompaning drawings, and in the manner and for the purposes substantially as herein contained, described, and set forth.

3. The employment of the handle or lever J, in combination with the rake C and with the hearth of the stove, so that the rake C may be vibrated in a horizontal plane, when used in connection with the grate B and ash pan or drawer A, in the manner substantially as herein described and set forth.

80,917.—CHARLES O. COOK, ROCKFORD, Ill.—*Coopers' Croze.*—August 11, 1868.—The iron is attached to the screw by pushing it forcibly against the spring and shoulder, in which case the spring yields sufficiently to permit the head of the screw to pass by the shoulder and rest in the socket. To detach the iron its free end must be pulled up from the croze (the holding screw having been loosened) far enough to force the spring open, whereupon the head of the screw is permitted to slip out.

Claim.—The arm *b*, shoulder b^1, and spring b^2 of cutting iron B, when combined and operated in connection with the head of screw C, as and for the purpose described.

80,918.—MATTHIAS P. COONS, Brooklyn, N. Y.—*Carburetcr.*—August 11, 1868.—Air or gas is discharged into the distributor, rises thence through the pumice stone and through the pores of the brick, and being thus amalgamated with the hydro-carbon liquid is taken off at the top of the retort, for consumption. Crude oil may be filtered prior to introduction to the retort, and the temperature of the retort may be regulated by a steam coil or by a lamp or burner beneath the base.

Claim.—1. Saturating the pumice stone and the series of corrugated porous bricks D, contained in the case A, with hydrocarbon liquid, and drawing off the surplus liquid by means of the siphon pipe I, communicating with the distributor G, as herein described for the purpose specified.

2. The perforated distributor G, arranged in the bottom of the case, beneath the pumice stone and porous bricks D, and above the coiled steam pipe B, as herein described for the purpose specified.

3. The construction and arrangement of the closed case, filled with pumice stone, and the series of corrugated porous bricks D, the distributor G, coiled steam pipe B, siphon pipe I, the air pipe F, extending through the centers of the porous bricks D, the discharge pipe K, the air vessel A, all operating as described, whereby no accumulation of gas is effected as herein set forth.

80,919.—DAVID COX, Cincinnati, Ohio.—*Rocking and Reclining Chair.*—August 11, 1868.—When the chair is used as a rocker, the leaf, foot rest, and arms are folded under the seat. To place the chair in a condition to accommodate the body in a recumbent position, it is thrown back until the studs meet the hooks, after which the foot rest is unfolded.

Claim.—1. The combination, substantially as described, of the chair A, rockers B B′, trestles C C′ *c c′*, flexible straps E E′ *e e′*, stops *f f′*, leaf G *g*, foot rest I, and slotted arms J J′ K K′ *k*, or their mechanical equivalents, for the purpose set forth.

2. In combination with the elements A, B B′, C C′ *c c′*, E E′ *e e′*, *f f′*, G *g*, I, and J J′ K K′ *k*, the studs L and fixed hooks M, for the object stated.

80,920.—DAVID B. COX, Troy, N. Y.—*Damper.*—August 11, 1868.—If the stove pipe extend upward from the outlet or thimble, the check damper is applied so that the air shall ascend in joining the draught, and *vice versa.*

Claim.—The reversible ventilating check damper, consisting of a damper, F, attached to an extension, *c*, of the stovepipe C, projecting in a direction opposite to or different from the said pipe, and reversible with it, substantially as and for the purpose herein specified.

80,921.—HENRY A. CRANCE, Lewisburg, Pa.—*Churn Dasher.*—August 11, 1868.—Air is imprisoned by the cones as they descend into the cream, and the cream is agitated by said air as it escapes upward.

Claim.—The attaching of the cones C C C C to the arms of a churn dasher, in the manner and substantially as described.

80,922.—MOSES G. CRANE, Newton, Mass.—*Electro-Magnetic Alarm.*—August 11, 1868.—Consists in combining with the magnet and the locking and releasing mechanism, through which, by the vibration of the armature, the bell hammer is alternately released to be thrown against the bell, and locked after giving its blow, a counterbalanced hammer so arranged that it is thrown with a slight force to effect a quick and impulsive blow.

Claim.—1. In combination with the electro-magnet and its armature, the balanced hammer, connected with the armature mechanism, and arranged to be operated substantially as shown and described.

2. In combination with the striking mechanism, the stops x y, and finger a^2, or an equivalent locking and disengaging mechanism, substantially as described.

80,923.—HENRY CROSSLEY, Brooklyn, N. Y.—*Lubricator.*—August 11, 1868.—The upper valve is provided with a soft metal seat, and the screw of the cover answers the double purpose of securing the cover and tightening the valve joint.

Claim.—The oil cup, having its upper valve combined with the cover, applied to the cup, all substantially as herein shown and described and for the purposes set forth.

80,924.—WILLIAM CUMMINGS, Sacramento, Cal.—*Belt Buckle.*—August 11, 1868.—The shoulders or rings limit the penetration of the points, which are pressed into the sockets of the plate by a back lever, to which the end of the belt is attached, said lever pressing against the points in consequence of the tension of the belt and the direct pressure of the body against the same.

Claim.—1. The points, provided with shoulders or rings near the end.

2. The lever, so arranged as to press said points through the belt and against the plate, substantially as set forth and described.

80,925.—SAMUEL G. DARE, New York, N. Y.—*Carpet Stretcher.*—August 11, 1868.—One set of teeth are presented to the planks of the floor and constitute a fulcrum upon which the plate is vibrated by the detachable handle. The other set of teeth are presented in the opposite direction, and, rising, they grasp the carpet, and then carry it, in the act of descending, toward the point where it is to be tacked. The operator uses his weight to maintain, during the backward movements of the lever, what is gained by the forward movements thereof.

Claim.—A carpet stretcher, having its teeth *a* and *b*, and movable handle *c*, arranged substantially as described, whereby it is caused to act upon the under side of the carpet, substantially as herein described.

80,926.—DR. W. E. DARRAH, Baltimore, Md.—*Vapor Burner.*—August 11, 1868.—The detachable burner being applied to the wick tube is heated by a match so as to generate vapor from the wick. This vapor escaping at the jets, and being ignited, produces the illuminating flame, and the heat of the burner being maintained and increased thereby, said burner continues to generate the vapor.

Claim.—The burner, composed essentially of the parts A A′ and *a*, having the jets *c c*, when constructed substantially as and for the purpose specified.

80,927.—S. L. Denney, Christiana, Pa.—*Casing for Railway Car Stove.*—August 11, 1868; antedated July 30, 1868.—The base is secured to the floor, the stove set in the base and secured thereto, and the cylinder then placed over the stove and secured also to the base. In the event of the upsetting of the cars the stove will be retained in position, while the weighted arm will fall into jaws and prevent the escape of fire through the pipe hole. As the strengthening ribs of the cylinder intervene, the stove cannot rest against the cylinder.

Claim.—1. The casing A, provided with ribs *i i*, in combination with a railroad car stove, substantially for the purpose set forth.

2. The combination of base B with casing A, as and for the purpose described.

3. The weighted arm or lever *h*, operating in the manner and for the purpose specified.

80,928.—J. S. Detrick, San Francisco, Cal.—*Lathe Chuck.*—August 11, 1868.—The chuck is attached to a back plate upon which it is made to slide with the work which it contains, so that the work may be moved from the center for boring or turning without removing the chuck from the lathe.

Claim.—The back plate D, constructed as described, in combination with the sliding chuck and adjusting screw C, all substantially as set forth.

80,929.—Charles Disston, Philadelphia, Pa., assignor to Henry Disston, same place.—*Saw.*—August 11, 1868.—The tooth being forcibly driven into place, is held without the aid of fastening appliances.

Claim.—A detachable saw tooth, having a circular elastic base, adapted to a circular recess in the blade, when there is on the edge of the said base or recess, and from the circular line which defines the same, such a projection or protuberance that the elastic base will yield on fitting the tooth to its base, all as herein set forth for the purpose specified.

80,930.—W. F. Durfee, New Bedford, Mass.—*Power Crane.*—August 11, 1868.—The object suspended by the hook may be raised and lowered by the rotation of the upright screw, the latter being turned in either direction by a clutch and pulley arrangement. The elevating hook being an appendage of the carriage, the raised object may be drawn inward on the rails by turning the shaft provided for that purpose.

Claim.—1. The screw B, with the nut *e′* and pulleys D D attached, in connection with the chains E E and carriage H, all arranged and applied to the crane, to operate in the manner substantially as and for the purpose set forth.

2. The lever F, in combination with the chains E E, for the purpose of compensating for any inequality of tension between the two chains, as herein set forth and shown.

3. The spirally grooved pulley M on the shaft L, rope or chain Q, and the shaft L, operated by the screw gear, all arranged for moving the carriage H on the bars *b b*, substantially as set forth.

4. The bevel wheel *h* on the screw B, and pinion *c′* on shaft A′, arranged substantially as shown and described, for turning or adjusting the crane.

80,931.—Wright Duryea, Glen Cove, N. Y.—*Door Spring.*—August 11, 1868.—The chief object is to so construct the hinge that it shall not present the bulky appearance of such as have the closing spring confined within a tubular joint. The spring, though lying within the jamb, is, together with operating gear, made to form part of the hinge proper. The invention includes a swinging crane arranged as a free attachment to the hinge, and operated by the chain and door to give a more effective angle for the pull of the chain on the door.

Claim.—1. The combination, with the hinge proper, of the drum H, chain or band L, spindle G, spring J, worm wheel I, and screw K, for operation together, essentially as herein set forth.

2. The arrangement, substantially as described, of the screw K, relatively to the working mechanism of the hinge, and whereby the tension of the spring may be adjusted from the exterior of the jamb, as specified.

3. In combination with a self-closing hinge, the swinging crane M, arranged for operation by the chain and door, as described, and serving to give a more effective angle for the pull of the chain on the door, as herein set forth.

80,932.—P. S. Dusouchet, New Orleans, La.—*Switching Apparatus for Street Railway Car.*—August 11, 1868.—The rock arm articulates upon the front axle of the car, midway between the wheels, and between two fixed collars thereon, and is operated by the driver, through the medium of chains and a lever. The guide arm, bearing against the short, curved bar or rail, midway between the rails, at the point of intersection, forces the car from one into another track.

Claim.—The rocker arm A, when provided with the radiating guide arm B and the weighted arm B′, in combination with the lever C and chains *d e f*, the whole being constructed, arranged, and operating conjointly, substantially as herein described for the purpose set forth.

80,933.—Charles F. Espick, Plymouth, assignor to himself and Joseph and John Stough, Marshall County, Ind.—*Tuyere Iron.*—August 11, 1868.—The position of the plate may be changed, and the draught regulated accordingly, by means of the screw.

Claim.—The arrangement of the screw D, plate C, and hinged bottom E, with the tuyere box, constructed and operating as set forth.

80,934.—Louis Désiré Jeandron-Ferry, Paris, France.—*Shoe for Bathing and other Purposes.*—August 11, 1868.—The wire gauze prevents the entrance through the water outlet perforations of gravels and such other particles as would injure the feet.

Claim.—1. A shoe, constructed with a perforated sole, through which, on the bather emerging from the water, egress is provided for the water from the interior of the shoe, substantially as herein described.

2. The metallic gauze, in combination with the perforated sole, substantially as and for the purpose herein specified.

80,935.—Giles F. Filley, St. Louis, Mo.—*Coal Stove.*—August 11, 1868.—Air passes through the open casing of the fire pot and through the space between the cones, when it mingles with the ignited gas to enhance combustion.

Claim.—Forming the fire pot of a coal stove of two cones B and D, having an opening or air streak, *s*, between their bases, for the admission of atmospheric air, when the same are arranged, constructed, and operated substantially as herein set forth.

80,936.—Daniel Fitzgerald, New York, N. Y.—*Fire and Burglar Proof Safe.*—August 11, 1868.—Several shells are placed one within the other and one or more thereof are corrugated, for strength to withstand the blows of a sledge, or the like, and one or more are made in sections and hardened, to resist the operation of drills.

Claim.—1. In the construction of safes for security, the employment of the corrugated case or cylinder.

2. In combination therewith, the outer cylinder or case, as described.

3. The inner cylinder or case in longitudinal sections, in combination with a case or cylinder to surround the same and hold it in place.

4. The inner cylinder or case in transverse sections, in combination with a suitable surrounding cylinder or case to hold said sections in place.

5. The inserted metallic head, substantially as described.

6. In combination with a corrugated case or cylinder, and the outer casing thereto or the inner case, the filling in of the space formed under the arches of

said corrugations and other interstices, with a fireproofing material, substantially as set forth.

80,937.—WALTER FORSHEE and JESSE L. JUDD, Marathon, N. Y.—*Machine for Tinners' Use.*—August 11, 1868.—This machine is especially designed for cutting out flaring work, such as the sides of pans, pails, and basins. The dies are adjustable to suit the size of the work. The sectional construction of the cutting part of the die enables the knives to be readily detached for sharpening.

Claim.—1. Forming the knives or cutting parts P of the die N in four or more pieces, separate from and adjustably secured to the body N of the die, substantially as herein shown and described, and for the purpose set forth.

2. Making the grooves O, which receive the dies N, adjustable, substantially as herein shown and described, and for the purpose set forth.

3. The combination and arrangement of the bed plate A, standard B, braces C, curved horizontal guide D, dies L M and N P, rod E, hooked lever G, spring K, connecting rod I, and treadle or foot lever J, with each other, substantially as herein shown and described, and for the purpose set forth.

80,938.—A. FROST, Seymour, Ind.—*Apple Corer and Cutter.*—August 11, 1868.—The slides are, by means of the lever, advanced toward the tube on which the apple is fixed, and as soon as the core is cut out, the cutter slide comes to rest, while the other slide continues to advance, causing the annulus to force the apple against the quartering knives and pushing the quarters through an opening in the board.

Claim.—1. The slide C, provided with rod *d*, head G, and knives *e e*, in combination with tube *b*, in the center of the circular hole on the board D, all constructed substantially as described, for the purpose of cutting the core out of apples, as herein set forth.

2. The combination and arrangement of the grooved head piece A, board D, lever H, slides B and C, knives *a a* and *e e*, and annular disk F, all constructed as described, and operating substantially as and for the purposes herein set forth.

80,939.—WILLIAM T. FRY, New York, N. Y.—*Flask or Bottle.*—August 11, 1868.—The papier-maché or other covering is protected against the action of water or alcoholic liquid by the japan varnish.

Claim.—A covering for dram flasks, or other glass bottles, composed of papier-maché, or an analogous substance, or a textile or felted fabric, fitted on the flask or bottle, and coated with japan or other waterproof varnish, substantially as shown and described.

80,940.—J. M. GATTMAN, New York, N. Y.—*Manufacture of Carbonate and other Salts of Soda.*—August 11, 1868.—According to this process, (which cannot be briefly described,) the sulphuric acid, as well as the lime incident to the common process, is entirely done away with; and the loss of costly material and the accumulation of an obnoxious residue are prevented.

Claim.—The manufacture of chromate of soda and the carbonate of soda, by the process substantially as described.

80,941.—HENRY A. GILBERTSON, New York, N. Y.—*Hose Tender.*—August 11, 1868.—The covering for the wheels protects the fireman from contact therewith. The fireman may ride on seats mounted upon said covering.

Claim.—A hose tender or carriage having coverings or protectors *b b*, seats *c c c c*, and brace *d*, in substantially the manner described and shown, and for the purpose set forth.

80,942.—ROSCOE E. J. GOULD, Newark, N. J.—*Dovetailing Machine.*—August 11, 1868.—Relates to improvements in the class of dovetailing machines in which two sets of saws are employed, one set for producing the tenons and the other the mortises or grooves. The invention consists chiefly in cutting dovetails from the bottoms of the grooves in such a manner that the distance between said bottoms shall be uniform and true, notwithstanding the non-parallelism of the opposite edges of the board.

Claim.—1. The within-described method of cutting dovetails, by working from the bottoms of the grooves, or of the spaces between the "tenons," consisting of the adjustable stops *e*, in the slides of the upright gauges F J, or any equivalent means which will produce the same result.

2. The adjustable stops *e*, extending down into the "grooves" or spaces between the tenons, and secured in the slides *c*, which are movable up and down on the upright gauges F J, substantially as and for the purpose set forth.

3. The slotted bracket *h*, in combination with the fulcrum pin *g* of the swinging abutment I′, substantially as and for the purpose described.

4. The combination of an abutment, I or I′, with an upright gauge, F or J, movable in one direction, and provided with a slide, *c*, which is movable in a direction at right angles to the motion of the gauge, substantially as and for the purpose set forth.

5. The double-acting vertically-movable slides *c* in the upright gauges J J′, substantially as and for the purpose described.

6. The arrangement of two abutments, I I′, extending across the carriage H in different directions, and at angles which are supplements to each other, said abutments being provided with upright horizontally-adjustable gauges J J′, and vertically-adjustable slides *c*, substantially as and for the purpose set forth.

80,943.—HENRY GREENFIELD, New York, N. Y.—*Mode of Canceling Postage and Revenue Stamps.*—August 11, 1868.—By printing or stamping with a solution of sulphate of ammonia, each single stamp may be canceled; and by applying fumes of sulphur in a gaseous form, a large number of stamps may be canceled simultaneously, to admit of which latter process the letters or papers, to which the stamps are affixed, are inclosed in a box.

Claim.—1. A postage or revenue stamp, prepared with acetate of lead, or other chemical, so that it can be canceled by the action of sulphate of ammonia, or other chemical, as a new article of manufacture.

2. The within-described process of canceling postage or revenue stamps simultaneously in quantities, by exposing them to the action of fumes of sulphur, or, of other chemicals, in a gaseous form, substantially as set forth.

80,944.—BENJAMIN GREGG, Bennington, Vt.—*Bed Bottom.*—August 11, 1868.—The spring yields or responds to a weight until the end of the slat itself rests upon the spring, near the point of attachment to the bedstead, the spring being then relieved of further strain.

Claim.—The bed bottom, formed of plate spring *c*, attached to the frame *b* by the clamping pieces *d*, and formed with the croches or saddles *e*, at their moving ends, receiving the slats *g g*, as and for the purposes specified.

80,945.—EMIL HAASS and MAX A. F. HAASS, Mendota, Ill.—*Liquid Cooler.*—August 11, 1868.—The ale is conducted from the vat into the upper end of the trough, through which it runs, in a shallow stream, over the cool water, which passes in an opposite direction in the pipe below, the ale and water being separated only by a thin sheet of metal. The cooling effect is increased by the fans which throw currents of air downward upon the trough.

Claim.—The trough B and pipe B′, constructed and arranged as described, in combination with fans E′ E′, arranged as described, the whole being operated in the manner and for the purpose set forth.

80,946.—JOHN S. HALL, Pittsburg, Pa.—*Nut Machine.*—August 11, 1868.—Under this arrangement of mechanism the nut is made by blows, instead of positive, limited pressure.

Claim.—1. The arrangement of the holing punch F, cutting-out swaging punch D, ram C, and half-toggles R R, T, with the weighted levers V W, all constructed and operated substantially in the manner described.

2. The arrangement of the perforated follower I,

matrix box H, and holder J, with slotted lever M and weighted crank lever P Q, the whole constructed and operated as herein shown and described.

3. The improved machine, as described and shown, for making nuts from hot bars of iron, in the manner specified.

80,947.—JOHN HAMMOND, Lattisburg, Ohio.—*Machine for Handling Hides.*—August 11, 1868.—The frame on which the hides are hung is placed inside of the vat and has rollers which run on the cleats, so that the frame may be easily raised or lowered.

Claim.—The frame C, provided with the rollers *a a*, in combination with the cleats B B on the sides of a vat, for the purpose of easier handling the hides, substantially as herein set forth and described.

80,948.—DAVID HARRINGTON, Worcester, assignor to himself and S. A. WOODS, Boston, Mass.—*Loose Pulley.*—August 11, 1868.—The oil chamber and oil passages are so constructed that the journal is kept free from excess of oil by centrifugal action when the wheel is rotating, while, at whatever point it stops, some one or more of the oil passages will be in position to cause the oil to be carried by capillary attraction to the shaft.

Claim.—1. In combination with the bushing *b*, (and oil passages leading through it,) and the surrounding oil chamber *c*, the enlargement of such chamber from its ends toward its center, substantially as and for the purpose set forth.

2. In combination with the enlarging chamber *c*, the bridges *g*, for keeping the oil toward the center of the chamber, substantially as shown and described.

3. The flaring oil passages *d e f*, substantially as shown and described.

4. The collar *i*, placed upon the shaft, and leading into chamber *c*, substantially as shown and described.

80,949.—CHARLES J. HARRIS, Warren, R. I.—*Spinning Machine.*—August 11, 1868.—The object of these improvements is to obtain, in the same machine, the capacity of the flier-frame spinning machine to manufacture fine and evenly twisted yarns of high number and grade, with the rapidity of production which characterizes the ring-spinning-frame.

Claim.—1. A cylindrical flier, *a*, with a thread-guiding arm, *b*, hinged thereto, constructed substantially as herein described.

2. The arrangement of the flier *a b*, constructed as described, with the spindle A, to which it appertains, so that the relation of the two shall remain unchanged, by causing both to remain in fixed planes during the spinning operation, and the winding up of the bobbin, substantially as herein set forth.

3. The combination of the flier *a b*, the independent traverse arm *d*, the block *e*, all constructed as described, with a suitably operated traverse rail, E, substantially as described.

80,950.—GEORGE W. HEATH, Burlington, Pa.—*Horse Hay Fork.*—August 11, 1868.—When the lever is lowered the points of the arms are carried inward, and the shoulders are thus placed in position to support the hay. The points, below the shoulders, are sharpened, in order that the fork may penetrate the hay readily.

Claim.—The arrangement of the bars A A and their points *a a*, bars D D, pivoted as shown, and with points *b b*, connecting bars F F, and lever E, all constructed and operating as set forth.

80,951.—G. E. HEGERMAN, Brooklyn, N. Y.—*Tin Can.*—August 11, 1868.—The sides of the can are joined by solder, at the corners where they come together, and the edges of the bent plates are also united by solder, thus forming a double joint.

Claim.—So bending the edges of the plates that form the sides of a sheet-metal can that there may be two rows, *c d*, of solder at the junction of every two adjoining plates, substantially as herein shown and described.

80,952.—CHARLES H. HELMS, Poughkeepsie, N. Y.—*Machine for Scarfing Leather.*—August 11, 1868.—The horizontal cutter, opposed to the space between the rollers, cuts the leather obliquely as it passes through the same.

Claim.—The combination of the stationary horizontal cutter with the rollers *c* and E, or either [illegible] them, having their edges or peripheries beveled obliquely to the edge of the cutter, substantially as hereinbefore described and for the purposes set forth.

80,953.—CHARLES H. HELMS, Poughkeepsie, N. Y.—*Heel Trimmer.*—August 11, 1868.—The collar limits the depth of cut made by the burr. The adjustable table board adapts the burr cutter to the varying depths of the boot heels, and the stud or roller steadies and supports the heel while being trimmed.

Claim.—1. The spindle F, in combination with the burr cutter G, a collar or shoulder of metal, J, at its base, substantially as hereinbefore described.

2. The combination of the stand or frame A with the adjustable table board D and spindle F, substantially as hereinbefore set forth.

3. In combination with the adjustable table board D, the stud or guide roller K, substantially as hereinbefore set forth.

4. The combination of the adjustable table board D with the burr cutter G and collar J, substantially as hereinbefore set forth and for the purposes described.

80,954.—E. C. HENDERSON and R. A. HENDERSON, Albia, Iowa.—*Millstone Machine.*—August 11, 1868.—The crank handle is turned alternately in opposite directions, the effect being to move the lever back and forth in the same line, and simultaneously vibrate it in a vertical plane, thus imparting a succession of blows by the picking plates, at different spots.

Claim.—1. The sliding bearing blocks B, operated by means of the rack and pinion I J, for giving to the pick of a millstone-dressing machine a horizontal motion, substantially as shown and described.

2. The shafts C D, connected by gearing K L, and provided with the pinions I and eccentric O, when said shafts have their bearings in the sliding blocks B, and are arranged with relation to the rack J and frame A, substantially as herein described.

3. The pick lever E, when fitted at one end to turn upon the shaft C, and formed with an elongated eye, P, adapted to receive the eccentric O on shaft D, said lever being arranged to be operated both vertically and horizontally within the frame A, in the manner and by the means herein shown and described.

80,955.—JOHN GEORGE HIRZEL, Wilmington, Del.—*Meat Chopper.*—August 11, 1868.—The knives do not strike until after the rotating rim has, by its arm or wing, moved the meat slightly, a different part of the surface being thus presented to the blades at each stroke.

Claim.—The combination of any convenient number of knives or blades with the intermittent rotary knife block *h*, the block *k*, its toothed rotating metallic rim *l*, and arm or wing *m*, and the pawls *n* and *o*, and guide, all arranged and operating as described.

80,956.—THOMAS HOLT, Trieste, Austria.—*Steam Generator.*—August 11, 1868; patented in England, June 10, 1867.—The tubes or chambers are set parallel to each other, and in such relative positions as to afford easy access to the rivets, which connect the tubes together; and the surfaces of the tubes, by contracting and expanding under variations of temperature, tend to prevent the adhesion of scale or deposit. A hollow water bridge or diaphragm, forming the roof of the front part of the fireplace, extends to the bridge or division in the flue chamber, and the flame and gases are thus caused to pass into the chambers and burn over the divisions therein, and escape on the other side of the bridge to the up-take flue.

Claim.—1. The combination of the inclined flues E, dividing plate E', and the removable diaphragm I in the marine boiler, as herein described, for the purpose specified.

2. The combination of the flattened tube E, composed of metallic plates, having expanded ends and

braced internally by the balls or bars, said tubes being riveted together at their ends to leave water passages between their adjacent sides, as herein described, for the purpose specified.

80,957.—J. G. C. HORTON, Gillespie, Ill.—*Water Elevator.*—August 11, 1868.—The crab is a semicircular trough, affording bearings for the lower wheel. Its short legs settle into the ground and hold the device firmly in place. The perforations admit water to the buckets.

Claim.—1. The endless chain of buckets A *a'*, and the stationary crab B, when combined and arranged as described, and for the purpose set forth.

2. The crab B, when provided with short legs, *b*, and side apertures, *b'*, and otherwise constructed and arranged as described and shown.

80,958.—WILLIAM W. HUBBARD, Manchester, N. H.—*Scroll-Sawing Machine.*—August 11, 1868.—The yoke is of a yielding character, having a lateral motion corresponding with the strokes of the saw, to prevent the heating of the slides. The trusses are adjustable to suit the varying lengths of saws.

Claim.—1. The double yoke A B, supporting the slide C, operating in combination with the boxes K K.

2. The mode of adjusting the trusses J J by means of bearings E E, or their equivalent, in combination with the hollow beams D D, substantially as and for the purpose set forth.

80,959.—ALFRED HUFFNAGLE, Philadelphia, Pa.—*Key-Hole Guard.*—August 11, 1868.—When the key is to be used from the inside, the inner escutcheon is pushed to one side, opening the inside and closing outside keyhole, which, upon being released, the side of the escutcheon is pressed into a notch in the stem of the key. Access to the lock from the outside is then prevented by the other escutcheon, through which the end of the key nearly passes.

Claim.—1. The escutcheons E and F, stud C, and spring D, when constructed and used in the manner and for the purpose substantially as herein set forth.

2. The manner of retaining the key in the lock by the escutcheon E fitting into a groove in the shank of the key, against which it is pressed by a spring, substantially as herein specified.

80,960.—ROBERT HUNTER, New York. N. N.—*Propeller.*—August 11, 1868.—The pivoted blades or wings feather and close by self-action as the propeller is moved forward and backward in the line of the vessel's course.

Claim.—The oscillating lever *g*, adapted to be turned upon its axis for reversing, in combination with a pivot-float propeller, substantially as and for the purposes stated.

80,961.—E. W. INGLE, New Orleans, La.—*Guide and Marker for Sewing Machine.*—August 11, 1868.—The rough surface of the roller holds the fabric as it moves along or is fed up to the needle, which, every time it descends, brings the arm of the rock shaft down upon the edge, and marks the intervening fabric upon the line at which the next fold or tuck is to be made.

Claim.—1. The rock shaft D, when constructed substantially as described, and provided with a spring *c*, in combination with the slotted arm C, when constructed and operating as set forth, for the purpose described.

2. The combination of the plate A with the roller B, springs *m* and *n*, guide plate E, rock shaft D arm C, and edge *s*, when these several parts are constructed and conjointly operate substantially as herein described for the purpose set forth.

80,962.—J. D. ISRAEL, Utica, Iowa.—*Fence Post Driver.*—August 11, 1868.—When the hammer is sufficiently elevated, a lever is moved so as to disengage the hand wheel from the brace upon which said wheel is mounted, thus permitting the hammer to fall on the head of the post.

Claim.—The combination of the tripod, the hammer, the rope, the sleeve, the hand-wheel, and the lever, constructed and arranged substantially as described.

80,963.—THOMAS RICHARD JOHNSON, Montreal, Canada.—*Ventilating Hat.*—August 11, 1868.—Designed to afford ventilation and protection against sunstroke.

Claim.—A hat formed in three sections, B, C, E, and F, with their fastenings D, and appertures G, H, and J, combined and arranged as herein described, and for the purposes set forth.

80,964.—WILLIAM J. JOHNSON, New Orleans, La.—*Car Brake and Starter.*—August 11, 1868.—The sudden depression of the angular lever, which is done by the driver upon the platform, partially turns forward the car wheels. If, after such depression, the lever be instantly relieved from pressure, the vibrating movement of the lever aids in starting the car; but, if, when the actuating lever is thus depressed, it be so retained, it causes the spring band to act as a brake.

Claim.—The combination of the angular lever *h i*, the elastic metallic band *j*, the hinged block *k*, and the counter-spring *l*, with each other and with the car-axle pulley *g*, substantially in the manner and for the purposes herein set forth.

80,965.—GEORGE JOHNSTONE, Philadelphia, Pa.—*Knitting Machine.*—August 11, 1868; antedated August 1, 1868.—This machine produces a tubular fabric of any desired pattern. A series of bearded needles are so arranged and made to operate in conjunction with a series of fingers that the loops of yarn may be transferred from any of the needles to others: the said fingers being capable of such adjustment that any of the loops may be retained upon or discharged from them at any time desired, while any of the fingers may be thrown out of action with the needles at any time, without interfering with the operations of the fingers in action. By means of a presser wheel, constructed with movable plates, the beard of any needle may be depressed, when desired. Combined with above devices are pattern wheels, or chains, or jacquard apparatus, so that the operations of any of the same may be suspended, resumed, or varied, as may be required to produce any desired pattern.

Claim.—1. In a circular knitting machine, a series of bearded needles, arranged and operating in conjunction with a series of fingers, substantially as and for the purpose described.

2. Fingers, substantially such as described, hung to sections admitting of separate and independent movements in the arc of a circle, substantially as set forth for the purpose specified.

3. Fingers, substantially such as described, projecting from or forming a part of jacks, to which movements may be imparted by the devices herein described, or any equivalent to the same, that some of the needles may be covered by the fingers to a greater extent than others, for the purpose set forth.

4. The adjustable jacks, in combination with the guide bars C^8 C^9, the plate C, and the slides I^2 I^3, or equivalent devices, whereby the jacks may be brought under the control of one or other of the said bars, the whole being constructed and operating substantially as and for the purposes described.

5. The combination of jacks, a bar or plate C^7, and the slides I I^1, or their equivalents.

6. Jacks, substantially such as described, in combination with a jacquard apparatus, pattern chain or pattern wheel by which the jacks are controlled through the medium of the devices herein described, or any equivalent to the same.

7. The sections E, with their jacks, in combination with a jacquard apparatus, pattern wheel, or chain, operating on the said sections through the medium of the levers F and adjustable rollers $p\ p^1\ p^2$, or their equivalents.

8. A presser wheel, having movable plates, secured to or forming a part of the same, so that the said plates may be controlled in the manner and for the purpose described.

9. The fingers *r*, operating in combination with needles of different lengths, substantially as described and for the purpose set forth.

80,966.—MRS. J. D. JONES, Jersey City, N. J.—*Sieve.*—August 11, 1868.—The flanged cylindrical straining vessel receives a rotary reciprocating motion and incloses the stationary scrapers and presser, whose function it is to gather the material within the pan and squeeze it against the wire cloth. The cross bars beneath the wire cloth prevent it from sagging and scrape adhering matter therefrom.

Claim.—1. The dish or pan A, or equivalent vessel, hoop B, annular plate C, flanged cylindrical vessel D, wire cloth E, and detachable hoop F, having cross bars G, attached to it, in combination with each other, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

2. The presser and scrapers I J K L M, constructed substantially as herein shown and described, in combination with the devices A B C D E F G, as and for the purposes set forth.

80,967.—NORMAN C. JONES, New York, N. Y.—*Bale Label.*—August 11, 1868.—Two parallel slits are made in the metallic tag, and the intervening portion of metal is bent up so as to form an opening through which to pass the bale rope or hoop, the tag being thereby secured to the bale.

Claim.—The metallic tag A, when constructed and used substantially as and for the purposes herein shown and described.

80,968.—W. O. JONES, Portland, Me.—*Hoisting Gear.*—August 11, 1868.—By means of this arrangement of clutch and wheels, power may be applied from the driving wheel to the internal gear wheel, and transmitted thence through power-multiplying gears, to the drum shaft; or the power may be applied directly from the driving wheel to the shaft, so that the drum and driving wheel shall have the same speed.

Claim.—1. The combination of the geared wheel *f* with the gears *c* and *e*, having shafts *k* and *m* on the face plate F, and when the clutch *h* is inserted at the recesses in *j*, substantially as and for the purposes set forth.

2. The combination of the clutch *h i*, on shaft C, with the gears *a b c d e*, and gear *f*, as and for the purpose set forth.

3. The combination of the small gears *a b c d e*, both fixed and free, when serving in connection with *f*, not only as levers to revolve the face plate F, as is the case with the gears having shafts, but also as friction rollers for the shaft C, substantially as herein set forth.

80,969.—MUNSON F. KENT, West Union, Iowa. —*Gate.*—August 11, 1868.—The post to which the flexible gate is attached may be rotated so as to wind the gate thereon, and thus open the roadway, and said post may also be raised, together with the gate and a frame sliding upon the stationary post, the object being to render the gate freely operative when its usual field of motion is blockaded by snow or otherwise.

Claim.—1. The vertical slats *a*, connected by the chain *h* to the post C, all constructed, arranged, and operating substantially as and for the purposes herein set forth.

2. The gate post A, in combination with axle F and cord K, by means of which said gate is raised, substantially as shown and described, and for the purposes set forth.

3. The vertical post C, in combination with the cord *a′* and weight *w*, by means of which said gate is opened, substantially as shown and described, and for the purposes set forth.

80,970.—THOMAS KERR, York, Pa.—*Fanning and Rocking Chair.*—August 11, 1868.—Motion is transmitted from the chair to the fan, the vibrating motion of the former being converted into a rotary motion as applied to the latter.

Claim.—The combination of the platform A A A A, the projecting pins *n n n*, the upright O O, with lever B B, straps H H, strap F F, pulley B, shaft C C, and fan A A, as described.

80,971.—JOHN H. KEYSER, New York, N. Y.—*Combined Foot Rest, Grate, and Fire Brick Base.*—August 11, 1868.—The design of this invention is to combine with a circular flange foot rest for a stove, a means of supporting and keeping in place the fire brick lining and the tilting grate.

Claim.—1. Constructing a circular flange or foot rest for a stove, with a receptacle for a fire brick lining, substantially as described.

2. Constructing a circular flange or foot rest for a stove with grate bearings, substantially as described.

3. The combination of flange A, collars *c d g*, and depressions *a a′*, substantiallly as and for the purposes described.

80,972.—L. W. KIMBALL, Pittsford, Vt.—*Door Panel.*—August 11, 1868.—The panel is made of two thicknesses of paper board separated by a chamber in which paper board is placed so as to brace the two layers. The ends of the layers are joined together to form the tenon of the panel.

Claim.—The panel A, constructed with side pieces *b* and chambers B, with braces, arranged substantially as and for the purpose described.

80,973.—FRANCIS A. KINGTON, Mendon, Ill.—*Wagon Lock.*—August 11, 1868.—To apply the brake, the driver, on the load, merely draws the ratchet to the rear; to release it, he raises the ratchet from the beveled part of the staple.

Claim.—A break for wagons, adapted for operation by an operator on a high load, and having lever G, block H, ratchet K, staple S, and posts O O, constructed, arranged, and operating substantially as specified.

80,974.—JACOB KINZER, Pittsburg, Pa.—*Reversible Latch.*—August 11, 1868.—Provision is made for reversing the latch bolt so as to present its bevel to either side, according to the direction in which the door opens. In order to accomplish this, without disturbing other of the working parts of the lock, the casing plate is made in two parts, the upper part, when detached, exposing only the latch bolt and its follower.

Claim.—Constructing the plate A of a reversible lock in two pieces, in the manner shown and described, and operating in combination with the latch bolt C, and spring B, which latter is confined in the lower part of the casing of the lock, in the manner shown and for the purpose set forth.

80,975.—RICHARD KITSON, Lowell, Mass.—*Screen for Machines for Treating Cotton.*—August 11, 1868.—The objects are to prevent the wires from spreading apart or from wearing or cutting each other, and to more securely connect the ends of the screen to the heads thereof.

Claim.—A wire screen cylinder constructed as described, with wires soldered together at their crossings and at their abutting ends, and the ends of the screen soldered to the heads or ends of the cylinder.

80,976.—J. A. LAFLER, Albion, N. Y.—*Brick Machine.*—August 11, 1868.—The crank above the grinding mill is clutched to its shaft during that part of its revolution in which it acts to raise the press, but is afterward automatically disengaged from its shaft, that it may offer no resistance to the quick, falling or opening movement of the press. The object of the slide, which works through the slotted press box, is to close the upper side of the latter when pressure is applied in making pressed bricks. The slide is thrown out of action when the machine is employed for making common bricks.

Claim.—1. The self-releasing crank *i*, for operating the swinging press H, substantially in the manner and for the purpose set forth.

2. The method of securing the scrapers and knives S *s*, in the shaft E, namely, the hooked tangs *v*, in connection with keys *t* and mortised hollow shaft E, substantially as and for the purpose set forth.

3. The combination of the swinging press frame H, telescopic press box F A, slide B, and driving devices *d* D *c* C, working from the foot of the grind shaft E, all constructed and operating in the manner shown, and for the purpose described.

80,977.—W. O. LESLIE, Philadelphia, Pa.—*Brick Press.*—August 11, 1868.—The reciprocating table has a mold in it, in which the brick is carried under a stationary plate, the brick being then pressed, carried from under the plate, and automatically removed from the mold. The machine is for repressing.

Claim.—1. The tilting rack I, constructed and arranged to operate substantially as described.

2. The combination of the stationary plate C, sliding table B, with the mechanism for operating the same, and the cams G and H, when arranged for joint operation, substantially as set forth.

80,978.—NELSON LEWIS, Troy, N. Y.—*Spider.*—August 11, 1868.—The stops limit the movement of the cover in opening, and the ventilator affords a means of egress for the vapor arising from the contents of the spider.

Claim.—1. The employment of the hinged joint D, containing the stops E, the same being constructed and arranged upon the said spider A and cover B, respectively, and so combined as to allow or permit the said cover to swing or turn upon the upper edge of said spider, in the manner substantially as herein described and set forth.

2. The damper or ventilator c, in combination with the spider A and cover or lid B, substantially as and for the purposes herein described and set forth.

80,979.—LA FAYETTE LOUIS, Boston, Mass.—*Tremolo.*—August 11, 1868.—Relates to the construction of melodeons, or similar musical instruments. Consists mainly in the employment, in connection with the mechanism which controls the supply of air to the wind chest, of a mechanism which starts the tremolo-actuating wind wheel when the air is shut off from the entrance to the wind chest, excepting through the tremolo wind pipe or passages, and which operates as a break to arrest the motion of such tremolo wheel when the air is supplied to the wind chest through the main wind passages.

Claim.—1. In combination with a wind-actuated wheel for driving a tremolo valve or wheel, a finger, or equivalent mechanism, for starting the wheel, substantially as described.

2. The employment of a finger, or equivalent device, for arresting the motion of the valve driving wheel, and for holding it stationary, substantially as described.

3. The valve and wheel-containing cylinder, having a wind pipe and valve openings, arranged substantially as described.

4. Combining with the wind pipe x, a screw or other device for contracting the pipe, substantially as set forth.

5. In combination with the wind wheel t and valve containing case o, the wings or guards c^3 arranged to operate substantially as and for the purpose described.

6. In combination with the wind chest and main and tremolo valve passages, the auxiliary air passage l, substantially as described.

80,980.—DAVID H. LOWE, Boston, Mass.—*Hydrocarbon Burner.*—August 11, 1868.—Consists in combining with a petroleum stove an apparatus for generating gas for illuminating purposes; the said apparatus being provided with a meter for receiving the gas as it is produced from the naphtha or gasoline employed as fuel to heat the stove. In order to light the apartment containing the stove, a lamp burner may be applied to the top of the oil reservoir

Claim.—1. The within-described apparatus, for producing gas for illuminating purposes, substantially as set forth.

2. The combination of a lamp burner with the reservoir D, for containing the naphtha or gasoline, substantially as described.

80,981.—HIRAM LUCAS, Rowsburg, Ohio.—*Apparatus for Tanning Leather.*—August 11, 1868.—The hides are suspended upon the cross rails of the movable frame. The hides may be raised out of the ooze without being removed from the vat, but they may be further elevated by raising the frame till its gudgeons rest in the upper notch of the cleats.

Claim.—The adjustable rack frame B and cleats or bearings I, upon which the frame is pivoted when in operation, in combination with the vat, the said frame being raised or lowered with its load of skins by means of the windlass, substantially as and for the purpose set forth.

80,982.—JAMES LYALL, New York, N. Y.—*Loom.*—August 11, 1868.—These improvements have reference to the manner of constructing the shuttle and shuttle driver, and of supporting them in the lay, and giving motion to the shuttle driver, to the end that the shuttle shall be operated upon or impelled by a continuously applied power during its entire passage across the fabric being woven.

Claim.—1. A vibrating lay and a reciprocating shuttle, adapted to passing, either end first, between the warps, in combination with a carrier, provided with actuating rollers that are moved across the vibrating lay on the other side of the warps, and to which an independent rotary motion is communicated in the same direction that the rollers would be rotated by contact with the warps, substantially as and for the purposes specified.

2. In combination with the reciprocating shuttle and lay, a shuttle driver, provided with rollers, substantially as described, so that the rollers that come in contact with the warps are rotated by contact with the rollers that support the shuttle driver, substantially as set forth.

3. The reed and lay, having a raceway, l, and a shuttle rail, w, substantially as set forth, in combination with the reciprocating shuttle driver and the shuttle that is actuated by said driver, substantially as set forth.

4. A vibrating lay, in combination with a reciprocating shuttle, and a shuttle driver, that operates upon the shuttle during its entire reciprocation, the warps intervening, substantially as set forth.

5. Two or more moving pulleys, combined with the said shuttle driver and connections to the same, substantially as set forth, so as to multiply the movement in operating on the shuttle driver, as specified.

6. The cams, operating substantially as specified, to stop and start the shuttle gradually, and operate while the lay is stationary, in combination with the cams for operating the lay while the shuttle is stationary, substantially as set forth.

7. The cam w', formed of a flange, in combination with the two rollers that are connected with the lay, one of which is yielding, and between which said flange moves, substantially as set forth.

8. The shuttle driver, substantially as specified, in combination with cords, or their equivalents, that pass off on opposite sides, and are connected to the actuating mechanism at or near the line of the axis or fulcrum of the lay, substantially as specified.

80,983.—THOMAS LYONS, Hartford, Conn.—*Door Bell.*—August 11, 1868.—When the spindle is pulled outward by the knob the incline pushes aside the arm, leaving the hammer free to be thrown against the gong by its impelling spring. The hammer gravitates to its resting place.

Claim.—The arm g, in combination with the incline elevation i', on head i, and hammers d, arranged and operating substantially as and for the purpose described.

80,984.—L. J. MARCY, Newport, R. I.—*Lamp Burner.*—August 11, 1868.—The shoulders of the cone deflect the upward current of air so as to direct the air between the flames from both sides thereof.

Claim.—1. The arched perforated plate b, arranged between the wick tubes, whereby the upward current of air from the chamber B is broken, to prevent the formation of eddies when it encounters the lateral current which enters through the perforations in the upper chamber A, as herein shown and described.

2. The cap or cone C, when formed with two abrupt lateral shoulders, g g, substantially as described, and for the purpose set forth.

80,985.—JAMES E. MCBETH, New Orleans, La.—*Breech-loading Fire-arm.*—August 11, 1868.—The breech is opened by half cocking the piece. When the lock box is swung down upon its pivots it may be entirely detached for the purpose of cleaning or rendering the piece useless; but a spring bolt prevents it from disengaging itself casually. The shell of the discharged cartridge is ejected by the opening of the lock box.

Claim.—1. The bolts C C, center piece D, and spring E, in combination with the projections *d* and *e* and spring H, for the purpose of opening the breech by the half cocking of the piece, substantially as and for the purposes herein set forth and described.

2. The elongated slots *k k* and holes *l l*, in combination with the pivots *i i* and spring bolt *m*, for the purpose of removing the lock box from the piece, and preventing it from falling out at random, substantially as herein set forth.

3. The cartridge ejector J, constructed as described, in combination with the cam *o* on the front pivot *i*, for the purpose of ejecting the shell of the old cartridge, substantially as herein set forth and described.

80,986.—E. P. McCeney, Washington, D. C.—*File Fastener.*—August 11, 1868.—This is a paper file in which the documents are held tightly by a cord, the free end of which is clamped to a frame by a lever. A handle is hinged to the lever so that it may lie flat thereon when not in use, but on turning the handle to an angle of forty-five degrees with the lever and then pushing it, the lever is opened or raised and the cord liberated.

Claim.—Hinging a handle to the lever of a file fastener, substantially in the manner and for the purpose herein described.

80,987.—D. C. McNeill, De Witt, Iowa.—*Camp Stove and Oven.*—August 11, 1868; antedated August 1, 1868.—The plates composing the stove body, oven, and chimney are adapted to be folded together for convenience of transportation.

Claim.—1. The folding stove, when its sides are hinged together at the angles by the vertical rods C, extending below the stove at *a*, for the purpose of being inserted into the ground, whereby the ground is made to form the bottom of the stove, upon which the fire is built, as herein shown and described.

2. In combination with the folding stove, having the open bottom, the chimney L, when composed of sections hinged together, and adapted to fold down upon the top plate G, as herein shown and described.

3. The radiating oven F, constructed as described, its top and sides hinged together at the angles, and secured to the back H, and to the back plate of the stove, by the extended pintles of the hinges C′ *c*, as herein described, for the purpose specified.

80,988.—John McNevin, New York, N. Y.—*Corset, Abdominal and Skirt Supporter.*—August 11, 1868.—The sections of the corset extend below the waist so as to constitute an abdominal supporter. The springs of the corset are of the usual length, as they could not be extended as low as the sections without producing inconvenience. The stiffened section forms a bustle and skirt supporter, and is connected with the corset by lacing or otherwise.

Claim.—The corset and skirt-supporter, constructed as described, of the sections A B C D, cut out upon the hips, and extended in front to completely cover the abdomen, and the stiffened section E, removably attached at its ends to the extended portion of the section next the hips, substantially as described for the purpose specified.

80,989.—John H. Morse, Peoria, Ill.—*Spring and Duster for Watch.*—August 11, 1868.—The metallic bar, fitting within the watch case, prevents dust from entering at the hole through which the tongue of the lid spring passes.

Claim.—The metal case D, with its steel spring F, to be used as a "lift spring" and "duster" for watch cases, in the manner and for the purpose specified.

80,990.—Hezekiah Munroe, Fall River, Mass., assignor to Albert F. Munroe, same place.—*Caster for Furniture.*—August 11, 1868.—The spindle plays freely in either direction, the friction roll preventing the binding thereof.

Claim.—The arrangement, in the horizontal recess formed in the side of the spindle B, of the horizontal friction roll C, bearing against the inner surface of the chamber *g*, formed at the lower end of the case E, said spindle being held within the case by the flange *e*, and shoulder *f*, all constructed as described for the purpose specified.

80,991.—Frederich Neuhaus, Belleville, Ill.—*Tailors' Seat.*—August 11, 1868.—Improvements on the tailors' seat for which letters patent were granted to same party, June 2, 1868. The leg cushion is so applied as to be yielding as well as vertically adjustable. Provision is also made for regulating and limiting the inclination of the yielding back support.

Claim.—1. The combination of the leg cushion F with the bar E, socket *e*, rod D, pipe G, socket *c*, and spring H, all made and operating substantially as herein shown and described, for the purpose of making the said cushion at once elastic and adjustable.

2. The combination of the seat A and hinged seat back B with the spring *j*, arm *g*, and gauge screw *i*, all operating substantially as herein shown and described.

80,992.—E. Nicholson, Rockport, Ohio.—*Road Gate.*—August 11, 1868.—A carriage approaching the gate depresses a starting bar with its wheels, the effect being to raise the gate, so as to disengage it from its fastening catch, and then swing it open. The gate is held back by a catch until the wheels strike another starting bar, liberating the gate and causing it to swing to closed position.

Claim.—Pivoting the gate at *a*, and to the arm G, in combination with the shaft F and arm E, operated by means of the starting bars and rods, as and for the purpose set forth.

80,993.—William T. Nicholson, Providence, R. I.—*Machine for Cutting Rasps.*—August 11, 1868.—The first movement of the bed is in the direction of its transverse axis, and is effected by the eccentric shaft. This shaft, being corrugated, constitutes, in effect, a series of eccentric wheels, no two of which in juxtaposition are of the same diameter, and consequently the file bed at the commencement of each new transverse movement, as it is moved along, occupies a new position relatively to the axis of said shaft, and the several rows of teeth will of necessity stand as much out of line with each other as there is difference between the elevations and depressions of the surface of said shaft. The file bed is made to follow the surface of the eccentric shaft as the latter revolves, by a rocking, yielding pressure frame, whose straight-edged bar rests against the edge of the bed. If the peripheral contour of the disk plate be circular, the several rows of teeth on the face of the blank will stand in straight lines, but if it be eccentric the rows of teeth will arrange themselves in the arc of a circle.

Claim.—1. In combination with a file bed and cutter, the eccentric, irregular-surfaced, rotating pattern shaft G, operating through any proper devices for maintaining the file bed or cutter in contact with such pattern shaft, to govern the movements of the former, substantially as described.

2. The combination of the disk plate O with the mechanism for giving movement to the file bed in the direction of its length, substantially in the manner described, whereby the character of the lines in which the teeth shall stand across the face of the rack may be determined.

3. The combination and arrangement of the eccentric, rotating pattern shaft G, the file bed F, and the yielding, straight-edged bar L, substantially as described, for the purpose specified.

80,994.—S. R. Niles, Rawsonville, Mich.—*Bean Puller.*—August 11, 1868.—This implement is designed to expeditiously scrape up or pull field beans and other similar plants, and, being drawn by a horse, operates upon two rows at a time.

Claim.—The combination of the shafts B B, shear cutters A, having fingers *a a a*, &c., and the adjustable frame D C I, all operating substantially as shown and described, and for the purpose set forth.

80,995.—Andrew O'Neill, Portsmouth, Ohio.—*Wash Boiler.*—August 11, 1868.—A removable boiler, of peculiar construction, is adapted to be placed within a common boiler, to induce an active and forcible circulation of water under the influence of heat.

Claim.—The removable inner boiler B, provided with a packing or gasket, C, and adapted for application to an outer boiler of common construction, to constitute an automatic wash boiler, as explained.

80,996.—WEBSTER PARK, Norwich, Conn.—*Fluid Meter.*—August 11, 1868.—The fluid being admitted at top presses down the upper piston, whose valve in the mean time remains closed, and the downward movement of the upper piston draws upward the lower piston, through the open valve of which the fluid passes and is discharged into the exit pipe until the arm of the piston rod reaches the bottom of the channel, whereupon the spring throws the arm in a transverse direction, partially rotating the piston rods, and closing the lower piston valve and opening the upper piston valve, the effect of which is to admit fluid through the upper piston, and raise the same simultaneously with the depression of the lower piston. While the upper piston is moving downward the guide arm communicates motion to the registering apparatus, but while passing back, the spring retracts the arm, and the latter has no effect upon the register.

Claim.—1. The combination and arrangement, in a fluid meter, of two or more loose pistons, resting on their respective valves, with their rods connected by the chain T and the pulley R, or their equivalents, and the spring *n*, or its equivalent, all arranged and operated within the cylinder A, and so placed that all may be removed together, substantially as set forth.

2. The double-acting spring *n*, Fig. 8, in connection with the channel E, or their equivalents, constructed for operating the valve rods and indicator of a fluid meter, substantially as herein set forth.

3. The combination of two or more piston rods of a fluid meter, rotating together, also acting as valve rods, with their valves, the guide with the groove, in which it traverses, and the spring or springs, or their equivalents, constructed and operating substantially as and for the purposes herein set forth.

4. The arrangement of the arm *p*, of the piston rod, in connection with the spur or ratchet wheel, for moving suitably-registering mechanism, substantially as and for the purposes herein set forth.

80,997.—WILLIAM PEARSON, Windsor Locks, Conn.—*Clamp Nut.*—August 11, 1868.—By turning the nut to one position, the screw thread on its interior is brought concentric with the screw and into gear therewith, so that it works like a screw in an ordinary nut, but by turning the nut to another position its internal, unthreaded cavity is brought concentric with the screw, which latter may then pass freely through the nut without the hinderance of rotation.

Claim.—The eccentric, mutilated nut C, and eccentric bearing, in combination with a screw, substantially as herein described.

80,998.—GEORGE W. PHELPS, Conneaut, Ohio.—*Bolt Holder.*—August 11, 1868.—This device is for holding a bolt firmly while turning a nut on or off. When in use the detachable wedge rests upon the head of the bolt, and the semicircle admits of the application of a wrench or other instrument.

Claim.—The bolt holder, consisting of the lever A, wedge *b'*, button *c*, lever D, bar D', and bar E, constructed and arranged as herein described.

80,999.—ELAM O. POTTER, Chicopee, Mass.—*Method of Forming Stockings.*—August 11, 1868.—The sewing together of the knitted parts of the stocking is performed by a single-thread sewing machine, which is threaded with yarn of the same kind as that of which the web is formed. In knitting, a correspondence of the edges to be sewed is attained either by the transfer of the finished parts to machinery suitable for knitting the remaining parts or by adjusting machinery to the different patterns of the consecutively-produced portions.

Claim.—As an article of manufacture, a stocking formed substantially as described, and having the side seams *m c e* machine-sewed, substantially as described.

81,000.—JOHN PRATT, Greenville, Ala.—*Mechanical Typographer.*—August 11, 1868.—This invention has reference to novel devices, that cannot be briefly described, for performing, in proper consecutive order, the operations involved in type-writing, namely: 1. The bringing of a number of type, in arbitrary succession, to one common point; 2. The making of legible impressions at that point; 3. The feeding or moving of the paper across said common point, so as to make the proper intervals between letters and words; and 5. The bringing of the paper back to its starting point, and, at the same time, moving it in a direction at right angles with the lines, so as to make the necessary spacing of the latter.

Claim.—1. The oscillating rods H I, constructed and operating substantially as and for the purpose set forth.

2. The adjusting screws *x*, substantially as arranged, and for the purpose set forth.

3. The rod G, the bell-crank lever K, links *o n*, and India-rubber joints *p*, constructed, arranged, and operating substantially as described.

4. The rod g^1 and oscillating rod M, tongue g^2 and spring d^2, constructed, operated, and arranged substantially as and for the purpose set forth.

5. The rod R, escapement wheel T, crutch U, link c^2, and arm d^2, rod M, and pulley S, arranged and constructed substantially as and for the purpose described.

6. The pinion *o*, lever a^2, and attached curved rack b^2, spring u^1, bell-crank lever r^2, and rod q^2, frame P, and clamp *o*, constructed, arranged, combined, and operating substantially as and for the purpose set forth.

7. The frame Q, sliding in grooves m^2, rack v^2, the lever t^2, link rod s^2, pawl u^2, and lever W, constructed, arranged, and operating substantially as and for the purpose set forth.

8. The lever k^2, spring n^2, link j^2, bell-crank lever X, link i^2, arm h^2, and lever W, or their equivalents, arranged, combined, and operating substantially as described.

81,001.—SEYMOUR CLESSON PRATT, Boston, Mass.—*Furniture Caster.*—August 11, 1868.—The entire surface of the larger ball is made available in fulfilling the functions of a roller. The friction is small, as the large ball bears against only a portion of the glass ring, and has contact at a point only with the small ring against which it bears at top when forced upward.

Claim.—1. In combination with the ball-containing socket piece *a*, the glass-bearing ring *c*, against which the slide of the caster ball rotates, substantially as described.

2. In combination with such socket ring and ball, the minor socket and ball *h i*, arranged substantially as shown and described.

81,002.—H. M. PRESTON, Unionville, Conn.—*Journal Box.*—August 11, 1868.—The bearing is made in three parts, movable toward a common center, to compensate for wear.

Claim.—The combination of the boxes *c' c' c*, wedges *d d*, or their mechanical equivalent, head *a*, and tightening screws, substantially as and for the purpose described.

81,003.—WILLIAM READ, Vernon, Ind.—*Horse Rake.*—August 11, 1868.—After releasing the teeth by the depression of the lever frame, the operator, if he wish the rake to make but a half revolution, removes the pressure from said frame, to allow the tips of the draw spring to project laterally, as at first, to act as a stop for the teeth.

Claim.—1. The device for releasing the teeth *k k*, composed of the draw spring *n*, or its equivalent, operating in connection with the lever frame described, or other similar device, all arranged substantially as described, and for the purposes set forth.

2. The arrangement of the springs G G, with suitable catches, and wipes *m m*, together with the backing and sustaining springs *g g*, for the purpose of preventing a back revolution of the rake when operating, substantially in the manner as described.

81,004.—WILLIAM T. B. READ, Chicago, Ill.—*Ice Elevator.*—August 11, 1868.—An apparatus for elevating ice in the process of filling ice houses, and handling blocks of ice in other situations where its elevation is involved.

Claim.—The combination and arrangement, substantially as shown and described, of the endless chain G, the pulleys E, (with their guards F,) hooks J, and frame A, substantially as and for the purposes set forth.

81,005.—Michael Rice, Upland, Pa.—*Loom-Actuating Shuttle Box.*—August 11, 1868.—The shuttle boxes are suspended on the outer ends of levers pivoted to the lay, and from the inner ends of which balancing weights are suspended. A vibrating, wedge-shaped lever, operated by a tappet wheel, deriving motion from a pawl actuated by the driving shaft, alternately raises and lowers the outer ends of said shuttle-box levers.

Claim.—The shuttle-box actuating mechanism, combined and arranged substantially as herein shown and described.

81,006.—F. T. Riegel, Philadelphia, Pa.—*Pressure Indicator.*—August 11, 1868.—The steam chamber communicates with the boiler, and the valve is held to its place by a variable weight applied to the yoke by means of the screw hook.

Claim.—1. The chamber B, the valve-seat tube D, the conical valve C, cone *g*, and screw F, constructed and arranged substantially as described, for the purpose set forth.

2. The yoke E, the screw *h*, and the weighted screw hook J, in combination with the chamber and valve, as above mentioned, substantially as and for the purposes described.

81,007.—Thomas J. Rockwood, St. Johnsbury, Vt.—*Machine for Milling the Knife Edges of Scales.*—August 11, 1868.—This machine finishes the knife edges after they are permanently secured in their places in the lever, treats the metal with precision by means of milling tools, carried on firmly-supported, delicately adjustable shafts, and presents the same to the milling tool in such a manner and under such adjustments that the proper relative position of the knife edge is secured, and a greater or less degree of acuteness may be given to the same.

Claim.—1. The combination of the table and holding device with the four milling tools $P\ P^2\ P\ P^2$, when all are adjustable as herein set forth.

2. The laterally-adjustable cross-piece F, the knife-edge supports *f*, adjustable to a greater or less distance apart by means of the screws f' and the table D, in combination with the milling tools $P\ P^2$, all arranged substantially as and for the purposes herein specified.

3. The adjustable vertical stop X and screw shaft *x*, in combination with the levers C C′, carriage B, table D, and the milling tools $P\ P^2$, as and for the purposes herein set forth.

4. The gauges N, their holders L, and fixed knife edges V on the carriage B, and the table D, in combination with the milling tools, or their equivalents, as and for the purposes herein set forth.

5. The arrangement of the milling tools $P\ P^2\ P\ P^2$, the carriage B, the table D, and the several devices connected therewith, so as to allow the confining of levers of different sizes, and of different proportions and widths, and the ready changing of the levers and of all the several parts, substantially in the manner herein described.

81,008.—J. Roemheld, Chicago, Ill.—*Eye Water.*—August 11, 1868.—In carrying out this invention a sheet or sheets of writing paper may be burned in a porcelain or other enameled dish. The oily matter separated from the paper by combustion and remaining on the plate, is dissolved in Rhine wine. Distilled water, cloves, and sulphate of zinc are then added, and the liquid is filtered.

Claim.—A medical compound, consisting of the ingredients in about the proportions set forth.

81,009.—P. H. Roots and F. M. Roots, Connersville, Ind.—*Rotary Blower.*—August 11, 1868.—An improved construction of the abutments of the class of rotary blowers or engines, in which the circular portions or peripheries form arcs of circles of different diameters. The center cylinder, being of plastic material, is cast in its exact dimensions.

Claim.—1. The co-operating abutments A B, constructed with skeleton pistons, having their external circular peripheries connected by longitudinal arms to the center cylinders, as and for the purpose specified.

2. The abutments A B, having their center cylinders made of plaster of Paris, or other plastic or molten material, substantially as and for the purpose set forth.

3. The abutments A B, having the arcs of their pistons so constructed as to become simultaneously disconnected from their respective center cylinders at certain portions of their revolutions, as herein described.

81,010.—P. H. Roots and F. M. Roots, Connersville, Ind.—*Case for Rotary Pumps.*—August 11, 1868.—The object is to obviate boring out the interior concave surface of the shell or case, and the facing or planing of the end or head plates thereof.

Claim.—1 A rotary blower case, the interior of which is rendered true and accurate by means of plastic or molten materials, substantially as set forth.

2. A rotary blower, the ends or heads of which are rendered true and accurate by means of plastic or molten materials, substantially as herein shown and specified.

3. A rotary blower, the concave or arcs of circles of which, and the ends or heads of which, are rendered true and accurate by the use of plaster of Paris, or other plastic material, or of molten metal, as described.

81,011.—William Ross, Paducah, Ky.—*Try Square.*—August 11, 1868.—For squaring lumber and timber in house-joining, &c. The shape of the piece of timber, whether square or not, is indicated by the top of the blades of the square. The secondary blade, which slides back and forth on the main blade and hangs loosely thereon, may be used as a bevel.

Claim.—The plate C, having the slot E, when held to the fixed blade by means of a clamping screw, *f*, passing through the transverse slot E and the longitudinal slot D, whereby the plate C is made adjustable, both longitudinally and vertically, and is rendered equally useful in dressing lumber, either to a level or bevel, as herein shown and described for the purpose specified.

81,012.—Gustav Schleicher, Mount Vernon, N. Y.—*Stringed Musical Instrument.*—August 11, 1868.—The tongue, projecting with a downward inclination from the under surface of the sounding board, is designed to increase the power of the tone. The ribs enable the sounding board to sustain the strain of the strings. The notches in the sounding-board bridge are arranged in such relation to the hitch pins that each string, in its course from the hitch pin to the turning pin, is deviated from a right line to avoid jar and preserve the full effect of the string's vibration.

Claim.—1. The tongue B, attached to the lower or inner surface of the sounding board A, substantially as and for the purposes set forth.

2. The arrangement of ribs *f g h* at the under surface of the sounding board A, in combination with the bridges *a b* and tongue B, substantially as and for the purpose described.

81,013.—Herman Schlotter, Kostritz, near Gera, Germany.—*Apparatus for Raising Water.*—August 11, 1868.—Water is elevated through the tubes by giving the tubes a rapid, vertical, reciprocating motion, they being immersed at their lower ends and provided at their upper ends with valves which open and close with the rising and falling motion of the tubes.

Claim.—The combination, substantially as shown and described, of tubes D D′, in any desired number, with the rocking beams C, in such manner, or so arranged in relation thereto, as to produce a counterbalancing action or effect, said tubes being fitted with upper valves, and operating, when immersed at their lower ends, and reciprocating, as described, to elevate water or other liquid, as herein set forth.

81,014.—Justin Schmitt, New Albany, Ind.—*Shoe Last.*—August 11, 1868.—The screws are for adjusting the two parts of the last with relation to each other. The detachable plates are applied so as to enlarge the last at the points corresponding with corns or bunions.

Claim.—The combination of the part B with the last A, when said last is provided with the screws *x x* on its under side, and with the plates C C, all constructed and used substantially as and for the purposes set forth.

81,015.—Lewis Sexaur, New York, N. Y.—*Water Meter.*—August 11, 1868.—Relates to the arrangement of a diaphragm or piston in combination with the levers and slide which impart motion to the valve, said diaphragm or piston being exposed to the direct action of the fluid, in such a manner that the valve is changed thereby without the aid of springs. The piston has a certain dead motion on its rod to afford time for changing the valve.

Claim.—1. The diaphragm or supplementary piston *t*, communicating with the supply pipe D, and with the valve chamber, in combination with the toggle arms *n l*, piston rod B, slide *e*, and valve F, substantially as and for the purpose described.

2. The stops *a' b'* on the piston rod, in combination with the projection *c'* on the slide *e*, substantially as and for the purpose set forth.

3. Giving to the piston a dead motion on its rod, so as to gain time for the projection *c'* to clear the stops *a' b'*, as set forth.

4. The stops *d'* on the piston rod, in combination with the projection *e'* and platform *i*, substantially as and for the purpose described.

81,016.—I. Shellabarger, Decatur, Ill.—*Apparatus for Dampening Grain.*—August 11, 1868.—Prevents the steam from escaping upward, its condensation being effected by reason of the obstruction presented by the bases of the inclines.

Claim.—The spout A, having inclines B B, arranged as shown, when the same is in combination with the steam chamber or pipe, and is used for conveying grain from the pipe E, or its equivalent, to the grinding apparatus, substantially as described, and for the purpose specified.

81,017.—Henry S. Shisler, Manheim Township, Pa.—*Farm Gate.*—August 11, 1868.—The drop bar is so connected with the latch, that by raising it, it retracts the bolt or latch; it drops of itself to thrust the bolt out again. The loop slips over a wedge piece connected with the diagonal rail.

Claim.—The self-acting drop bar B, connecting lever C to the latch bolt D, in combination with the sliding wedge bar G operated by the diagonal bar F, and the movable clamp E, all arranged and operating in the manner and for the purpose specified.

81,018.—J. A. Shone, Holly Springs, Miss.—*Cotton Bale Tie.*—August 11, 1868.

Claim.—The bale tie, formed upon the band A by notching one of its ends upon the under side at *c*, and passing the same through a diagonal slot, *a*, formed in the folded opposite end, as herein shown and described.

81,019.—John Shorey, Lowell, Mass.—*Curtain Fixture.*—August 11, 1868.—The flange of the adjustable bearing sustains the end of the roller and holds it against lateral displacement. The end of the curtain is put into the straight slot, and the wedge being then driven into the other slot, the curtain is secured to the roller.

Claim.—1. The adjustable bearing 2, with the projecting flange for holding the end of the roller, as shown in Figs. 1 and 2, in connection with the bracket B, as shown in Fig. 2, as shown and described, and for the purposes set forth.

2. The pulley *e*, with the rubber packing 4, in connection with the friction pulley 5, when made and operated substantially as and for the purposes set forth and described.

3. The combination of the roller, slotted at 6 and 8, and wedge 9, for the purpose of fastening the curtain to the roller, as and for the purposes set forth and described.

81,020.—Olaus Sjöberg, Chicago, Ill.—*Tobacco Pipe.*—August 11, 1868.—In use, the lower section is removed and the chamber filled with tobacco, after lighting which the section is replaced. The construction of the pipe prevents fire being communicated therefrom to surrounding objects.

Claim.—1. The combination and arrangement of the elongated cap A, provided with the passage *a* and perforated plate *b*, with the tobacco chamber D, so that the pipe may operate, when inverted, substantially as specified.

2. The combination and arrangement of the chamber D, provided with the tube *c*, projecting into the enlarged stem or section C, with the passage E, annular oil chamber *d*, substantially as specified.

3. The combination and arrangement of the sections A B C, plates *b* and *h*, and perforated tube *c*, with the stem *f* and mouthpiece *g*, substantially as specified.

81,021.—Henry Skidmore, Mount Vernon, N. Y.—*Machine for Cutting Paper.*—August 11, 1868.—This invention provides for a variable relative velocity of the feed and cutter to change the length of sheet cut, without of necessity altering the character or shape of the cut; and it consists chiefly in a combination of an oblique or helically-shaped revolving cutter with a stationary knife, both carried by a swinging or other suitable frame, adjustable in an angular direction across the material being fed.

Claim.—1. The combination of an oblique or helically-shaped revolving cutter with a stationary knife, when both are so suspended or carried in an adjustable frame as that their angular position, relatively to the path traveled by the said material between them, may be varied, substantially as and for the purpose or purposes specified.

2. The combination, with a constant or continuous feed to the strip or material in sheet form to be cut, as established by drawing rollers, or their equivalents, of a continuously-revolving cutter, acting in concert with a stationary knife, essentially as herein set forth.

3. The knife J, beveled, as shown and described, on its cutting edge, relatively to the passage of the material over or against it, for operation, in combination with a traveling or rotary cutter, substantially as specified.

4. The knives or cutters I and J', when beveled on their cutting edges relatively to each other, and to the travel or passage of the material to be cut, essentially as shown and described.

5. In combination with a rotary cutter, a stationary knife or cutter, adjustable toward or from it, and pressed forward by a spring, or its equivalent, so as to slightly project into the path traveled by the advanced edge of the rotary cutter, and so that said stationary cutter is pressed or urged backward by the rotary one in passing it, as specified.

6. The arrangement of the cutters I J, intermediately between the drawing rollers C and the delivering rollers F, for operation, substantially as specified.

7. The combination of the feed rollers C D, delivery rollers F G, and cutters I J, whereby paper, cloth, foil, or other like material may be fed in a continuous manner, and cut up into sheets at right or other required angles, to or across the feed or edges of the strip, all being arranged and operating essentially as specified.

81,022.—John T. Smelser, Williamsburg, Ind.—*Saddle Tree.*—August 11, 1868.—The upper frame plays vertically on springs, and the upright, confined in the loop or box plate, steadies the frame and holds it in proper relative position.

Claim.—The combination of the hinged frame *b*, upright *e*, and plate *t*, with frame *c* and bow *a*, when constructed as described.

81,023.—Oscar R. Smith, Elgin, Mich.—*Animal Trap.*—August 11, 1868.—Intended principally to entrap such animals as burrow the earth. The jaws catch the animal round the body, as the trap can be sprung only when the animal has passed partly through the opening defined by the jaws.

Claim.—1. The combination of the spring S with the frames F F', the catch P, the trigger D, and the jaws O O′, all arranged to operate substantially in the manner set forth.

2. The semi-circular shape of the jaws O O′, whereby they fit the burrow of an animal when the trap is set.

81,024.—W. Smith, San Francisco, Cal.—*Valve for Water Closet.*—August 11, 1868.—A plunger is employed in combination with a spindle and tubular receiver controlled by springs, compressed by the weight of a person on the seat, and so arranged as to prevent the wash water from flowing till the weight is removed.

Claim.—1. The tube D, applied to the face of a self suspending water closet valve, with water way at its base, substantially as shown and described, for the purposes specified.

2. In combination with the tube D, the spindle E, with the disk and packing *h*, and the packing L, compressed by the spring R, substantially as shown, and for the purposes set forth.

81,025.—H. W. Southworth, Mittineague, Mass.—*Pad for Horses' Hoofs.*—August 11, 1868.—The cushion is secured between the hoof and shoe. Raw hide is employed as a substitute for rubber, leather, &c.

Claim.—The raw hide cushion for horses' shoes, constructed substantially as herein described, and for the purposes specified.

81,026.—William E. Sparks, New Haven Conn.—*Snap Hook.*—August 11, 1868.—Pressure from the outside upon the tongue cannot effect its release.

Claim.—The arrangement of a divided tongue in two parts, *a* and *d*, pivoted so that each may turn independent of the other, and so that one opens outward and the other inward, each bearing upon the end of the hook A, and provided respectively with projections *h* and *l*, or other equivalent means, for operating substantially in the manner and for the purpose herein set forth.

81,027.—Francis Stebbins, Hinsdale, N. H.—*Gauge Cock.*—August 11, 1868.—When the piston is pushed inward, a port is exposed for the escape of the steam into the chamber in the piston, and thence out of the gauge cock through the jet pipe. When the piston is retracted the steam cannot escape, so that neither steam nor water can have access to the ports or channels of the cock, except during the short interval when the steam is rushing through to escape; hence the working parts are preserved free from sediment or deposits.

Claim.—The combination of the shell S, packing P P′, perforated sleeve D, and packing nut B, with the cylindrical piston A, having ports G G′ and steam passage C formed therein, the whole arranged and operating substantially as described.

81,028.—William J. Stowell, Baltimore, Md.—*Railway Switch.*—August 11, 1868.—This device is intended as a substitute for railroad frogs, and performs the function of the same in automatically guiding the wheels of a locomotive from one track to and upon another.

Claim.—1. Employing, in combination with a continuous rail track A, and a sliding C, a laterally vibrating inclined and curved guard rail C^1, and an inclined switch section C^2, constructed and arranged to operate substantially as described.

2. The guard rail D, with curved extremities, connected by jointed levers and rods to the rail sections C^1 C^2, substantially as described.

81,029.—William J. Stowell, Baltimore, Md.—*Railway Switch.*—August 11, 1868.—The vibrating switch rails all move at the same time in being adjusted for the main track or turnout. A lever is pivoted to the overhanging portion of the standard, so as to vibrate in a horizontal plane, and facilitate the drawing back and holding of the switch lever. The hook or fastening retains the auxiliary lever in place while holding back the switch lever.

Claim.—1. In combination of vibrating switch rails B^1 B^2 of the siding with the vibrating switch rail A^1, forming part of the main track, said rail sections being arranged and connected together substantially as and for the purposes described.

2. The auxiliary lever E, with its fastening *j*, applied to the standard C of the switch lever D, substantially as and for the purposes described.

81,030.—William J. Stowell, Baltimore, Md.—*Lock Nut.*—August 11, 1868.—When the nut is screwed up tightly upon its bolt, and one or more edges of the washer plate are turned up against the nut, the latter cannot be casually rotated, as the washer plate is seated in a recess of the object against which the nut is set.

Claim.—The locking plate *g*, having plane surfaces, in combination with a grooved seat *c*, both constructed substantially as described, and serving the purpose of fastening nuts upon bolts, as set forth.

81,031.—O. G. Stratton, Greenfield, Mass.—*Bit Stock.*—August 11, 1868.—Consists in applying to a bit stock or brace a device for holding the shank of the bit in its socket, said device being operated by a cam and thumb piece. The action of the locking device is not only to hold the shank securely in the socket, but also to exert a slight draught to draw it into the socket in the operation of locking, and to produce a slight thrust when it is released, so as to start it from the stock.

Claim.—1. The combination and arrangement of the yoke or thumb-piece F F′, shaft G, cam C, pivot *g*, and recessed and slotted lever A with a bit brace or stock, substantially as and for the purpose described.

2. A conical shank *s*, of a bit or other tool used in a bit stock, having a recess, *k*′, therein, to receive a feather or projection in the socket, in combination with a socket in the bit-stock, which is conical in longitudinal section, as described.

81,032.—Eugene L. Tarbox, Nashville, Tenn.—*Stencil Plate.*—August 11, 1868.—The letters and figures of the stencil being arranged in the circular rotary plate may be brought singly under the openings of the shield, which covers the adjacent letters and figures and prevents them from constituting a hindrance or check to the marking of the letters in use.

Claim.—The plate B, the shield C, and the handle A, constructed and arranged with regard to the letters and figures, and to each other, substantially as and for the purpose described.

81,033.—Louis Tassius, Norwalk, Ohio.—*Artificial Leg.*—August 11, 1868.—The sling is applied to the exterior of the casing which incloses the mechanism whereby the forward impulse is given to the second segment of the leg and the heel piece made to co-operate in giving the initial movement to raise the foot from the ground. The sling passes over the shoulder of the wearer.

Claim.—The herein-described artificial leg, consisting of the heel plate K, stirrup P, springs H L, links Q R, and sling A, all constructed and arranged to operate, in combination with the articulated foot T and leg T′, in the manner substantially as set forth.

81,034.—Barnett Taylor, Forestville, Minn—*Hand Cultivator.*—August 11, 1868.—For cutting weeds and stirring the ground between plants. The shovel plow is secured in place by the same wedge that secures the cutters to the beam, and is brought into requisition in case of large plants or when the ground requires to be stirred more thoroughly than can be done by the cutters.

Claim.—The combination of the cutters H, stationary upright I, pivoted uprights J, block D, adjustable block or bar E, supporting bar F, shovel-plow M N, and wedge L, with each other, and with the slotted beam A and wheel B, substantially as herein shown and described, and for the purpose set forth.

81,035.—Joseph Temple, Terre Haute, Ind.—*Saw-Filing Machine.*—August 11, 1868.—A mode of combining and arranging several movable and adjustable plates and frames, constituting a device whereby saws may be accurately filed, and any desired shape given to the teeth.

Claim.—The arrangement of the bed plate A, saddle piece B, and frame C, in combination with the file holder in which the file is placed, when all the parts are constructed and operated in the manner and by the means described, so as to be adjustable for the purpose of giving any depth or pitch to the teeth of a saw that may be desired, substantially as herein set forth.

81,036.—Charles H. F. Thieme, North Vernon, Ind.—*Priming for Needle Gun.*—August 11, 1868.—This priming, except as to the base, does not differ from the ordinary compositions which form a fulminate to be ignited by the penetration of a pointed instrument. The hyposulphite gives the fulminate the property of refusing to ignite by concussion, and of resisting the destructive evaporation to which the essential constituents of the ordinary preparations are subject.

Claim.—An explosive or igniting composition, having hyposulphite of any metal as a base, substantially as set forth.

81,037.—Thomas J. Thurston, Lewiston, Me.—*Ash Screen and Coal Hod Combined.*—August 11, 1868.—The crank shaft is rigidly attached to the sifter, which has a shouldered lip fitting into the hod, and the shaft occupies the hole and slot of the hod, the hook serving to hold together the hod and sifter when in use.

Claim.—The combination, with the hod A, having the hole *c*, slot *d*, and staple *k*, of the sifter B, having the crank shaft *a*, the combination to operate as herein set forth, and for the purposes described.

81,038.—William Tunstill, Paterson, N. J.—*Braiding Machine.*—August 11, 1868.—This stop-motion is made to operate by the breaking of any of the threads, the same consisting of a ring which surrounds the slotted plate in which the bobbin carriers are moved to operate the warp threads, and which is acted upon by either of the weights on the warp or weft carriers.

Claim.—The ring 17, applied in the manner specified, to receive motion from the weight in case a thread breaks, in combination with the stop-motion lever 23, and coupling or clutch, substantially as set forth.

81,039.—Nicholas S. Vedder, Troy, N. Y.—*Cooking Stove.*—August 11, 1868.—Relates to the construction of a flue chamber on what are termed "long top cooking stoves," by means of the top plate and a casting of peculiar form, and the adaptation of said flue to a hot-water reservoir as well as to cooking purposes.

Claim.—1. The flue chamber B, when formed by the top plate A of the stove, and the part C, substantially as herein shown, and for the purposes set forth.

2. The stove-pipe hole H, when formed on the part C, in the rear of the opening covered by the plate D, in combination with flue chamber B, substantially as herein described and shown.

3. The part C, when constructed and arranged in combination with the top plate A of a cooking stove, either for a reservoir, E, or boiler-hole plate, D, substantially as and for the purposes set forth.

81,040.—Marcus Brown Westhead, Manchester, Great Britain.—*Tape Box.*—August 11, 1868.—The protruding end of any coil may be drawn so as to obtain any desired length of the narrow fabric without disturbing the other coils.

Claim.—As a new article of manufacture, a tape holder, consisting of the slitted box *a*, containing a series of loose disks, *e*, to separate the rolls of tape, substantially as described.

81,041.—John H. Whissemore, Mansfield, Ohio.—*Harness Tree.*—August 11, 1868.—The metallic tree has raised flanges or lips along its inner edges to form a groove for the reception of the ordinary harness-tree pad, said flanges extending sufficiently beyond the upper frame to form openings for the introduction of tug straps.

Claim.—The harness tree A and plate *b'*, when the same are provided with lips or flanges, and so combined and arranged as to form the opening *c*, and a continuous groove, *a b*, for the pad and tug strap, said groove extending in both directions beyond the plate of the tree, as described, and for the purpose specified.

81,042.—John H. White, Lima, Peru.—*Rice Pounding Machine.*—August 11, 1868.—The pointed elevations within the mortars prevent the pestles from crushing the particles of rice, and also cause them to spread from under the pestles, thereby producing an agitation and mutual friction of the particles. The object is to whiten the rice by an expeditious pounding process.

Claim.—The mortars *a*, with bottoms *b*, in combination with the spring pestles *c c*, operating in the manner and for the purpose substantially as shown and described.

81,043.—William H. Whitehead, Chicago, Ill.—*Combustion Chamber in Coal Stove.*—August 11, 1868.—The air chamber supplies air to the combustion chamber for the purpose of effecting the consumption of the gaseous products of combustion. The sinuous character of the space through which air passes into the combustion chamber, causes the air to be injected at different altitudes and angles, and thus insures its thorough commingling with the gases.

Claim.—1. The air chamber, composed of the plates or disks A and B, provided with the flanges or supports *b* and *c*, and the interior projections *e* and *f*, arranged so as to admit a continuous thin sheet of air, substantially as specified.

2. The application of the fire brick or protector D to the under surface of the air chamber, substantially as and for the purposes specified.

3. The combination and arrangement of the plates A, B, and C, with the fire brick or protector D, substantially as and for the purposes specified.

81,044.—William N. Whiteley, Springfield, Ohio.—*Harvester Cutter.*—August 11, 1868.—The spiral spring coiled about the bolt performs the double function of pressing the branches asunder, so as to insure their constant pressure against the face of the nut, and of engaging with the ratchet teeth of said nut to hold it in place. The heel of the cutter bar is bent forward, so as to bring the pitman joint as nearly as possible into the real line of action and resistance of the cutter bar.

Claim.—1. The cutter bar E, bent forward at its inner end, substantially as and for the purpose set forth.

2. A spring, located between the branches of the pitman, and with one of its ends extending through one of said branches so as to engage with the ratchet of the nut G, substantially as set forth.

3. A spring, located between the branches of the pitman, and shaped and secured so as to press the said branches asunder, and at the same time penetrate through the proper hole in one of said branches, and engage with the ratchet of the nut G, substantially as set forth.

81,045.—William N. Whiteley, Springfield, Ohio.—*Harvester Rake.*—August 11, 1868.—These improvements in reaping machines have reference, specifically, to the manner of mounting and adjusting the rake stand upon the coupling arm, to the arrangement and construction of the gearing, and the means for retaining the joint bolts in place.

Claim.—1. Connecting the rake stand to the coupling arm, by the pivot bolts J' J', on a line parallel with and above the crank shaft.

2. The adjusting brace K', or its equivalent, connecting the rake stand to the main shoe, substantially as set forth, so that the position of the rake stand may be adjusted in reference to the plane of the cutting apparatus.

3. The supplemental gear wheels *k' l' m'* driven by the pinion *h'*, on the main pinion shaft, and arranged at the outer front corner of the platform, in connection with the chain *p'* and chain wheels M' *n'*, to communicate motion to the reel and rake shaft.

4. The combination box *t*, cast in one piece, to

support the pivot pins of the supplemental gears *k' l' m'*, as and for the purpose set forth.

5. The stop *g'* interposed between the heads of the joint bolts *o' o'*, to retain them in place, substantially as set forth.

6. The tripper *c'*, constructed with a shank extending through the head, so as to be readily secured with a screw nut, for the purpose of easy removal, as set forth.

7. An adjustable guide frame I', substantially as described, and for the purpose set forth.

81,046.—WILLIAM N. WHITELEY, Springfield, Ohio.—*Harvester.*—August 11, 1868.—The pipe box is cast with a lug projecting upward from its forward end, for attachment of the draw rod, which connects the upper end of said lug and the front bar of the main frame, and transmits the draught strain directly to the coupling arm and cutting apparatus. When the machine is to be transported from place to place, as from barn to field, the outer end of the cutting apparatus is raised until the bridge can be secured to the frame by the hook attached thereto.

Claim.—1. The pipe box U, combined with the bars of the main frame A, in the manner shown, so that the said box forms the brace connecting the rear bars A A of the frame and the bearings for the crank shaft.

2. The draw rod W, combined with the solid pipe box U, in the manner shown, and connecting said box to the front bar of the main frame, as and for the purpose set forth.

3. The bridge piece *f*, connected to the inner shoe and to the hand lever *k*, in the manner shown, for the purpose of enabling the attendant to raise the cutting apparatus, as described.

4. The hook *m*, in combination with the bridge piece *f*, as and for the purpose set forth.

81,047.—CALEB WHITMORE, North Vernon, Ind.—*Rock Drill.*—August 11, 1868.—The diagonal grooves of the cylinder travel on the stationary guide pin, as the drill and its stock are reciprocated. Devices are employed to prevent the drill stock from turning backward, and lower the carriage gradually as the hole is deepened.

Claim.—1. The grooved cylinder S, made substantially as described, with the points of the upper inclined guides between the points of those below, in combination with the stationary guide pin T, for the purpose of turning the drill automatically as it is traversed.

2. And in combination with the cylinder and guide pin thus constructed for turning the drill, the ratchet K and pawl U, for the purpose specified.

3. And in combination with the devices for turning the drill, the ratchet *a* and pawl *b*, and their connections, for traversing the carriage and feeding the drill.

81,048.—AARON WARREN WHITNEY, Woodstock, Vt.—*Tinsmith's Stake.*—August 11, 1868.—The stake may be readily detached when not required for use, and replaced by a tool of another form, so that only one standard is required for an indefinite number of stakes,

Claim.—1. The socket or head C, having two or more socket arms, E, formed upon its sides, in combination with the upright or standard B, whether said socket or head C is formed solidly upon or is detachably and adjustably screwed to said upright or standard B, substantially as herein shown and described, and for the purpose set forth.

2. Forming the stakes F without shanks, and with tenons upon their inner ends, to adapt them to the socket arms E of the socket or head C, substantially as herein shown and described.

81,049.—S. LLOYD WIEGAND, Philadelphia, Pa. —*Screw Cutting Machine.*—August 11, 1868.—The invention has reference to the mode of controlling screw cutting machinery of the class in which it is desirable to pass the cutting tool more than once in the same path upon the screw in course of production, so as to render it impossible to engage the nut into the leading or guiding screw, except at such time as the different parts are in their proper relative positions.

Claim.—1. The gear, constantly engaged in the leading screw, and the cam and the detent or pawl, combined and used therewith, substantially as shown and described, for preventing the re-engagement of the nut, or segment of a nut, in improper positions in the leading screw.

2. The gear, constantly engaged in the leading screw, in combination with the cam and detent, as described and shown, to prevent the re-engagement of the cutting tool in the work when in improper positions.

81,050.—A. G. WILKINS, Cooperstown, Pa.—*Washing Machine.*—August 11, 1868.—The tub is supported by standards and cross bars, so that it may swing freely, and is provided with two parallel rows of pounders upon its bottom, arranged so that the pounders of one row are opposite the spaces between the pounders of the other row. Combined with above, are two parallel rows of stationary arms, arranged so that when the tub is rocked they will be alternately struck by the aforesaid pounders.

Claim.—1. A rocking tub A, which is provided with transverse rows of beaters or pounders G, arranged as described, in combination with the stationary resisting arms F, arranged in two parallel rows, and adapted to operate substantially as described.

2. Arranging the beaters G G so that their edges *e' e'* overhang the bottom of the tub at the point where the squeezing of the clothes is performed, in combination with the pendants F F, *e e*, and the slats H H, substantially in the manner and for the purpose described.

81,051.—N. BANGS WILLIAMS, Providence, R. I. —*Oil Cup.*—August 11, 1868.—The bolt holds the cover against rotation, so that jars and concussions cannot loosen it, nor violent motion throw it off.

Claim.—1. The spring bolt D in the screw cover of an oil cup, made and operating substantially as described.

2. The combination of the bolt D and the screw E with the cover of an oil cup.

3. The regulating screw F, made with the tapering slot *c*, the spring point *d*, and the broad disk-like head, all made as described.

4. The packing of an oil cup with fibrous disks, when these are not encased in a tube or chamber, and where they are threaded upon a slotted screw, which at the same time forms the compressing agent for the fibrous disks, and a graduating duct, for admitting the oil into the duct on the stem of the cup, by screwing into the same, all made and operating substantially as set forth and described, or their mechanical equivalents.

81,052.—WILLIAM WILSON, Galesburg, Ill.—*Steam Piston Packing.*—August 11, 1868.—The rings are set out by steam, and adjust themselves to the interior of the cylinder, whether or not the same be perfectly round or true.

Claim.—The arrangement of the rings C C with the pieces D D, skeleton B, and the follower A, as herein set forth.

81,053.—GEORGE O. WOODCOCK, Claremont, N. H.—*Coal Stove.*—August 11, 1868.—The detachable flue is widely expanded at front, where the convex top of the back plate meets it, said back plate directing the products of combustion into the mouth of the flue. The object is to attain an effective draught. Air is admitted to the lower part of the chamber between the outer casing and the fire box, and being heated by contact with the back plate and flue, is discharged at the upper part of the stove.

Claim.—1. The flue B, when constructed and made detachable, and arranged within the chamber J, and combined with the back plate E, substantially as and for the purposes specified and set forth.

2. The back E, when made convex frontward, as and for the purposes specified.

3. The combination and arrangement of the air chamber J, the spaces I I, the convex back E, and the flue D, substantially as described and set forth.

81,054.—LEWIS R. WRIGHT.—Troy, N. Y.—*Cultivator and Plow Combined.*—August 11, 1868.—All the parts may be aggregated to form the compound implement—plow and cultivator—but the teeth and standards are readily detachable, in order that the plow may be used alone, and *vice versa*.

Claim.—1. The double mold board B and C, so hinged and connected together that the main part of said mold board B may be elevated or depressed at will, according to the height of furrow desired to cut, substantially as fully hereinbefore described and set forth.

2. The hinging of the sections of the mold board C and C′ to the center standard E′, whereby a lateral motion may be given to the mold boards B and B′, to regulate the width of furrow to be cut, substantially in the manner and for the purposes more fully hereinbefore described and set forth.

3. The slotted arms, or their equivalents, D D, in combination with the mold boards B and B′ substantially in the manner and for the purposes herein described and set forth.

4. The upright or tooth shoe E, in combination with the brace F, or its equivalent, all cast in one solid piece, substantially in the manner and for the purposes herein fully described and set forth.

5. The curved reversible tooth H, in combination with the tooth shoe E and brace F, each being constructed and operated substantially in the manner and for the purposes hereinbefore described and set forth.

81,055.—J. H. WYCKOFF and W. K. WYCKOFF, Ripon, Wis.—*Photographic Camera.*—August 11, 1868.—At or near the lower end of the pendant a transverse recess is cut, for one or more removable scales, which are notched upon their edges to receive a pin or spring, to indicate the lateral movements necessary in bringing the prepared plate properly across the opening and behind the lenses. On the pendant is marked a scale, indicating the proper elevation and depression that the sliding rod or bar should have in order to bring the prepared plate to its proper point transversely across the opening behind the lens tube.

Claim.—1. The adjustable, pivoted pendant D, with its sliding bar or rod E, and the frame F, for holding the dark slide or plate holder; and, further, the special and particular method with a pivoted pendant made adjustable upward and downward, and with a to-and-fro or a lateral transverse oscillating movement on the arc of a circle, carrying a chemically-prepared plate across the opening behind the lens tube or tubes in making sun pictures, substantially as set forth and described.

2. The combination and arrangement of these various parts, making the apparatus or device complete.

81,056.—CHARLES E. ZIMMERMAN, Cincinnati, Ohio.—*Churn.*—August 11, 1868.—The dashers may be removed as soon as the butter forms, and the cream chamber then revolved alone for the purpose of gathering the butter.

Claim.—The arrangement, substantially as described, of the cream chamber A, bearings B B′ C C′, removable frame H, with its shaft I *k* and dashers J, crank shaft L *l l′* M, apertures N *n*, and swinging brackets R R′, or devices substantially equivalent, for the purpose set forth.

81,057.—BETHEL BURTON, Brooklyn, N. Y.—*Manufacture of Water-Proof Percussion Caps, &c.*—August 11, 1868.

Claim.—The use of shellac, or other gum resin, mixed with alcohol or other readily-evaporable liquid solvent, in compounding fulminating matter, which serves the purpose of rendering it impervious to damp or wet, and indestructible by coming in contact with oil or grease, and which will preserve it from the action of the atmosphere in all climates, and for use in all purposes where ignition by friction, percussion, or concussion is required, as specified.

81,058.—BETHEL BURTON, Brooklyn, N. Y.—*Priming Metallic Cartridges.*—August 11, 1868.—When the charge is exploded the pressure of gas within the cap forcibly presses it outward against the internal surface of the cup, forming a gas-tight joint. In preparing the priming, pieces of paper or cloth are coated with gum or glue; one is sprinkled with amorphus phosphorus, and the other with chloride of potash. When dry they are cut to the required size, and, being separated by an annular washer, are ready to be applied within the cartridge.

Claim.—1. The firing pin *h*, when made with a piston on its rear end, working in the cylindrical cap *f*, which cap also works in the cylindrical cup *a*, all as shown and described, and for the purpose specified.

2. The application and arrangement of the prepared fulminate on paper, cloth, or other suitable materials, which may be separately cut with safety, and combined for use in cartridges, substantially as set forth.

3. The mode of separating the two prepared disks or wafers by means of an annular washer, substantially as set forth.

81,059.—BETHEL BURTON, Brooklyn, N. Y.—*Breech-loading Fire-arm.*—August 11, 1868.—These improvements have reference to certain details in the construction of fire-arms, having the same chief characteristic as the invention patented by the same party, December 20, 1859.

Claim.—1. The construction of the breech or cylinder, with the opening for the slide *e* to pass under the ring *c*, by which means the opening is entirely closed from access of sand or dirt, when the breech is closed.

2. The recoil block *q*, steady-pin *i*, and slide *e*, combined with the breech pin *f* and sectional screws or cam, which enters the recess at *o*, for combining or coupling the same without the use of a screw or other fastening.

3. The manner of combining the extractor *q* with the slide *e*, by means of the slot or recess *y*, dispensing with screws or other fastenings.

4. The combination and arrangement of the spring hammer *l* with the sliding breech, so that by one and the same motion the said breech is opened to receive a cartridge and the empty cartridge shell ejected from the chamber by the pressure of the hammer, substantially as set forth.

5. The hook-ended finger *h* upon the trigger *k*, the slot and lip in breech pin *f*, the safety bolt, Fig. 31, for keeping the breech pin locked, and as set forth.

81,060.—E. H. ASHCROFT, Lynn, Mass.—*Device for Ventilating and Desiccating.*—August 18, 1868.—In one horizontal arm or portion of a T-shaped pipe is disposed a blast pipe terminating at or about the center of communication of the horizontal and upright portions of the T.

Claim.—The combination of the T-shaped pipe A and the inner horizontal one, *d*, constructed and operated in the manner substantially as shown and described and for the purpose set forth.

81,061.—ALEXANDER JOSEPH BASSET, Philadelphia, Pa.—*Soles for Boots and Shoes.*—August 18, 1868.—On the under side of the sole is a series of conical air chambers, by pressing upon which a suction is produced to hold the sole in contact with icy or slippery surfaces.

Claim.—A sole for boots and shoes, arranged substantially in the manner and for the purpose specified.

81,062.—EDWARD J. BIEDERMAN, Brooklyn, N. Y.—*Sugar Packer.*—August 18, 1868.—The barrel, to contain the sugar, rests in a cavity in the platform, and by means of a forked bar with a screw clamp on each fork end, the upper rim of the barrel, with the filling bag, is tightly clamped, while the single opposite end of the forked bar is fitted to a crank from which it receives and imparts to the barrel a reciprocating motion.

Claim.—In devices for packing barrels with sugar and other substances, the combination of the forked bar F with clamps G G and screws H H, the crank shaft D and platform A, arranged and operating substantially as and for the purpose herein set forth.

81,063.—WALTER J. BRASSINGTON, Brooklyn, N. Y.—*Gas Burner.*—August 18, 1868.—A movable internal valve is placed in the ordinary gas burner and operated so as to cut off the gas to quantity necessary to supply a small flame for the purpose of producing a perpetual light, and dispensing with the ordinary supply cock.

Claim.—1. The valve A, placed inside of the ordinary gas burner, and operated so as to cut off the force of the gas to the desired quantity necessary to supply a miniature flame, substantially as described.

2. The valve seat I H I, formed by the under side of the tip in the ordinary gas burner, against which the valve A seats itself, for the purposes specified.

3. The application of the spiral spring B, in combination with the valve A, for the purposes herein specified.

4. The movable jacket M or casing, with the slot N, in combination with the band W, for the purpose of receiving the movable glass protector or hood R, substantially as described.

5. The combination of the internal movable valve A, with the elastic packing F and plate G and screw D, or their equivalents, substantially as shown and described, for the purposes set forth.

6. The application and use of the spring point P, attached to the movable jacket M or casing, and the notch K, to receive the same, for the purpose of securing the aforesaid movable jacket M or casing in its proper position, when it is raised to protect the small flame U, or drawn down to permit a full flame at T, as herein specified.

7. A pull or handle O, or other suitable device, attached to the movable jacket M or casing, for the purpose of operating the same, either up or down, substantially as described and herein set forth.

81,064.—JAMES BROWN, Pawtucket, R. I.—*Bearing for Fliers in Spinning Machine*.—August 18, 1868.—The flier bearing consists of a tube having an annular channel for the reception of oil, and a male screw cut on its upper half to screw up into the rail. The rail serves as a cap to the oil trough and is also provided with an oil supply and air-exit holes.

Claim.—1. The within-described arrangement of the confining screws *a b*, the tube *c*, the rail A, and the oil trough *d*, placed underneath the rail, the screws by such arrangement being within the rail, and the oil trough being below, and covered by it, in manner as specified.

2. The arrangement of the confining screws *a b*, the tube *c*, the rail A, provided with oil and air ducts *e f*, the oil trough *d*, and the oil duct *i*, substantially as described.

81,065.—WILLIAM BROWN, Worcester, Mass.—*Sofa Bed*.—August 18, 1868.—Plates fastened to the ends of the hinged back portion are so arranged that when the back is raised the upper ends of the plates will pass upon the inner sides of loops projecting from the rear of the stationary arms, and the back will be held upright by the bent ends of spring arms at the ends of the frame.

Claim.—1. The combination, with the sofa bed, of the pieces *d d* and loops, *a a'*, or either, and the spring arms *g g*, substantially as and for the purposes set forth.

2. The combination, with the hinged legs G G and loops *a a'*, of the pieces or legs H and arms, *g*, substantially as and for the purposes set forth.

3. The combined head-boards and detachable legs H, substantially as described.

81,066.—JARVIS CASE, Lafayette, Ind.—*Corn Planter*.—August 18, 1868.—A platform is connected to the tongue by means of a flexible metallic strap, and the runners are held in a raised position by means of a catch engaging with a pin on a bar rigidly attached to the under side of the bed. The seat is arranged to be shifted so as to bring the driver's weight over the bed to force the runners into the earth when necessary.

Claim.—1. Connecting the front and rear frames of the machine by means of the flexible plate *t*, when said parts are combined substantially as described.

2. The catch *n*, pivoted to the rear frame, and arranged to engage with the bar U, for locking the front and rear frames rigidly together, substantially as and for the purpose set forth.

3. The scattering device, arranged in the lower end of the seed tubes, when constructed substantially as described.

4. The seat T, when arranged to be adjusted in rear of the axle, or over the front part of the platform, substantially as described.

5. The combination of the valve *f*, pivoted cam *g*, and sliding arm *i*, attached to the seed slides, constructed and arranged to operate substantially as shown and described.

6. The removable hopper, C, having the cut-off *e* attached thereto, when constructed and arranged substantially as shown and described.

81,067.—EDWARD W. CHADWICK, Edgartown, Mass., assignor to himself and WILLIAM P. CHADWICK, same place.—*Car Coupling*.—August 18, 1868.—In the top of the draw bar is arranged a cap provided with a spring receiving chamber, the spring serving to depress and hold the catch lever within the catch recess.

Claim.—The arrangement and combination of the chambered cap C with the chambered draw bar A, the spring *h*, and the lever catch B, made as described.

81,068.—JOHN WALTER CLARK, Philadelphia, Pa.—*Artificial Teeth*.—August 18, 1868.—Slots are cut in the dies, through which the shank of the notched pin passes so as to secure the pins in a vertical position. When the dies are placed in position the bolts are inserted and tightened up by a thumb screw.

Claim.—1. The arrangement of the double notched pin P, and the manner of securing the same in proper position by means of notches in dies 1, 2, 3, 4, 5, and 6, and slide D

2. The manner of arranging the dies 1, 2, 3, 4, 5, and 6, and drawing them out from the sides of the molds; also, the arrangement of bolts B and thumb screw S, for securing said dies firmly in place.

81,069.—RANSOM COOK, Saratoga Springs, N. Y.—*Bit for Boring Wood*.—August 11, 1868.—At the lower end of the pod which is forged in the usual manner, is formed a projection to be shaped into a center. The pod and center are subsequently formed with swages or dies.

Claim.—The improved spoon bit, constructed substantially as hereinbefore set forth.

81,070.—GEORGE CROMPTON, Worcester, Mass.—*Loom*.—August 18, 1868.—Combined with the horizontal harness levers, jointed directly to the jacks, and with angular evener levers operating directly upon the harness levers to bring them into line, and with the slide rods which operate the evener levers, are rocker links, for connecting the evener levers to the slide rods.

Claim.—1. In combination with angular evener levers and horizontal harness levers, operated upon by such eveners, (to bring the jack hooks into line,) the rocker links *t*, which connect such eveners with the slide rods, substantially as set forth.

2. In combination with jacks operating upon horizontal harness levers, and with angular lifter and depresser levers operating such jacks, the angular lifter and depresser levers, connected to the slide rods by which they are operated, by the rocker links *n*, substantially as described.

81,071.—FRANÇOIS LOUIS DEGERBETH, Dalston, England, assignor to THOMAS S. G. KIRKPATRICK.—*Manufacture of Compound Oils*.—August 18, 1868: patented in England November 11, 1867.—The apparatus consists of a battery of ten cells, each containing plates of zinc and platinized silver, and the battery is excited by sulphuric acid diluted with water.

Claim.—1. The production of an oil resembling linseed oil, and applicable to painting and varnish-making, from a mixture of petroleum or coal oil, or such like hydrocarbon and resin oil, such oils being treated with oxidizing agents, ozonized air, galvanic electricity, and driers, as herein described.

2. The treating petroleum, coal oil, or other similar hydrocarbon oil with oxidizing agents, and galvanic electricity, so as to improve the color, as herein described.

3. The production of a spirit similar to turpentine,

from a mixture of light petroleum or coal oil, or other similar light hydrocarbon oil or spirit, and light resin oil or spirit, such oils or spirits being treated with oxidizing agents, ozonized air, and galvanic electricity, as herein described.

4. The apparatus hereinbefore described, for the treatment of oils and spirits by means of ozonized air.

81,072.—J. L. Dickinson Dubuque, Iowa.—*Governor for Steam Engine.*—August 18, 1868.—The upper ends of the ball-supporting arms are bent and journaled in adjustable boxes, so that when the motion of the governor is suddenly checked, the momentum of the balls carries them ahead of the governor, thereby acting through the crank ends of the arms upon the valve quicker than by the fall of the balls alone.

Claim.—The crank form of the upper end of the ball arms, in combination with the adjustable boxes, giving both lateral and vertical motion to the balls, for the purpose and in the manner substantially as herein described.

81,073.—Edward Doran, Philadelphia, Pa.—*Machine for Making Fringe.*—August 18, 1868.—Applied to a fringe loom is a series of devices whereby the twists required in the loops of the fringe are automatically produced as the fringe is being woven in the loom.

Claim.—1. The pulley L, with its ratchet tooth or notch, in combination with the pawl O, and the arbor with its arms l', the said parts being constructed, arranged, and operated by the cord p'', pulleys P and Q, cord q', weight q'', and the lay B, as and for the purposes described.

2. The slotted plate M, stem m', spring m'', bar k'', and lever K, the said parts being arranged and supported so as to be operated together, by means of the said spring m'', trigger k', and the projection r on the lay, or their equivalents, substantially as and for the purpose described.

81,074.—John Du Bois, Williamsport, Pa.—*Lumber Drier.*—August 18, 1868.—A series of girts having a ribbed edge on the inside, for the purpose of supporting strips, are arranged within a suitable building, the strips serving to hold boards or lumber on end. The drying sheds are built double with a space between for an elevated railroad track and car, the latter having a swivel platform.

Claim.—1. The arrangement of drying sheds, provided with grated or open floors for sticking lumber standing on end, it being held upright by series of strips or stickers, *e e e*, resting on the girts *b b* on plates *d d*, substantially in the manner as described for the purposes herein set forth.

2. The rib or raised portion on the inner edge of the girts, in combination with the cleats *i i* on the ends of the strips or stickers *e e e*, substantially as and for the purposes herein specified.

3. The application of the car C with the turn-table frame thereon, and elevated track B, when used in combination with the drying sheds, constructed as herein set forth.

81,075.—John Du Bois, Williamsport, Pa.—*Device for Moving Vessels to and from Wharves on Docks to Water.*—August 18, 1868.—A framework, consisting of horizontal and vertical timbers properly braced for supporting a vessel, is placed upon two floats or lighters provided with water-tight compartments and arranged to pass on either side of a wharf, so that the vessel can be raised and floated upon and off the wharf.

Claim.—The floats E E, constructed and arranged as herein described, in combination with the transversible, detachable, and adjustable framework *a e d g*, in the manner and for the purpose herein set forth.

81,076.—John Du Bois, Williamsport, Pa.—*Dredging Machine.*—August 18, 1868.—A vertically-sliding frame is arranged within an opening in suitable frames. A series of scoops or buckets are attached to an endless chain and also hooked prongs for loosening the earth in advance of the scoop. Grouser boats, formed with water-tight compartments and having a longitudinal vertical space centrally from one end to the other, serve to move the apparatus and secure it in proper position.

Claim.—1. The arrangement of the sliding frame E, with its elevators G G, and hook prongs *i i i*, substantially as herein described.

2. The adjustable sliding frame E, in combination with the rail-track frame N, for the raising and disposing of the mud, earth, or gravel, as herein specified.

3. The construction and arrangement of the grouser boats A′ A′, with their platform connections, in combination with a dredge boat or scow, substantially as set forth.

4. The mode by which the dredging scow A is moved forward and guided, while in the act of operation, substantially as herein set forth.

5. The construction and arrangement of the car track P P, with its adjustable supporting legs R R, in combination with the mud or earth-moving vessel B, as herein described, for the purposes set forth.

81,077.—Elias Easton, Prairieville, Mich.—*Farm Gate.*—August 18, 1868.—The gate may be adjusted to any desired elevation to allow the passage of small animals. By an arrangement of cords and levers, the latch can be raised upon pulling a cord, and the gate will open in the forward direction of a rider, without the necessity of dismounting from a horse or carriage.

Claim.—1. The combination of the rear gate post B, when provided with perforations, as described, with the clasp hinges *c c*, and an ordinary gate, for the purpose of adjusting said gate at any desired elevation, as herein fully set forth.

2. The combination of the levers F and H with the cords *j j* and side posts M and pitman I, when arranged substantially in the manner and for the purposes specified.

81,078.—Michael Ehret, Jr., Philadelphia, Pa.—*Roofing.*—August 18, 1868.

Claim.—Roofing consisting of granulated slag, scoria, or cinder applied to a cement surface, as set forth.

81,079.—John Elmire, Martic Township, Pa.—*Axle.*—August 18, 1868.—A slot is formed in a stout metallic bed plate through which the bearings enter, and rest against shoulders, for the purpose of giving the greatest amount of resistance to the pressure of the hub against the under side of the wheel.

Claim.—The arrangement of a stout bed plate A, in combination with the prolonged shouldered bearings B B, inserted through the bed plates A, and secured by a nut on a screw end, in the manner shown, when combined with a cylindrical roller C, and inserted in the manner and for the purpose specified.

81,080.—Harry C. Goodrich, Chicago, Ill.—*Tension Device for Sewing Machines.*—August 18, 1868.—The thread passes between two plates secured to the pressure-foot arm, one of which plates is operated by means of a spring acting as a lever, by which the tension is rendered self-adjusting according to the thickness of the cloth.

Claim.—The plates A and C, in combination with the pivoted spring or lever D, and set screw *i*, constructed and arranged to operate with the pressure shank, substantially as specified.

81,081.—N. S. Green, Utica, (Welaunee Post Office,) Wis.—*Snow Plow.*—August 18, 1868.—The upper edges of the mold boards are curved outward and downward, and their side edges are inclined upward and curved outward and upward so as to throw the snow at a considerable distance from the track.

Claim.—The arrangement of the mold boards C C upon a V-shaped skeleton frame, when said boards are provided with scrolls F F upon their entire upper edges, and with beveled fronts, to the rear of which are formed vertical flanges G G, all as herein shown and described.

81,082.—William H. Halsey, Hoboken, N. J.—*Molding Watch Cases and Lockets from Hard*

Rubber.—August 18, 1868.—Cavities are formed in the die in which the case is molded, so that a hinge or other device made of metal can be securely attached to the article molded, without the necessity of rivets or fastenings being applied after the article is removed from the molds.

Claim.—1. The dies, constructed with the cavities 3 3 3′, when made in the form described and shown, for the purpose of molding watch cases and lockets of hard rubber, substantially as herein set forth.

2. As a new manufacture, watch cases and lockets, when made of hard rubber, by means of the herein described dies.

81,083.—Thomas C. Hargrave, Boston, Mass.—*Wheel and Axle for Railroad Car.*—August 18, 1868.—Each pair of wheels is connected together by a hollow axle through which passes a solid axle having attached at each end a circular plate provided with a flange, which fits over a flange of smaller diameter on the outer side of the wheel, so that the one flange will bear upon the other only at one point.

Claim.—The within-described car wheel, with its plate and axles, constructed and operating substantially as set forth.

81,084.—Joseph Haythorn and Charles E. Price, Thomsonville, Conn.—*Alarm for Carding Machine.*—August 18, 1868.—Spring posts, arranged between two pairs of rollers in rear of the feed rolls, and through which the strand passes, are made to operate a bell, through a cord and lever, in the event of the breaking of a strand.

Claim.—The combination of the rolls B and C, spring posts *b b*, cord F, with bolt G, and lever H, with its bell, all arranged substantially as described, and applied to a carding machine, for the purpose set forth.

81,085.—Samuel E. Horner, Shiloh, N. J.—*Thill Coupling.*—August 18, 1868.—The end of the thill forms a snap hook so as to be readily attached to the thill bolt. Between the jaws of the clip is inserted a rubber block hollowed out to fit the snap hook.

Claim.—The clip A, thill D, snap hook E, and the gum block F, when combined as shown and described.

81,086.—C. B. Horton, Sand Bank, N. Y.—*Flour Bolt.*—August 18, 1868.—Air is conducted by spouts or tubes to the interior of the bolt chest, and delivered through a slot so as to strike the surface of the bolt obliquely, so that, while the passage of air is allowed, the escape of flour will be prevented. The rapper consists of a hammer secured to a shaft from which projects a rigid arm that serves to raise a tappet, as the cylinder revolves, to release the hammer.

Claim.—1. The combination of the blast apparatus D E *e*, for supplying air to the interior of the bolt chest, with ventilators F, constructed of any suitable cloth, and arranged substantially as herein set forth, for the purposes stated.

2. The arrangement of spring rappers H I I′ J, mounted transversely upon the exterior of the bolt chest, and operating in the manner and for the purposes specified.

81,087.—A. J. F. Howard, Milford, Mass., assignor to himself and E. Mann, same place.—*Boot Crimper.*—August 18, 1868.—The sides of the movable jaws are made to converge as they approach the shank, for the purpose of preventing the edges of the corner of the "upper" from being bruised or injuriously spread.

Claim.—As my invention, the improved construction of the movable jaw of a boot crimper as made of a tapering or frusto-conical form, in manner and for the purpose as herein explained and shown.

81,088.—John C. Howe, Worcester, Mass., assignor to himself and Thomas Gates.—*Meat Cutter.*—August 18, 1868.—The stationary bed is combined with the frame of the machine in such a manner as to admit of its being readily adjusted as the top of the bed is worn away by the action of the cutters. The bevel gears on the horizontal shaft are smaller than the cutters, so as to cause the latter to be driven more rapidly, and thus produce a drawing and compound cutting motion.

Claim.—1. The combination and arrangement, in a meat-cutting machine, substantially as described, of the vertical cutters *c* and horizontal cutter shafts, in the manner set forth, whereby the said cutters, while revolving around a vertical axis, shall have an independent rotary movement in a vertical plane upon their own axes, so as to produce the compound drawing cutting motion, substantially as specified.

2. The combination, with a cutting bed, and a receptacle for meat or other material, of the central shaft N, horizontal shaft or shafts H, having cutters, *c*, of greater diameter than the gears I I, and arranged for joint operation, substantially as and for the purposes set forth.

3. The combination with the base A and cutting-table or bed G of the disk F and adjusting screws *b*, substantially as and for the purposes set forth.

4. The combination and arrangement of the parts A, F, G, and D, substantially as and for the purposes set forth.

5. The combination with the parts A, B, D, and E, of the operating shaft N and cutting mechanism, substantially as and for the purposes set forth.

81,089.—Henry C. Hulbert and Alonzo Follett, Brooklyn, N. Y.—*Hat.*—August 18, 1868.—A body of stockinet or looped fabric, of the form of the required head covering, is combined with a pliable coating, the two being consolidated by pressure between dies. An embossed coating, containing rubber, may be combined with the body to render the same water-proof.

Claim.—1. The combination of a body of stockinet, of the form of the head covering required, with a pliable coating; the said combination being consolidated by pressure between dies, substantially as before set forth.

2. The combination of a cloth body, of the form of the head covering required, with an embossed coating of India-rubber, substantially as before set forth.

81,090.—Stephen Hull, Poughkeepsie, N. Y.—*Harvester Rake.*—August 18, 1868.—This invention relates to improvements on the single driving-wheel and rigid finger-bar harvesters, having a revolving raking and reeling attachment.

Claim.—1. The intermediate platform E, placed between the grain platform and draught frame, and having mounted upon it the rake and reel post F, substantially as described.

2. The cam plate H, the spur wheel G, and the adjustable journal box C^2, applied upon the post F, in combination with the pinion shaft D and driving wheel B, substantially as described.

3. The closed cam plate H, constructed to operate upon the reel and rake arms, as described, and extended to or nearly to the inner surface of the cam rail K, so as to serve as a top shield for the rake and reel gearing.

4. The cam projection *j′*, arranged as described, in combination with the projections *j* upon the pivoted reel arm hinging portions H^2, substantially as described.

5. The construction of the cam rail K, inner divider L, and the device K′, so that these parts unite and form conjointly a continuous closed shield at the inner front corner and inner edge of the platform, as shown, and thus serve for keeping the loose straw and other obstacles from getting under the cam plate H, as set forth.

6. The combination of the side shield L and the extended closed cam plate H, the same being constructed and arranged substantially as shown and described.

7. The removable apron N applied to the bearing B^1 and cam rail K, substantially as and for the purposes described.

8. Shaft *d*, supported at one end by a sliding bearing c^2, on post F, and connected at the other end to the axle of the wheel B by a coupling box, *h*, in combination with the pinion *e*, and a clutching device, substantially as described.

9. The slotted and pivoted extended brace *s′*, applied on the side of the tongue or pole M, and serving to brace the same, and also serving as a means for raising and lowering the same, in combination

with the vibrating latching-lever T and segment R the whole substantially as herein described.

10. A combined revolving reel and rake, mounted on a support, which is on the intermediate platform E of a harvester, such combined reel and rake having its arms hinged to one head, which revolves independently of the support, and also has its arms guided and controlled by a cam, or cam and guide rail, in their movements over the grain platform, and turned up at intervals to nearly an upright position in rear of their support or axis; the shaft or axis of said reel and rake being vertical, or nearly so, substantially as and for the purpose described.

11. The combination of a vertical shaft, which has its support on platform E of the harvester, a cam guide way and reel and rake arms combined, which revolve independently of the vertical shaft, all substantially as and for the purpose described.

12. The construction of a seat standard, A^6, of a strip or piece of spring metal twisted, substantially as and for the purpose described.

81,091.—AARON HUFF, Swedesboro, N. J.—*Ventilator.*—August 18, 1868.—A vertically and horizontally adjustable and removable funnel is attached to an outlet pipe, and is so arranged that it may be swung into position for use, and also may have its opening closed by merely changing the position of its parts.

Claim.—1. A ventilator, having a swinging foul-air pipe, combined with an outlet or discharge pipe, substantially as and for the purpose described.

2. The above, in combination with an adjustable funnel, substantially as and for the purpose described.

81,092.—NATHANIEL IRISH, Rochester, Minn.—*Attaching Pole Straps to Neck Yokes.*—August 18, 1868.—The pole straps pass through rings in the hames of the harness and slot in the end of metallic loops, which latter engage with a catch on the end of the neck yoke.

Claim.—The pole straps C C and metallic loops B B, when constructed, arranged, and used substantially in the manner set forth.

81,093.—JOHN A. KESTLER, Chicago, Ill.—*Lubricating Oil.*—August 18, 1868.—Composed of crude petroleum, saleratus or sal soda, and brimstone. After the above is boiled and strained, kerosene is added.

Claim.—The oil composed of the ingredients, and manufactured as herein described.

81,094.—WILLIAM O. LESLIE, Philadelphia, Pa.—*Apparatus for Drying Bricks.*—August 18, 1868.—A series of drying chambers are separated from each other by iron folding doors, through which chambers a railroad track is laid. Under one end of the structure is a furnace, and hot air, of increasing degrees of temperature, is introduced successively into the separate chambers.

Claim.—The drying house above described, consisting of the brick building A, having the compartments A^1 A^2 A^3, the furnace F, the hot-air pipes H H^1, the registers h^1 h^2 h^3, the valve doors *a a a*, the doors B B and D D, and the railroad R R, all constructed, combined, and arranged substantially in the manner and for the purpose specified.

81,095.—WILLIAM P. LETCHWORTH, Buffalo, N. Y.—*Machine for Bending Wood.*—August 18, 1868.—A frame or former is provided with a groove or channel made to conform, or nearly so, with the inner beveled edge of the hames, in which frame the hame is retained while being bent. A thin strip of metal is placed on the back of the hames to prevent the wood from breaking or slivering at the edge while being bent.

Claim.—The herein-described device for bending hames, consisting of the former, A, notched at one end, and provided with a hook at the other, and employed in connection with the strip *f*, all constructed and arranged in the manner and for the purpose set forth.

81,096.—ELBRIDGE MANN and A. J. F. HOWARD, Milford, Mass.—*Boot Crimp.*—August 18, 1868.—The teeth of the movable jaw are made of a curved or sectoral shape instead of straight, in order to prevent lateral displacement of the leather between the clasp and movable jaws.

Claim.—The construction of the movable jaw *a*, as having its teeth of a curved or irregular shape, in manner and for the purpose as before described.

81,097.—C. K. MARSHALL, New Orleans, La.—*Station Indicator.*—August 18, 1868; antedated August 6, 1868.—A series of tags, bearing the name of a street or station, is arranged on independent rods, having their bearings at regular intervals in ratchet chains, which pass over rollers in the ends of a rectangular box; the whole being operated by means of a sliding bar, spring, and pawl; the latter engaging, with suitable projections, in an endless chain.

Claim.—1. The endless chain C, when the same is composed of metal plates D and E, so united and arranged as to form the T-shaped ratchet bearing, substantially as and for the purpose specified.

2. The combination of the endless chains C C and tags F F, when the same are constructed and arranged substantially as described.

3. The combination of the chains C C, plate G, pawl I, and spring H, when the same are constructed and arranged substantially as described.

81,098.—JOSEPH McDONALD, Oshkosh, Wis.—*Cant Hook.*—August 18, 1868.—The hook is provided near its pivoted end with projections which act as stoppers, to prevent the hook from falling too far down toward the handle. The stoppers strike against a metal bar secured between the ears of the retaining band.

Claim.—The combination of the hook B and its stoppers E E with band D, bar F, and the handle A, the several parts being constructed to operate substantially as described.

81,099.—WILLIAM C. McGOWAN and J. MADISON HALE, Georgia Plains, Vt.—*Fly Net for Window.*—August 18, 1868.—A bag of tapering form is attached to rods affixed to brackets on the outside of a window. The mouth of the bag is placed in the open part of a window and flies are driven into the same. A flap hanging below the mouth of the bag is made to close the same and thus secure the flies in the bag.

Claim.—A bag of netting, B, extended over the frame *b b*, &c., over the upper portion of a window, and provided with the flap C, for closing the mouth, as and for the purpose described.

81,100.—JOE V. MEIGS, Washington, D. C.—*Breech-loading Fire-arm.*—August 18, 1868; antedated August 5, 1868.—Designed as an improvement on his patent of May 22, 1866. The breech block slides loosely in an oblong slot in front of the breech plug, and is controlled by a bent lever pivoted to the guard plate. A hook on the upper end of the link serves to extract the cartridge. A sliding guard is connected with the breech block and lever, and the gun is loaded by two simple movements.

Claim.—1. The loose breech block D, constructed, arranged, and operating as and for the purposes described.

2. The bent lever or link E, constructed, arranged, and operating as and for the purpose described.

3. The hook e^3, constructed as described, and vibrating in a vertical plane, to push in the cartridge as the breech is closed, and hooking over the edge of the cartridge shell as the breech is opened.

4. A cartridge inserting and extracting lever, having three movable fulcra or working pivots, substantially as described.

5. The combination of the sliding guard, the vibrating lever E, and the breech block, all constructed and arranged for joint operation as described.

6. The combination of a vertically-sliding horizontally-slotted breech block, with a vibrating lever, having a pin working in the slot of the breech block, whereby the block is held up to close the breech securely without strain on the lever.

7. The combination, as described, with the hammer of the vertically-moving loose breech block, constructed as described, whereby the block can be used as a firing pin.

81,101.—WILLIAM M. NEWTON, Baltimore, Md., assignor to himself and JOHN E. ARMENDT, same place. — *Brush.* — August 18, 1868. — Relates to trenches or pencils used for painting the seams in hulls of vessels, for the white striping of brick walls, &c. This construction admits of readily replacing the bristles when worn.

Claim.—The improved trencher brush, consisting of the combined handle and frame A, made of a single piece of metal, and the plate B secured thereto, as herein shown and described.

81,102.—JAMES OHLEN, Columbus, Ohio.—*Attaching Handle to Saw.*—August 18, 1868.—Removable handle attachment for large cross-cut or log saws, whereby the socket which receives the handle is secured to the saw in a more substantial manner.

Claim.—1. The construction of the socket B, jaws B^1, and slotted or split screw bolt B^2 in one piece, substantially as shown and described.

2. The slotted washer E, in combination with the nut D, bolt B^2, jaws B^1, and socket B, substantially as described.

81,103.—GERRIT V. ORTON, and WILLIAM H. DOANE, Cincinnati, Ohio. — *Machine for Wiring Window Blind.*—August 18, 1868.—The outer end of the feed arm is depressed by the action of the driver after discharging a staple, and, upon being relieved by raising the driver, is thrown upward into a sufficiently inclined position to allow the staples to move downward by gravity preparatory to the succeeding action of the driver.

Claim.—The feed bar d, when so pivoted and arranged that it will be depressed by the action of the driver b, substantially in the manner and for the purposes herein set forth.

81,104.—J. B. PATTERSON, Portage City, Ohio, —*Compound for Preserving Eggs.*—August 18, 1868. —The eggs are covered with a solution of potash, sal-soda, sugar, vinegar, and oil.

Claim.—The herein-described compound, composed of the ingredients substantially as set forth, for the purpose specified.

81,105.—HENRY F. PHILLIPS and HENRY W. LEONARD, Auburn, N. Y.—*Machine for Grinding the Cutter of Mowing Machine.*—August 18, 1868.— The stone is fed up to the sections while the cutter bar sections are rigidly held, or the sections are presented to the stone while the stone is rigidly held. The frame is susceptible of a rocking or rolling motion, for adjusting the dip or inclination of the stone, and of a sliding motion to fix the position of the stone.

Claim.—1. In combination with the curved or hollowed out block B, the rocking and adjustable bearer c, for adjusting the shaft of the grindstone, substantially as and for the purpose set forth.

2. In combination with the shaft D and its stone E, the collar e and arm g, so that the stone may be fed and held up to the sections by a positive and unyielding feed, or be held rigid by said arm, substantially as and for the purpose described.

3. The combination of the table or arcs I I′, with the holder G, for guiding, holding, and gauging the inclination of said holder, by devices connected therewith, substantially as described.

4. In combination with a fixed position of rotation of the stone, the screw q, as a feeding screw, to feed the section to the stone and rigidly hold it against jar or motion, and thus prevent the stone from wearing out of round, substantially as described.

81,106.—JOEL PUTNAM, Danvers, Mass.—*Shoe.* —August 18, 1868.—The two flaps prevent extraneous matter from working into the shoe at either side of the lacing slit.

Claim.—As my invention, the new or improved manufacture or shoe as made with two flies applied and fastened along the sides of its lacing slit, and formed so as to overlap one another under circumstances as specified.

81,107. — GEORGE P. REED, Boston, Mass.— *Watch.*—August 18, 1868.—Affords ready access to the spring and click of the winding ratchet, for the purpose of letting down the main spring, preparatory to taking the watch apart.

Claim.—Forming an orifice in the top on stop works plate of a watch, and partially or wholly surrounding the winding arbor thereof, such orifice being disposed above or opposite the main wheel and winding ratchet, and the spring and click of the latter, essentially in manner and to operate as herein shown and described.

81,108.—JACOB REICHARD, Fayetteville, Pa.— *Cultivator.*—August 18, 1868.—The cultivator teeth are attached to a frame whose front cross bar is grasped by a bifurcated arm projecting from a roller, which latter may be partially rotated by a lever, so as to throw upward the front and depress the rear of the frame, and thereby bury the teeth in the ground, any position of the lever being maintained by notched stationary plates.

Claim.—An improved cultivator, arranged, constructed, and operating substantially in the manner as shown and described, and for the purpose set forth.

81,109.—EDWARD SABINE RENWICK, New York, N. Y.—*Grate for Hot-Air Furnace.*—August 18, 1868.

Claim.—The combination of the following instrumentalities, viz, the fire box, two gangs of grate bars, the members of one of which are reciprocatable longitudinally relatively to those of the other, a rock shaft, with which the grate bars are connected, so that they may be tipped, and a grate-bar mover, connected with one gang of grate bars in the vicinity of the axis of the rock shaft, all operating substantially as before set forth.

2. The combination of the following instrumentalities, viz, the fire box, two gangs of grate bars, having the relationship aforesaid, the rock shaft, on which the grate may be tipped, the grate-bar mover, connected with one gang of grate bars in the vicinity of the axis of the rock shaft, and a lever handle, arranged at the exterior of the ash pit, substantially as before set forth.

81,110.—CHARLES F. RICHERS, New York, N. Y.—*Harness Rosette.*—August 18, 1868.—The fringe holder being inserted in the rosette, springs to the position which insures its retention.

Claim.—The employment of the detachable fringe holder D, in combination with the rosette, provided with the spring G, substantially as and for the purpose herein stated.

81,111.— EZRA RIPLEY, Troy, N. Y. —*Screw Handle Attachment.*—August 18, 1868.—The conical shank is firmly secured to the bowl of the spoon or dipper, by soldering or otherwise.

Claim.—The conical shank B, or its equivalent, having the screw C on one end thereof, for the purposes of connecting wooden or other handles to spoons, bowls, or other culinary vessels, substantially in the manner and for the purposes herein described and set forth.

81,112.—HENRY J. RUGGLES, Poultney, Vt.— *Slate Trimming Machine.*—August 18, 1868.—This invention is based upon the discovery that by bringing an additional cutting edge into operation before the first-applied cutting edge has passed entirely through, so as to cause the two cuts to meet at some distance from the edge, no liability to chip or break off the corners is incurred.

Claim.—The arrangement of the cutting edges f and g of the moving knife, so as to cut from both opposite edges of the slate, and cause the cut to terminate at a distance from either edge, substantially as and for the purpose herein specified.

81,113.—JOHN SALSBURY, Central Falls, R. I.— *Loom.*—August 18, 1868.—The object is to lessen the shock and strain which the various parts of the loom receive whenever the shipping mechanism is brought into instant use by reason of the loom failing to perform its functions in a proper manner.

Claim.—1. The protecting pin a, constructed as described, with a rubber packing, b, or spiral spring, and slide or pin *c*, substantially as and for the purposes specified.

2. The combination of the barrel C, Fig. 3, rubber packing D, and piston E, in combination with the breast beam, in the manner and for the purposes specified.

3. The combination of the rod F, cylinder H, and spiral spring or rubber packing, constructed and arranged substantially as described, for the purposes specified.

4. The combination of the device shown in Fig. 2, the frog or shoe L, and the breast beam, in the manner described, and for the purposes specified.

81,114.—AMOS SARGENT, Brewer, Me.—*Steering Apparatus.*—August 18, 1868.—The elastic guard constitutes a track for the pinion, so that when the apparatus is in motion any obstacles which may be lying upon the deck are easily overridden in consequence of the vertical movement of which said guard is susceptible.

Claim.—The curved and elastic guard *f* applied to the rack *d* and pinion *c'*, as and for the purpose set forth.

81,115.—GEORGE F. SMITH, Plantsville, Conn. —*Carriage-Axle Coupling.*—August 18, 1868.—The cylindrical enlargement of the king bolt at its base, in connection with the socket piece or cup of the upper bed plate, is designed to afford additional strength at the center of the axle.

Claim.—The combination of the bed plate *c*, with clips *a a* joined to it, so as to embrace the axle at its middle.

2. The bed plate *c*, the king bolt E, and the middle clips *a a*, as joined together in one piece.

3. The arrangement of the ends of the bed plate within the clips *d d* of each pair of the sweep clips, when such bed plate, the middle clips, and the king bolt are joined together in one piece, as set forth.

4. The king bolt, its cylindrical cup base, the bed plate, and middle clips, as joined together and applied to the axle, as set forth.

81,116.—CHARLES F. SPENCER, Rochester, N. Y.—*Fruit Jar.*—August 18, 1868.—The stopper is held in forcible contact with the gasket by means of the cross yoke bearing upon the mouth of the jar. By thus sealing the jar from the inside, the stopper can be easily removed by loosening the clamp, when the stopper is forced down by the pressure of the atmosphere, and may be readily withdrawn.

Claim.—The combination of the annular recess C, provided with shoulders *a d* and stopper B, formed with its upper edge beveled or cone-shaped, and central lug *e*, or its equivalent, with the cross rod *g*, inclined bearings *i i*, and gasket *b*, arranged and operating substantially as and for the purposes set forth.

81,117,—EDWIN R. STILWELL, Dayton, Ohio.—*Feed Water Heater for Boilers.*-August 18, 1868.-The disk causes the water to descend in a thin sheet, but before it reaches the first or upper shelf the steam issuing from the top of the steam pipe dashes it in the form of spray toward the walls of the case. The water falls from shelf to shelf through openings near the pipe, and meeting a fresh current of steam at each opening it is separated into spray, and heated and freed from lime and other matter which are deposited upon the shelves.

Claim.—1. A distributing disk, located above the series of shelves, to receive and distribute the water from the induction water pipe, substantially as described.

2. A series of shelves to check the flow and receive the impurities of water, in combination with a steam pipe or pipes, arranged substantially as described, and provided with a series of orifices for introducing the steam at different levels, so as to bring several currents of steam into fresh and simultaneous action upon the water, substantially as described.

3. The induction steam pipe H, entering below the series of shelves, and provided with a series of openings for the escape of steam, substantially as described.

4. The dripping troughs *h h*, arranged substantially as and for the purpose described.

81,118.—JACOB STONE, Belvidere, N. J., assignor to himself and ABRAM F. RANDOLPH, Washington, D. C.—*Grate of Railroad Car Stove.*—August 18, 1868.—A horizontal lever is connected with the grate post beneath the ash chamber, and receives a handle by which the grate may be rotated reciprocally in a horizontal plane to shake down the ashes, or turned far enough to be allowed to tilt, to discharge the contents of the fire box.

Claim.—1. The combination, with a car stove grate, of a central post arranged to be turned in its bearings, and to which the grate is centrally hinged, substantially as and for the purpose set forth.

2. The combination of the grate with the central post, when the latter extends downwards through the ash chamber, and beyond its bottom plate, and is supported in the latter, so that the grate may be agitated or upset, substantially in the manner set forth.

81,119.—ISAAC VANDERSLICE, Philadelphia, Pa. —*Milk Can.*—August 18, 1868.—This invention is intended to provide a strong bottom, and enable the can to be rolled upon its lower edge without being bent or otherwise injured.

Claim.—The cast-iron milk-can bottom B, having the upward and downward projecting flanges b^1 b^2, the latter having an external beveled surface, to form a thread upon which to roll the can, as set forth.

81,120.—JOSEPH SCOTT VANHORN and WILLIAM H. PACK, Jersey City, N. J.—*Spring Slat Bed Bottom.*—August 18, 1868.—The end pieces may be shifted toward or away from the extremities of the bed bottom for the purpose of adapting the slats to sustain more or less weight. The slats rest upon the springs, and the springs are free to yield and descend under pressure.

Claim.—1. The spring *a*, constructed substantially as shown and applied as a central bearing for a bed slat, in the crown of its arch, substantially as set forth.

2. The combination, with the springs *a* and the arched slats, of the adjustable pieces *f f*, arranged to be shifted in the side pieces, substantially as and for the purpose described.

3. The combination of the rods *c* and hooks or clasps *k*, with the slat and its central supporting spring, substantially as and for the purpose described.

81,121.—WILLIAM H. WHITEROW, New Albany, assignor to himself and WILLIAM DETRICK, Greencastle, Ind.—*Corn Sheller.*—August 18, 1868. —The bars at the rear of the upright are forced together by springs and have projecting fingers which hold the ear and prevent it from turning as it is shelled and fed through the sheller.

Claim.—1. The shelling lips *c* and spiral feeding edges *d*, the pivoted bars H H, and the wheel G, all constructed and arranged substantially as and for the purposes specified.

2. The bars J J, at the rear of the upright A, in connection with the bars H, provided with the shelling lips and feeding edges, all arranged substantially as and for the purpose specified.

3. The tube F, in combination with the bars J J, bars H H, and the wheels E G, all arranged and combined to operate in the manner substantially as and for the purpose set forth.

81,122.—CHARLES HENRY WHITEMORE, Lewiston, Me.—*Medical Compound.*—August 18, 1868.—A liniment for rheumatism. Essential oil of turpentine, linseed oil, saleratus, tincture of lobelia, and tincture of balm of Gilead.

Claim.—The combination of the three ingredients herein first named, also their combination with either or both of the others.

81,123.—WILLIAM L. WILLIAMS, New York, N. Y.—*Machine for Splitting Kindling Wood.*—August 18, 1868.—The feeding rollers act upon the ends of the pieces of wood to move them forward in a trough at the time when the splitting knives are raised above the wood, thereby causing the feed and the knives to alternate in their action. The steadying bars hold up the pieces of wood as they are split, but yield to the wood as it is spread by the entering of the knives.

Claim.—1. A pair of feeding rollers, *m n*, moved progressively when the splitting knives are out of the wood, in combination with the said splitting knives, and trough in which the wood is moved along by said rollers, and supported while being split, substantially as specified.

2. The spring steadying bars *n'*, in combination with the feed rollers *m n*, and splitting knives *f*, as and for the purposes specified.

81,124.—ALBERT A. YOUNG, Boston, Mass., assignor to himself and FRANCIS MCLAUGHLIN, same place.—*Street Car Lantern.*—August 18, 1868.

Claim.—1 The construction and arrangement of the lantern B, adjusted upon the roof of the car A, by suitable fastenings, whereby the light from a single lamp, reflected as described, will both light the car and indicate its destination, substantially in the manner and for the purpose described.

2. The construction and arrangement of the signal light *c*, inserted in the lantern B, at each end, substantially in the manner and for the purpose described.

3 .The ventilators *b b*, as constructed and arranged, with wire netting, or its equivalent, upon the sides of the lantern B, substantially as described.

4. Lighting street cars from the center of the roof of the car by means of a lamp or other light, hung in a lantern provided with reflecting surfaces, said lantern being raised above and fastened upon the roof of the car, substantially as described.

81,125.—ENOCH J. ALLEN, Rondout, N. Y.—*Scow.*—August 18, 1868.—A method of constructing scows with a view to strengthen the same, and enable them to sustain heavier loads.

Claim.—The combination of the cross keelsons and beams H I, transverse trestles J, and longitudinal trestles G, arranged, as described, in a scow, whereby the cross keelsons support the transverse trestles, and the latter support the longitudinal trestles, as herein shown and described.

81,126.—EMANUEL ANDREWS, Williamsport, Pa.—*Saw-Grinding Machine.*—August 18, 1868.—The blade is placed in position upon the reciprocating bed and beneath the rollers, the force of the levers being then exerted to arise the bed and cause the blade to bear against the rotating grindstone. The rollers confine the blade and its supporting plate to the bed.

Claim.—1. The combination of the sliding bed F, grindstone Q, and two rollers 4 4, when the latter are geared to and their circumferences are caused to traverse at the same speed as the bed, substantially as described, for the purpose specified.

2. The combination of the traversing bed, the frame E, and the system of levers herein described, or the equivalent to the same, whereby a yielding upward pressure is applied to elevate the said frame and bed.

3. The combination of the said traversing bed, the frame E, the system of levers herein described, or their equivalents, and the set screw *m*, or its equivalent, whereby the extent of the upward movement of the said bed may be limited without preventing the bed from yielding when necessary.

4. The combination of the traversing bed, the grindstone spindle, and its bearings, when the latter admit of separate vertical adjustment as described.

5. The combination of the grindstone spindle, the operating screw P, and the devices or their equivalents connected therewith, for the purpose of imparting a lateral motion to said grindstone.

81,127.—EDWIN R. BAKER, Fairhaven, assignor to himself and JOHN R. LINTON, New Bedford, Mass. —*Wagon Hub.*—August 18, 1868.—The butts of the spokes are in contact with each other, and hence completely fill the annular space between the two parts of the hub.

Claim.—1. The metallic hub, cast in two hollow parts, with the part B cast upon the box D, both parts being fitted together as described, to clasp the ends of the spokes C between them, as set forth.

2. The metallic hub, when its hollow shell B is cast upon and with the box D, as herein described for the purpose specified.

81,128.—PHILANDER BAKER, Chicago, Ill.—*Lamp Burner.*—August 18, 1868; antedated August 5, 1868.—In one side of the tube which is screwed into the reservoir is an opening through which oil may be poured into the lamp, upon removing, with the burner, the tube which closes said aperture.

Claim.—1. The combination of the tubes B D, and the sectional or divided wick tube C C', arranged and operating as and for the purposes described.

2. The combination of the tubes B D, plate E, standards *c*, or their equivalent, and the perforated plate F, substantially as specified and shown.

3. The combination of the tubes B D, divided wick tube C C', plate E, standards *c*, and perforated plate F, arranged and operating substantially in the manner and for the purposes set forth.

81,129.—ANDREW B. BARNARD, SHERMAN R. NYE, and RICHARD L. HEWETT, West Fitchburg, Mass. — *Harvester.*—August 18, 1868.—The compound lever is connected by a chain to another cam which is operated by a lever under control of the driver to raise the cutters.

Claim.—The combination of the compound lever *e f*, the cam lever *g*, with the cam lever *i*, and foot lever *l*, or their equivalents, substantially as and for the purpose set forth.

81,130.—JAMES B. BOWEN, CLEANTHUS A. REED, and CHARLES A. WHELAN, Madison, Wis.—*Harvester Rake.*—August 18, 1868.—The rake is reciprocated by means of the grooved wheel and vibrating lever. As the rake moves in one direction, it lies horizontally upon the platform to sweep off the grain; but, in finishing this movement, the heel of the rake is depressed by a spring, and made to enter a groove in which it traverses during the return movement of the rake, the effect being to hold the rake out of contact with the platform.

Claim.—1. The rake F, mounted on the rod G, in combination with the guide board L, having the groove P formed therein, and the spring H, all constructed and arranged to operate substantially as described.

2. The combination of the wheel A, having the groove B formed therein, as described, with the lever D, pivoted to the standard M, having the arm T attached, for operating the rake, substantially as set forth.

81,131.—THOMAS H. BOWERMAN and CALVIN J. DART, Cold Water, Mich.—*Sash Fastening.*—August 18, 1868.—The catch plate vibrates upon a pivot, and the spring acts constantly to project it through the slotted plate and hold it in engagement with the notched sash. By means of the sliding pin and knob the catch plate may be drawn back flush with the slotted plate to permit the sash to be moved freely.

Claim.—The window-fastener, as constructed, with the slotted plate A, catch B, spring D, and arm *c*, as arranged in combination with the sliding pin *e* and knob C, for operating the same, substantially in the manner as and for the purposes herein set forth.

81,132.—WILLIAM A. BRICKILL, New York, N. Y.—*Feed Water Heater for Steam Fire Engines.*—August 18, 1868.—A water heater is combined with a steam fire engine in such a manner that water has to pass through the same and become heated on its way to the boiler, the object being to expedite the production of steam.

Claim.—The combination with a steam fire engine of a heating apparatus, constructed substantially as described, and for the purposes fully set forth.

81,133.—LEONARD C. BRIGGS, Boston, Mass.—*Left-Off for Loom.*—August 18, 1868.—The disk revolves upon and traverses the fixed screw in such a manner as to cause a spring, which it acts against, to react upon the spindle of the beam, and thus to produce friction and check the revolution of the beam.

Claim.—1. The combination and arrangement of the wheel L, the screw arm D, the spring S, and friction disk F, working substantially as described, and for the purpose set forth.

2. The combination and arrangement of its pinion P, spur wheel O, shaft I, barrel pinion K, wheel L, the screw arm D, spring S, and friction disk F, working substantially as described, and for the purpose set forth.

81,134.—Paul M. Burns, Freetown, Mass.—*Wash-Boiler.*—August 18, 1868.—The arms prevent the clothes from rising as the water is showered upon them.

Claim.—The cylindrical sprinkler C', applied to a wash boiler, and provided with holes *a'* on the lower half of its surface, and arms D', for holding down the clothes, the whole arranged and operating substantially as described.

81,135.—Nelson G. Burr, Homer, N. Y.—*Carriage Top.*—August 18, 1868.—By moving the handle toward the center of the carriage body, both catches may be released at once, to let the top down to the position in which the bow or standards rest upon the back rail.

Claim.—1. Supporting the top of a carriage with a single bow or pair of standards, substantially as described.

2. In combination with a single bow supporting the top of the carriage, the stands to which the bow is pivoted, so as to be raised or lowered.

3. Hanging the single bow or pair of standards which support the top of the carriage on pivots, so that it may be raised or lowered as desired.

4. Extending the ends of the bow beyond the pivots on which it swings, to serve as a means of locking the bow below the pivot when the top is raised, substantially as described.

5. The spring catches for locking the bow or standards of the top in position when it is raised.

6. In combination with the spring catches K K, the lever or handle and the link Q, which connects the catches, so as to release them both at once by moving the lever or handle P.

7. In combination with the single bow supporting the top, the bars I I and ribs J, which support the covering, substantially as described.

81,136. — Car Carpenter, Buffalo, N. Y.—*Method of Generating Gas from Petroleum.*—August 18, 1868.—A condenser is used in connection with the boiler for collecting surplus vapor and condensing it into its original form, in case vapor is generated in the boiler quicker than the retorts can convert it into gas, in consequence of the occasional variation of the heat required for the respective processes.

Claim.—1. The method herein described of generating illuminating gas from crude petroleum or other impure liquid hydrocarbons, consisting in, first, vaporizing the same, by subjecting a body thereof to a low boiling heat in a boiler, and then converting said vapor into a fixed gas, by subjecting it to a high heat in a separate retort, substantially as described.

2. In combination with the boiler A, constructed and operating as described, a condenser, E, substantially as and for the purpose described.

3. In combination with the boiler A, constructed and operating as described, the steam or vapor gauge *a'*, substantially as and for the purpose specified.

81,137.—Car Carpenter, Buffalo, N. Y.—*Apparatus for Heating Railroad Cars.*—August 18, 1868.—When the cars are in motion, the steam pipe is closed, or nearly so, and the fan set in operation, to force air through the furnace-pipe and register into the different cars. The air may be moistened by the admission of a small amount of steam. In case of a detention of the cars, the air pipe near the fan is closed by a valve, the other air valves are closed, and, the steam valve being opened, steam is forced through the coil in the heater, and into the radiators.

Claim.—The combination and arrangement of the steam pipe K, fan E, valve S, furnace D, conducting pipe F, branches H H', provided with valves *j j'*, and register and radiator I I', adapted for the use of steam and hot air alternately or together in heating a train of cars, substantially in the manner set forth.

81,138.—William Carpenter, Fairbury, Ill.—*Braiding Attachment for Sewing Machines.*—August 18, 1868.—The braid is so guided that it may be sewed to the cloth in the middle or at either edge, and twisting and kinking of the braid is avoided; the view of the marks on the cloth is unobstructed by the braid, as it is fed to the machine.

Claim.—1. The combination, with a sewing machine, of the braiding attachment herein described, consisting of the braid reel, braid foot, and pivoted guide fingers, substantially as and for the purpose described.

2. The combination, with a sewing machine, of the braid foot and pivoted guide fingers, substantially as herein shown and described.

3. The combination, with the braid foot, of the guide fingers H H and guide rod I, substantially as and for the purpose described.

81,139.—William Caven, Cincinnati, Ohio.—*Stove Grate.*—August 18, 1868.—The grate may be shaken horizontally about its axis, to precipitate the ashes, or, by a slight change of location, it may be tilted into a vertical position for the purpose of dumping the spent fuel into the ash pit.

Claim.—1. The combination of the grate D, provided with a central socket E, handle G, and pivot H, the bar C, provided with the central stud F and extension *c*, and the slots or recesses I *b'*, all arranged and employed substantially as described for the purposes specified.

2. In combination with the elements of the preceding clause, the stop J, for the purpose explained.

81,140.—William E. Clark, Boston, Mass.—*Cutting Printers' Leads.*—August 18, 1868.—When the movable cutter descends and commences to sever a lead, said cutter presses the lead against the guide for the purpose of effecting an accurate cut. The shelf supports that portion of a lead which is to be severed from a main stock, preventing it from being bent by its own weight or other cause, when projected forward between and beyond the movable and stationary cutters.

Claim.—1. The arrangement of the guide *b*, shelf *n*, a movable and stationary cutter, and slot E, substantially as and for the purpose described.

2. The arrangement of the graduated scale I, the adjustable gauge H, the movable and stationary cutter, and a guide *b*, when constructed and operated as and for the purpose set forth.

81,141.—Charles Clarke, Coral, Ill.—*Carriage Wheel.*—August 18, 1868.—Designed as an effective means of securing the spoke to the hub, and bracing the wheel against dishing.

Claim.—The brace C, having the shoulder *d* and spur *f*, all constructed as described, and applied to a wheel, substantially as and for the purpose set forth.

81,142.—John N. Clarke, Cincinnati, Ohio.—*Horseshoe.*—August 18, 1868.—The device is susceptible of adjustment, so that it may be applied to shoes of various sizes.

Claim.—The detachable calk for horseshoes, consisting of the inwardly-curved bars B C, calks *b b' c c'*, retaining screw D, and clips E either with or without the spurs *e*, substantially as herein described and set forth.

81,143.—Porter Cook, Baltimore, Md.—*Sheet Metal Can.*—August 18, 1868.

Claim.—An angular sheet metal can, having some or all of its sides provided with depressions *a a'*, of increasing depth, forming inward convexities, for the purpose of preventing the bulging outward of said parts by pressure within the can, substantially as described.

81,144.—William F. Cornell, Adrian, Mich.—*Surface Gauge.*—August 18, 1868.—A surface gauge for machinists, so constructed that by the employment of a single adjustable screw, the surface and scribing points may be held in any desired position.

Claim.—1. The T-headed arbor H, having a semi-cylindrical head, and semi-spherical staple *o*, in combination with the T-ended collar N, with its concave and semi-cylindrical end, for the purpose of forming a clasp, all constructed in the manner and for the purpose set forth and described.

2. The conical-shaped washer *b*, and feather *c*, in combination with the clasp E, nut D, and T-headed arbor H, constructed in the manner set forth and described.

81,145.—William F. Cornell, Adrian, Mich., assignor to himself and Silas Hurlbut, same place. —*Ratchet Brace.*—August 18, 1868.—A ratchet brace for drilling, countersinking, and counterboring, to be used by machinists, boiler makers, and others. By the use of one screw-ring cap and pinch screw either the ratchet-drill shaft or ratchet-countersink shaft can be secured in the ratchet brace.

Claim.—1. The combination of the socketed arm B, ratchet wheel J, and shaft C, and feed screw I, substantially as and for the purpose set forth.

2. The combination of the screw-ring cap E with the cylindrical socket A, and ratchet shaft C, substantially as and for the purpose set forth.

3. The combination of the counterbore K or countersink M with ratchet shaft C, wheel J, the cylindrical socket X, shank V, feather *c*, and seat *t*, for the purpose as set forth and described.

4. The combination of the thumb nuts *n* and *o* with spindle L, constructed in the manner and for the purpose as set forth and described.

81,146.—L. W. Cushing and Stillman White, Waltham, Mass.—*Vane.*—August 18, 1868.—Consists in making a casting which constitutes a strong frame to which the other parts may be attached, and contains the contour or distinguishing features of the design. The convex side-pieces, to give fullness to the figure, are attached to said outline casting.

Claim.—In the construction of vanes, the cast-metal outline, in combination with the plates forming the sides, substantially as described and for the purpose set forth.

81,147.—Isaac W. Dean, Franklin, Conn.—*Mode of Preserving the Roofs of Buildings.*—August 18, 1868.—The roof is saturated with the preserving material whenever it rains, the water percolating through the preserving substance and carrying the soluble part thereof with it as it runs down upon the roof.

Claim.—Saturating the roofs of buildings with preserving material by means of a receptacle, or its equivalent, placed at or near the top of the roof, said receptacle containing the preserving material, substantially as described and for the purpose specified.

81,148.—J. H. Dickson, Alford, Ind.—*Plow.*—August 18, 1868.—The ends of the plate are bent up and slotted, and secured to the beam by bolts, so that it may be adjusted to change the depth of penetration of the clod-cutting knives.

Claim.—The adjustable plate C, and the curved knives D D, when used in combination with a shovel or other plow, B, and its beam A, the several parts being constructed and arranged substantially as and for the purpose herein set forth.

81,149.—Abraham D. Ditmars, Lancaster, Pa. *Mode of Preparing Coal Dust for Fuel.*—August 18, 1868.—A proper proportion of flour of sulphur is incorporated with the coal dust, and sufficient water is added to give the mass the consistency of mortar.

Claim.—Preparing coal dust for fuel, substantially as herein shown and described, and for the purposes set forth.

81,150.—Charles Dixon, Weedsport, N. Y.—*Fastener for Vehicle Seat.*—August 18, 1868.—The effect of moving the eccentric lever downward is to throw the tower end of the hook lever outward and upward, thereby clamping the bar or cleat of the box and securing the seat in place.

Claim.—The cam or eccentric D, lever E, lever hook F, and ears C, constructed and combined with each other, substantially as herein shown and described, and for the purpose set forth.

81,151.—George Dorn, Albany, N. Y.—*Egg Carrier.*—August 18, 1868.—Cages to receive the eggs, hold them upright, and keep them out of contact with each other, are formed by cord, twine, or rubber strips, rove through the ends and sides of the frame, and traversing the interior of the same in opposite directions.

Claim.—The cords *c' c'' c'''*, of twine, rubber, or their equivalents, as described, woven and arranged substantially as described, for the purpose specified.

81,152.—Rachel Feibelman, Columbus, Ind. —*Compound for Curing Felons and Similar Diseases.*—August 18, 1868.—A mixture of lye, decoction of camomile and alcohol.

Claim.—The composition of matter compounded from the ingredients, and substantially in the manner set forth.

81,153.—William G. Goodale, Centralia, Ill. *Fruit Crate.*—August 18, 1868.—The object is to admit air freely to the fruit, and enable the latter to be transported over rough roads without being bruised.

Claim.—The fruit crate above described, consisting of the box A B, loose plates C G, springs D S, and boxes F F^1 F^2, constructed and arranged in the manner described.

81,154.—Charles Frickert, New York, N. Y. —*Machine for Covering Molds for Tassels.*—August 18, 1868.—The spools and guides may be readily adjusted to correspond to the taper of the mold to be covered. The wires pass through the guide hooks, and the threads slide over the outer surfaces of the barbs of the hooks, in such a manner that the threads are deposited on the wires before the same reach the mold.

Claim.—1. The movable bracket O, in combination with the flier F, carrying the spools E and guides *i*, substantially as and for the purpose set forth.

2. The hooks *i*, forming guides for the wires *e*, on their passage to the spindle C, and also for the threads, as the same are deposited on the wires, substantially in the manner herein shown and described.

3. Depositing the threads on the wires *e* before the same reach the mold, substantially as and for the purpose set forth.

81,155.—Addison C. Fletcher, New York, N. Y.—*Grate Bars.*—August 18, 1868.—The spaces between the fuel points admit air to the incandescent fuel, and afford an escape for dust and ashes from the fire bed. Provision is made for economically renewing the fuel points, and the construction is such as to afford a proper grate surface, with a copious supply of air.

Claim.—1. A grate bar, constructed or provided with separated fuel points of a detachable character, and so that the same may be readily fitted to and retained by the main portion or body of the bar at suitable fixed distances apart, leaving air ducts or spaces between them, substantially as specified.

2. In combination with the main portion or body A of the bar, the loose or detachable points B, when constructed so as to leave air spaces of an enlarged or enlarging capacity in a downward direction between them, essentially as herein set forth.

3. The combination, with the body portion of the bar, of detachable separated fuel points, having air ducts or passages through them, substantially as specified.

81,156.—F. G. Floyd and E. A. Floyd, Macomb, Ill. —*Stirrer for Seed Sowers.*—August 18, 1868.—Insures the regular delivery of the grain to the discharge aperture by preventing clogging and packing.

Claim.—The rotating arm D, attached to the shaft C, as shown and described, and arranged to revolve within the hopper B, for the purpose set forth.

81,157.—Norman Fountain, New York, N. Y. —*Means for Stopping Horses.*—August 18, 1868.—The pressure of the pads upon the nostrils causes the horse to open his mouth to breathe, and thereby loose the hold of the bit with his teeth. When the rein is released the spring relieves the horse's nose from the action of the pads. The lever, when the reins are hitched to it, swings so as to place one of its ends between the wheel spokes.

Claim.—1. The spring *e*, carrying the pads *g*, and adapted to passing across the horse's nose, in combination with the metallic slides *d*, introduced in the headstall, and with the rein *f*, attached at the back ends of said spring, the parts operating in the manner and for the purposes set forth.

2. The lever *h*, fitted as specified, in combination with the reins, for the purposes set forth.

81,158.—Herbert E. Fowler, North Branford, assignor to himself, J. W. Bishop, D. P. Calhoun, and L. Cowles, New Haven, Conn.—*Harvester.*—August 18, 1868.—The cutters are operated by a toggle joint actuated from the driving shaft. A single revolution of the shaft, or one full movement of the toggle joint, imparts two movements to the cutter.

Claim.—The arrangement of the eccentric M, or its equivalent, upon the driving shaft, in combination with the toggle joint O and P, lever R, arm C, and bell crank S, so as to operate substantially in the manner herein set forth.

81,159.—D. A. T. Gale, Poughkeepsie, N. Y. —*Roaster for Nuts.*—August 18, 1868.—A rotary cylinder is confined in a hot air case, and provided with gas burners. A warming apparatus, to which the tube that supplies gas to the roasting apparatus is connected for supplying heat thereto, is so arranged that, after the nuts have been roasted and placed in the said warming apparatus, the flow to the roasting burner may be stopped, while that to the warming apparatus continues.

Claim.—1. The described arrangement of the perforated case A, having the hinged cover B, the rotating cylindrical heater C, gas pipe G I, provided with burners, case K, heating chamber L, and hot air chamber M, as herein described for the purposes specified.

2. The arrangement of the gas pipe G I, having the burners and cocks, with relation to the roasting cylinder C and warming apparatus K, whereby heat is applied to C K simultaneously or alternately, as herein described for the purpose specified.

81,160.—Harry C. Goodrich, Chicago, Ill.—*Tuck Creaser for Sewing Machine.*—August 18, 1868. —The notch is made to always engage properly with the point or spur, the notch and point maintaining the same relative positions whether narrow or wide tucks are being made.

Claim.—The spring E, when provided with a permanently attached notch *f*, which is always in position in relation to the point or blade *b*, whatever the position of the plate A may be, in combination with the spring arm D, all constructed and operating substantially as specified.

81,161.—John W. Griswold and Edgar L. Thomson, Philadelphia, Pa.—*Grate Bar.*—August 18, 1868.—A non-conducting material, such as plumbago, fire clay, or gypsum, is employed as a fixed core upon which the iron grate bar is cast. The conical holes form air passages to keep the bar cool and heat the air prior to admission to the fuel, thus promoting combustion.

Claim.—Perforating the bar A B, constructed as described, with vertical conical holes D, substantially as herein shown and described and for the purpose set forth.

81,162.—George Grübel, New Orleans, La.—*Tap and Die.*—August 18, 1868.

Claim.—As my improvement of screw cutting dies and taps whose threads are divided transversely, so as to present two or more salient cutting points, omitting every alternate thread, and arranging those that remain in alternation, so that the sections of cutting thread following one another shall successively cut and give shape to opposite sides of the thread in the nut or on the bolt which is being threaded or tapped, substantially as described.

81,163.—Oliver B. Hale, Malone, N. Y.—*Portable Cooking Stove.*—August 18, 1868.—A bed plate has a central depression forming an ash chamber having a door open downward, and from the bed plate rise a number of brackets, supporting a top plate, and grooved to receive the side sections.

Claim.—1. A portable stove, whose sides are composed entirely of distinct sections E, fitted to slide in vertical grooves, formed in the opposite sides of posts D, substantially as herein shown and described, for the purpose specified.

2. A stove provided with the vertical grooved ways or guides D, and with boilers or vessels F, arranged to slide in the said ways, to be brought into or moved out of contact with the fire, substantially as and for the purpose described.

3. The combination, with the sections E, of the springs G and guide rods H, substantially as and for the purpose described.

4. The sections E, provided with the pins or hooks *b*, for suspending a boiler or other similar apparatus over the fire, substantially as and for the purpose described.

5. Perforating the sections E at or near their upper edges, so that when said sections are shoved down for the attachment of a cooking vessel, the draughts of air will be directed through the fire, or above the fire, when the sections are fully up to their places, substantially as herein described and represented.

6. The combination, with a stove, arranged as described, of the ash door B, substantially as and for the purpose described.

81,164.—B. H. Harmon and D. B. Sturdevant, Clifton Springs, N. Y.—*Method of Removing Tin and other Coating from Sheet Metal.*—August 18, 1868.

Claim.—1. The process of removing coatings from sheet metal or other materials, by confining the latter in a closed retort, and subjecting it to a current of hot air, as herein set forth.

2. Imparting to the basket containing the scraps a jarring or vibrating action, for the purpose of liberating the melted material, as herein set forth.

3. Constructing the basket holding the scraps with an open or grated bottom, and with perforated sides, in the manner and for the purpose specified.

81,165.—Benjamin F. Haugh, Indianapolis, Ind.—*Bolt for Prison Doors.*—August 18, 1868.—An arrangement of devices for securing the several doors of the prison within a compartment that is inaccessible from the interior, but which is convenient of access to the jailor or turnkey.

Claim.—1. The doors B and E, hinged hasp L, bolts *v*, and bar *w*, in combination with compartment F, all arranged as and for the purpose set forth.

2. The hasp H and hooks O, for securing the door D, in combination with compartment F, arranged as and for the purpose set forth.

81,166.—J. A. Heald, Columbus, Miss.—*Combined Fork, Shovel, and Hoe.*—August 18, 1868.—By this method of fastening, the handle is adapted for use in connection with a variety of implements.

Claim.—The tubular handle A, the hook shank B, and the washer E, when the same are constructed, arranged, and combined, substantially as shown and described, for the purposes set forth.

81,167.—Henry W. Hewet, New York, N. Y. —*Steam Safety Valve.*—August 18, 1868.—The annular groove between the inner and outer margins of the face of the valve is of greater area in cross section than that of the ports in the valve seat, thus presenting a larger surface to the action of the steam and effecting a reaction on the uncovered portion of the seat.

Claim.—1. The arrangement of the steam ports *b*, in the center or thereabouts of the valve seat, whether said seat be a concave or convex cone, or both combined, substantially as set forth.

2. The arrangement of the double seat *n n*, on the same plane, one on either side of the ports *b*, substantially as shown and described.

3. The arrangement of an annular cavity or groove, centrally or nearly so, in the face of the valve, and of greater width than that of the ports *b* in the seat, so as to span said ports, substantially as and for the purposes set forth.

4. The arrangement of the case *f f*, in combina-

tion with the spring e, valve C, collar D, and locking cap G, substantially as shown and described for the purpose set forth.

81,168.—WILLIAM D. HOOKER, San Francisco, Cal.—*Direct-Acting Engine.*—August 18, 1868.—By means of two valves, one main and one auxiliary, the steam is caused to act on each end of the piston in the cylinder, alternately, without the use of eccentrics, cams, or tappets, while, by the use of a system of ports opening at different parts of the cylinder and valve chamber, the valve and piston are cushioned at each end of their stroke, so as to allow a very high rate of speed.

Claim.—1. The auxiliary ports $m\ m'$, together with the main ports $i\ i'$, in combination with the main valve f, piston e, and auxiliary valve q, of a direct-acting engine, constructed substantially as described.

2. The arrangement of the auxiliary valve q, ports $p\ p'$ and $n\ n'$, in combination with the main valve f, and piston c, of a direct-acting engine, constructed substantially as described.

3. In combination with the main valve f, supply ports $i\ i'$, exhaust ports $j\ j'$, auxiliary valve q, and ports $p\ p'$, the small ports $l\ l'$ and $k\ k'$, substantially as herein described.

81,169.—N. HOTZ, Greenpoint, N. Y.—*Coffee Pot.*—August 18, 1868; antedated August 5, 1868.—The condenser is provided with a vent in order to prevent the upper vessel being raised by the pressure of the steam in the lower portion of the coffee pot.

Claim.—The condenser C within the chamber B, having its one end open to the boiler A, and its other open to the atmosphere, by an orifice in the side of said condenser, substantially as and for the purpose specified.

81,170.—GEORGE C. HOWARD, Philadelphia, Pa.—*Machine for Finishing Cloth.*—August 18, 1868.—Rotary shears are employed for finishing both sides of the material, the latter being held in contact with said shears by means of rests, as required.

Claim.—1. The combination of the cylinders V v, placed on opposite sides of web W, and the rests x and handle Z, arranged and operated substantially as described.

2. The combination of the rolls B b, shaft F, and rolls D d, with the lever J, racks G, pinions H, and friction I, the rolls B b turning the shaft F, and through it, or the roll of material E, also turning the rolls D d, substantially as described.

3. The combination of the shaft F, provided with points N N, the threaded end and notch m, with the catch K and sleeve Z, substantially as described.

4. A stop-motion with the clutches S S and curved arms Q Q, in combination with the clutch R, bar O, slotted arms P P, pins K K, and guides $f\ f$, substantially as described.

81,171.—PETER N. JACOBUS, Flatbrookville, N. J.—*Screw-Driver and Countersink.*—August 18, 1868.—The screw-driver is so constructed that it shall grasp the screw by the head, and hold it firmly while inserting it into the wood or removing it therefrom, and that shall, while inserting the screw, ream away the wood around it to form a countersink for the head.

Claim.—1. A screw-driver, provided with sliding jaws, so operating that as they are slid inward they converge, and grasp the head of the screw firmly, and as they are slid out again, they diverge and release it.

2. The combination of the part A, having the fixed ring R, the sliding ring S, the movable jaws J J J, and the metallic piece B, substantially as described.

81,172.—BARTHOLOMEW A. JEAGER, Bowers Station, Pa.—*Compound for Preserving Wood.*—August 18, 1868.—The wood is impregnated with oxide of zinc and sulphate of copper.

Claim.—A composition for preserving wood, consisting of the ingredients herein set forth.

81,173.—AARON JENNINGS, West Cairo, Ohio.—*Shovel Plow.*—August 18, 1868.—The device operates to uproot and cover weeds and grass close to the cultivated plants, provision being made to prevent the clods from falling upon the plants.

Claim.—The plow, provided with the side projection a, and with the upright guard b, on which the fingers c are secured substantially as herein shown and described.

81,174.—FREDERICK JUDSON, Castleton, N. Y.—*Wash Boiler.*—August 18, 1868.—Articles to be cleansed are placed in the boiler with water. The steam chamber is so constructed that when heat is applied to its bottom, a rapid ascent and descent of the water through the clothes is produced by the alternate pressure and condensation of steam in said chamber.

Claim.—The combination of the steam chamber B, with its top a, sides b, tubes D, and cross-bars E, with the wash boiler A, provided with the shoulders F, rack C, and supports G, in the manner and for the purposes herein described.

81,175.—GEORGE KENNY, Nashua, N. H.—*Carriage Wheel.*—August 18, 1868.—The socket flange assists in holding the spokes which are tenoned into the hub. The double tenons on the end of the spokes fit corresponding mortises in the felloe.

Claim.—1. The metallic flanged ring or casing B, provided with sockets E E, and screw threads on the inside of its inner end, when used in combination with the spokes C C, which are provided with a tenon on their ends, fitting into the mortises on the hub A, and its shoulders resting on the outside periphery of the hub, substantially as and for the purposes herein set forth.

2. Uniting the spoke and felloe by tenon, when said tenon consists of two members, H H′, substantially as described and for the purpose set forth.

81,176.—JOHN H. KEYSER, New York, N. Y.—*Mode of Attaching Mica to Stove Plates.*—August 18, 1868.—The mica is confined in position by frames which fit around the opening of the stove plate, and are secured to the same by a tongue and eye fastening.

Claim.—Providing for securing transparent plates over openings made through stove plates or doors, by means of a self-fastening frame, substantially as described.

81,177.—GEORGE W. KINZER, Linden Station, Ohio.—*Combined Planter and Cultivator.*—August 18, 1868.—When the machine is employed as a cultivator, the seed box and its accessory apparatus, the markers, &c., may be removed, and the cultivator plows attached to the machine in lieu of the planter plows.

Claim.—1. The combination of the plow Y″, beam Y, and standard Y′, hinged at z, substantially as described.

2. The combination of the distributing apparatus G H I with the valve a, arm J, sliding bar L, and cam wheel h, substantially as described.

3. The combination of the markers T T with the springs $u\ u'$, the shaft T′, gearing $t\ t'$, and spur s, substantially as described.

4. The combination of the slide Q with the gearing $r\ r'$, foot rest r'', and plow standards $f\ f$ or Y′, substantially as described.

81,178.—FRIEDERICH KRAMER, St. Louis, Mo.—*Sash Fastener.*—August 18, 1868.—One of the inside stops or wooden strips, usually employed to hold the sash in the frame, is dispensed with. The locking device, pivoted to the face plate, is turned out over the bottom sash when it is down, so as to lock it in that position.

Claim.—1. The face plate B, provided with metallic tongues b, for the purpose of holding and guiding the sashes, when applied to the window frame A, as and for the purpose herein set forth.

2. In combination with the face plate B, and its tongues b, the pivot b', for securing and locking the sashes, substantially as set forth.

81,179.—DANIEL P. LACEY, Orfordville, Wis., assignor to ROBERT R. BALL.—*Sash Holder.*—August 18, 1868.—An improvement on patent granted to Lacey and Bartlett, September 4, 1866. The end of the bolt or dog is enlarged to increase its bearing surface, and a notch or recess is made in the face of the lock to receive said enlarged portion when the bolt is retracted.

Claim.—The combination of the widened point B′, notches or depressions A², pivoted bolt or tumbler B, lock bolt C, and springs E E′, all arranged and employed substantially as and for the purposes set forth.

81,180.—Joseph Leatherman, Napoleon, Ohio. —*Flood Gate.*—August 18, 1868.—The hanging bars constituting the flood gate may rise and fall with the water, and allow drifting objects to pass through.

Claim.—1. An improved flood gate, formed by the combination of the posts A, auxiliary posts B, cross-bars C, inclined bars D, and hanging bars E with each other, substantially as herein shown and described, and for the purpose set forth.

2. The inclined bars D, upon which the hanging bars E move up and down with the rise and fall of the water, substantially as herein shown and described, and for the purpose set forth.

81,181.—A. V. Lee, Clayton, Ala.—*Medicine for Fever and Ague.*—August 18, 1868.—Quinine, sulphate of iron, phosphate of iron, sulphate of zinc, peperine, and extract of gentian.

Claim.—A medical compound, composed of the above-mentioned ingredients in about the proportions named, substantially as and for the purposes set forth.

81,182.—William J. Linton, Detroit, Mich.—*Tool Holder.*—August 18, 1868.—The hole through the jaw is for the reception of the shank of a cutting tool, which may be applied to adapt the instrument for use as a pipe cutter. The hole in the stock, at right angles to that in the jaw, enables said cutting tool to be driven out.

Claim.—1. The combination, with the stock A, of the jaws P and E, when the jaw P is provided with the longitudinal opening *e*, extending entirely through it, and communicating with the hole *f* in the stock A, all substantially as herein shown and described, for the purpose specified.

2. The spring lever *b*, pivoted in a slot in the screw handle C, and adapted for operation as herein set forth.

81,183.—William J. Linton, Detroit, Mich.—*Tool Holder.*—August 18, 1868.—The device is for planing key seats in wheel hubs, and working upon large metallic objects which cannot pass under the cross-plate or between the posts of the planing machine.

Claim.—1. The bracket A, provided with the slot *b* in the front, and having the shoulder *f*, in combination with the slotted holder C, constructed and pivoted thereto, substantially as and for the purpose described.

2. The combination of the tool holder, as above described, with the tool slide of a planing machine, substantially as and for the purpose described.

81,184.—R. H. Long, Cincinnati, Ohio, assignor to himself and R. T. Trall, New York, N. Y.—*Window Ventilator.*—August 18, 1868.—Ventilation is effected by cutting away a portion of one of the panes of glass in a window sash, and inserting in the rails surrounding said panes a supplementary frame containing a piece of glass of sufficient size to fill the opening formed by cutting away the fixed pane.

Claim.—1. The side grooves C, applied to a sash frame surrounding a single pane of glass, in combination with the movable supplementary frame F, substantially as described, for the purpose specified.

2. The shaft H, applied to the supplementary sash frame F, substantially as described, for the purpose specified.

81,185.—Orazio Lugo, New York, N. Y., assignor to David Lyman, Ross C. Browning, and Mason C. Weld.—*Process of Preserving Animal Substances.*—August 18, 1868.—The animal is placed in a large receiver connected with a retort containing carbolic acid, the vapors of which being diffused into the receiver, the animal soon dies. The flesh will resist putrefying influences for a considerable length of time.

Claim.—1. Introducing phenol, or any of its equivalents, into the system of a living animal or animals until death takes place, for the purpose substantially as herein specified.

2. Introducing or diffusing phenol, or any of its equivalents, into the system of a living animal or animals just before bleeding or killing the said animals, for the purpose substantially as herein specified.

3. The within-described method of introducing phenol, (carbolic acid,) or its homologues, into the system of living animals, for the purpose substantially as herein described.

81,186.—E. B. Manning, Middletown, Conn.—*Tea and Coffee Pot.*—August 18, 1868.

Claim.—A tea or coffee pot constructed with a hard metal or iron body, the inner side coated with porcelain or similar material, and the outer with soft metal, after the lining has been baked, substantially in the manner herein set forth.

81,187.—T. E. Marable, Petersburg, Va., assignor to himself and S. A. Plummer, same place.—*Cutter Attachment for Plows.*—August 18, 1868.—While the mold board runs under ground, the edges of the cutter graze the surface. It may be set up or down to adapt it to the depth of furrow.

Claim.—1. The cutter F, when constructed and arranged, in connection with a plow, so as to scrape the surface of the ground in front of the mold board and the whole width of the furrow, cutting the weeds, grass, &c., therefrom, and casting them out of the way of the plow, on the side opposite to the mold board.

2. The combination of the plow B, beam A, cutter F, shank G, and box strap H, substantially as described.

81,188.—B. F. McCollester, California, Mo.—*Shovel Plow.*—August 18, 1868.—The shovel plows are so attached to their standards as to be adjusted at any inclination, and, when worn out or injured, reversed with facility.

Claim.—The combination of the double-pointed shovel plow B with the standard A, plate C, having lugs *c c*, block D, bolts E E, and screw nuts *e e*, substantially as and for the purpose above set forth.

81,189.—Jacob Meyer, Bloom Township, Ohio. —*Shovel Plow.*—August 18, 1868.—The outer plow standards vibrate upon pivots so that the movable plows may be placed nearer to or further from the central stationary plow, the desired relative position being maintained by means of the spring catches and the rigid, notched bar.

Claim.—The upright center bar A, provided with the notched cross-bar L, in combination with the springs *d d*, and the lugs *e e*, substantially as and for the purposes herein set forth.

81,190.—A. Meyer-berck, Frankfort-on-the-Maine, Prussia, assignor to Alfred Mellor and H. N. Rittenhouse, Philadelphia, Pa.—*Article of Food for the Sick.*—August 18, 1868.

Claim.—The employment or use of the serum of beeves' blood, as a constituent in the production of a nutritive sirup for the sick and delicate, substantially as described.

81,191.—Nicholas Meyers, Buffalo, N. Y., assignor to E. L. Chamberlayne and E. C. Pomeroy, same place.—*Sewing Machine.*—August 18, 1868.—The feeding device is attached to the shuttle-carrier so that a separate device for operating the former is dispensed with.

Claim.—1. The plate *k*, provided with the wedge-shaped and inclined part *k″*, in combination with the pivoted triangular-shaped piece *l*, and the plate *m*, the latter being provided with the triangular-shaped slot *m‴* and the feed plate *o*, all operating together to produce the feed motion, substantially as described.

2. The shaft A, in combination with the vibrating

arm *l*, the connecting rod *e*, and the carrier *h*, bearing upon one side the shuttle, and upon the other side the feeding mechanism, substantially as described.

81,192.—G. L. Miller, De Witt, N. Y.—*Car Brake.*—August 18, 1868.—When the friction wheel is forced into contact with the wheel of the tender axle, the pinion is made to engage with the rack bar and move the same in the proper direction to apply the brakes. The rack bar springs upward, to throw the friction wheels out of contact when the pressure is withdrawn.

Claim.—1. The construction and arrangement of the central bar G, having the rack H and lugs *e*, pivoted levers E, connected to the brakes C by the links *b b'*, the adjustable pinion I, and friction wheels J K, as herein described for the purpose specified.

2. The spring rack bar G, when provided with the central lugs *e*, in combination with the pivoted levers E and brakes C, as herein described for the purpose specified.

3. The pinion I upon the shaft *f*, when such shaft is hung in bearings adjusted vertically by the bar *i* and lever M, and when provided with the friction wheel J, engaging with the wheel K, upon the axle L of the tender, as herein described for the purpose specified.

81,193.—F. B. Morse, New Haven, Conn.—*Stump Joint for Carriages.*—August 18, 1868.—Improvement on his patent of July 28, 1868.—Notches are formed upon the meeting end of one stump and a corresponding surface upon the contiguous end of the other stump, thus effecting an interlocking or engagement of the parts, when open, whereby to prevent jogging.

Claim.—A stump joint, consisting of the two parts A and B, hinged together by a connection C, pivoted to each of the parts, forming the meeting ends of the joint, of irregular form, the one corresponding to the other, so as to operate substantially in the manner specified.

81,194.—William Neumann, St. Louis, Mo.—*Adjustable Car Step.*—August 18, 1868.—The step is hinged to a vertically-sliding section, which, being raised, turns the step upward, edgewise, the two then constituting a guard to prevent passengers from getting on or off at the front platform.

Claim.—The car-step B, when constructed so as to be convertible at pleasure into a step or guard, substantially as herein described and set forth.

2. The construction of the step B, riser *b*, sliding rods *a*, and platform A, when arranged as and for the purpose herein set forth and described.

81,195.—Daniel Newton, Southington, Conn.—*Friction Brake for Sewing Machine.*—August 18, 1868.—The cylinder is retained against the fly-wheel by its own gravity. Casual reverse motion is prevented by the wedging of the cylinder under the wheel when the wheel takes the initiative of such motion.

Claim.—The loosely-inclosed cylinder C, of suitable material, within the trough B, the latter being securely held to plate A, and is adjustable by means of screw and slots, the whole arranged and applied substantially as described, and for the purpose set forth.

81,196.—William E. Nichols, Baldwin, Mo.—*Gate.*—August 18, 1868.—An arrangement of cords and pulleys to enable a rider to open a road or farm gate without dismounting.

Claim.—1. The combination, with the gate A, provided with the arm D, of the latch rod H and cords I and K, suspended as described, for opening and closing the same, substantially as and for the purpose set forth.

2. The combination, with the cords I and K, of the cords O and N, suspended as described, for opening and closing the gate, the same substantially as and for the purpose described.

81,197.—B. Oertly and Xavier Fendrich, Washington, D. C.—*Coal Stove.*—August 18, 1868.—

Claim.—A stove, made in whole or in part of an iron or other metal frame work, coated or imbedded in a composition or mass of soluble glass and minera matter that will be fire-proof, substantially as and for the purpose set forth.

81,198.—F. W. Ofeldt and A. W. Almqvist, New York, N. Y., assignors to themselves and Thomas Fitzsimmons, same place.—*Apparatus for the Manufacture of Illuminating Gas.*—August 11, 1868.—A retort, an oil reservoir, a cooler, and oxygenating chambers or drums are combined with a gas holder. The mechanism is actuated, to supply the necessary amount of air, by the expansive force of the gas, it being thus self-regulating.

Claim.—1. The upright conical or spherical retort A, the reservoir B, and the cooler J, arranged substantially as described, for the purposes set forth.

2. The tube E, the valve rod F, and the float valve H, in combination with the retort and reservoir, arranged and operating substantially as and for the purposes specified.

3. The method, herein shown and described, of uniting and securing together the retort and reservoir by the flanges C C and swinging bolts *d d*, as set forth.

4. The method of oxygenating the gas, or the drums O and P revolving in the large drum or case M, constructed and operating substantially as shown and described.

5. The method of securing the gasometer to the head and bottom, by grooves and rings, substantially as described.

6. The method of securing the gasometer against the force of the gas, by means of hoops C suspended by cords, as shown and described.

7. The safety pipe V, with its valve *d*, constructed and operating substantially as and for the purposes described, in combination with the gasometer T.

8. An arrangement of means for supplying air for oxygenating gas, by the expansive action of the gas, substantially as and for the purpose described.

81,199.—Joseph J. Ott, Washington, D. C.—*Preparing Paper for the Manufacture of Floor Coverings, Belting, Window Shades, and the like.*—August 18, 1868.—The paper is passed through a solution of sulphuric acid.

Claim.—As an article of manufacture, the combination of two or more sheets of paper, when prepared by passing through a solution of acid, and connected together by puncturing with a toothed roller, substantially as herein described, for use as carpeting, belting, and other purposes, as set forth.

81,200.—George T. Palmer, Brooklyn, N. Y., and Philo P. Bush, New Haven, Conn.—*Machine for Cutting Soap into Slabs.*—August 18, 1868.—The machine and cutting frames are so arranged that a mass of soap can be cut into bars, and the machine passed off from the cut soap, leaving it free and clear of obstruction to the workmen when the bars are being stamped and racked, and without the necessity of making a back draw of the wires.

Claim.—1. The open-bottomed frame A, made in such manner that it may be passed entirely over a mass of soap, substantially as and for the purpose herein shown and described.

2. The reciprocating carrier frame C, when made separate from the cutting wire frame N, for the purpose shown and described.

3. The combination and arrangement, in relation to each other, of the carrier frame C, and removable cutting wire frame N, substantially as and for the purpose set forth.

4. The horizontally moving, open bottomed or inverted U-shaped carrier frame B, for the purpose herein shown and described, said frame moving independently of and disconnected from frames C and N.

5. The open bottomed or inverted U-shaped cutting wire frame D, for the purpose of cutting masses of soap, said frame being independent of and disconnected from frames C and N.

6. The combination and arrangement, in relation to each other, of the carrier frame B, and removable

cutter wire frame D, substantially as and for the purpose shown and set forth.

7. The windlass F, arranged across the end of the frame of the machine, for the purpose shown and described.

8. The removable or shifting braces M M, or their equivalents, for the purpose herein shown and set forth.

9. Operating the cutting wire frames of a soap-cutting machine with chains and pulleys, and such suitable gearing and means of propulsion as may be required therefor, substantially as herein shown and set forth.

10. A soap-cutting machine, composed of frame A, independent vertically moving cutting frame N, and independent horizontally moving cutting frame D, when combined with suitable gear or means for operating the cutting frames, substantially as herein described.

81,201.—Samuel L. Pattee, Northbridge, Mass.—*Spindle Step.*—August 18, 1868.—The grit and other deposit is let out of the step at the lowest point of the spindle, while it holds securely a large amount of oil, and in such a way that when the spindle is raised for doffing and suddenly dropped, the oil does not splatter or flow out between the step and spindle.

Claim.—A spindle step, having the upper oil chamber, *g*, partly covered by a flange, which encircles the spindle, the lower oil chamber *c*, the passage *d*, at the bottom of the spindle socket, and axial therewith, the passages *f f* extending from the chamber *c* to the edge of the beveled base of the socket, and passages *i i* extending from the upper to the lower chamber, the whole constructed and arranged substantially as described.

81,202.—Samuel Patton, Chatsworth, Ill.—*Corn Harvester.*—August 18, 1868.—The rollers consist of long pointed spindles, arranged parallel to each other and provided with one or more longitudinal ribs for freeing the husks from the stalks, the latter being drawn to the rollers by means of wheels provided with teeth, and guided by curved projecting horns in front of the frame.

Claim.—1. The rollers *m m*, arranged as described, out of contact with each other, and provided with longitudinal ribs *n*, all operating in the manner and for the purpose specified.

2. The curved projecting horns *p′ p′*, upon the front of the frame *h*, arranged in relation with the wheels *n n* and rollers *m m*, for the purpose of preventing the accumulation of refuse matter beneath said wheels, and furnishing bearings for the forward ends of the rollers *m m*, as herein shown and described.

81,203.—O. S. Pease, Xenia, Ohio.—*Seal Lock.*—August 18, 1868.

Claim.—A lock, which will be secured by means of one or more cartridges when inserted through the casing A and tumbler *d*, and which can be unlocked only by the explosion of the cartridges, in the manner substantially as described.

81,204.—O. S. Pease, Xenia, Ohio.—*Seal Lock.*—August 18, 1868.—A cartridge is secured in holes in the lower part of the escutcheon and the pad lock, so that in order to disengage the escutcheon to insert the key, it will be necessary to explode the cartridge, and thus give warning in burglarious attempts.

Claim.—The escutcheon or guard B, in combination with lock A, when both are so constructed and arranged that they can be bolted together with cartridges, employed substantially as and for the purpose described.

81,205.—E. F. Percival and N. S. True, Hammonton, N. J.—*Fruit Basket.*—August 18, 1868.

Claim.—As an article of manufacture, a fruit basket, or other hollow wooden ware, when the slats or staves composing the same are connected at the top with a continuous band, forming both inside and outside hoop, the whole constructed substantially as herein set forth.

81,206.—J. F. Pool, Monroe, Wis.—*Bee Hive.*—August 18, 1868.—The hive is provided with an inner and outer wall, to the space between which air is admitted through gauze-covered holes. Ventilating holes are also provided in the upper portion of the sides of the inner and outer walls.

Claim.—The hive, constructed with walls *a a′*, hinged bottom C, ventilating holes B B′ F F′, and opening or entrance D, all arranged substantially as and for the purpose set forth.

81,207.—William Randall, May, Mich.—*Sash Supporter.*—August 18, 1868.—The weights elevate both sashes when they are free to move.

Claim.—1. The upright *h*, pulley *l*, cord *j*, and weight *c*, in combination with the upper sash B and part *o* of the window frame, all constructed and operating together, substantially as shown and described, and for the purpose set forth.

2. The slotted tubular upright *b*, cord *a*, arm *i*, rod *d*, and weight *c*, substantially as shown and described, in combination with the lower sash A and part *n* of the window frame, as and for the purpose set forth.

81,208.—Amos Rank, Salem, Ohio.—*Harvester Rake.*—August 18, 1868.—When a gavel has accumulated upon the platform, the driver, from his seat on the main frame, depresses the walking wheel, and thus puts the endless apron in motion to discharge the gavel.

Claim.—1. The combination, in a harvester, substantially as set forth, of an endless discharging apron with a wheel on a vertically vibratable arm, for the purposes specified.

2. The combination, in a harvester, substantially as set forth, of an endless discharging apron and a propelling wheel, on a vibratable arm, with devices operated by the driver for raising or lowering the wheel to stop or start the discharging apron.

3. The combination, in a harvester, substantially as set forth, of an endless apron with a cut-off, vibrating horizontally in a circular path, for the purposes specified.

4. The combination, in a harvester, substantially as set forth, of a discharging apron, a propelling wheel to move the apron, and a cut-off, with a device operated by the driver, which simultaneously starts the discharging apron and interposes the cut-off.

5. The combination, substantially as set forth, of a reel, an apron, a walking wheel, and a cut-off.

81,209.—Peter Rasar and D. J. Mayes, Illiopolis, Ill.—*Gate Latch.*—August 18, 1868.

Claim.—A gate fastening, composed of the latch *b* and double spring *d*, constructed and arranged relatively to each other and the rest of the gate, substantially as and for the purpose specified.

81,210.—Hiram A. Reid, Beaver Dam, Wis.—*Sheep Shearing Machine.*—August 18, 1868.—The shearing comb is suspended from a crane by means of a flexible shaft, rotated by a hand wheel and belt, and descending in line with the axis of the main wheel of the shearing comb, to which it imparts motion, and from which the cutters of the comb are actuated.

Claim.—The arrangement of the wheel J, slotted rod K, cutting wheel V, pinion M, slotted bar N, and hooked plate Q, all operating as described, whereby a rotary motion is imparted to the wheel V, and a prehensile movement given to the hooked teeth *r*, as herein described, for the purpose specified.

81,211.—E. R. Roberts, New York, N. Y.—*Apparatus for Heating and Ventilating Railroad Cars.*—August 18, 1868.—The fresh air received at the front of the cars is distributed through the coaches by means of the surmounting conducting tubes and their branch pipes, and ventilation is secured by the exhaust tubes into which the air enters from the top of the car. The air-supply tubes may be inclosed throughout the length of a single car by a steam heating pipe.

Claim.—1. The combination, with railroad cars, of the exhaust tubes E, provided with valves, arranged substantially as and for the purpose described.

2. The combination, with the supply tubes A, of

the steam or air heater G, and heating tube H, and the pipe connecting the heater to the heating tube, substantially as and for the purpose described.

81,212.—ROBERT E. ROGERS, Philadelphia, Pa. —*Steam Generator.*—August 18, 1868.—The capacity of the boiler to sustain pressure depends upon the strength of the individual sections of which it is made up.

Claim.—1. The boiler, composed of separate elongated sections or staves, connected at bottom, for the interpassage of water, and at top for the interpassage of steam, one or more of such sections being provided with circulation tubes on the side next the fire, each being set on end, and all the sections being arranged around a common fire, so as to form the fire chamber or furnace flue, substantially as shown and described.

2. The combination of the blank sections or staves with those having circulation tubes, substantially as described.

81,213.—BOZIL S. ROY, Lowell, Mass., assignor to himself and HENRY S. MORSE, same place.—*Card Grinder.*—August 18, 1868.—An endless chain, arranged upon chain wheels and inclosed within a longitudinally-divided shaft, is connected with a grinding wheel by means of a link, and operated by a bevel gear, which rotates with the said shaft, and engages with a stationary gear secured to the end of the frame or to a stand, which may form the support for one end of the shaft.

Claim.—The endless chain A and wheels B and C, and the radial shaft *a*, gears G and H, and the connecting link F, combined with the shaft D and the grinding wheel E, and all arranged to operate substantially as and for the purpose set forth.

81,214.—FREDERICK M. RUSCHHAUPT, New York, and GUSTAVUS BURHENNE, Williamsburg, N. Y.—*Brewing Ale, Porter, &c.*—August 18, 1868.—For brewing lager beer, the inventors employ malt, (barley,) kiln-dried Indian corn, bran of wheat and bran of oats, (bran of rye may be substituted for either,) phosphate of potassa or of soda, phosphate of magnesia, and glycerine-phosphate of lime.

Claim.—The use of bran of wheat, bran of oats, or bran of rye, together with meal of kiln-dried Indian corn, and with a certain amount of malt, either alone or with the addition of the hereinnamed and specified phosphates, for the purpose set forth and herein fully specified.

81,215.—ISAAC S. RUSSELL, New Market, Md., and HENRY R. RUSSELL, Woodbury, N. J.—*Harvester.*—August 18, 1868.—Designed as an improvement on his patent of August 20, 1867. The object is to prevent the drag of the supporting wheel in turning corners.

Claim.—1. The coupling plate D, formed with a twist, so as to assume a vertical position where attached to the axis of the wheel, and an outward inclination at its hinge-pin connection with the machine, substantially as and for the purpose set forth.

2. The combination of the coupling plate D, constructed and hinged to the machine as described, with the pivoted axis of the wheel G, substantially as set forth.

3. A supporting wheel, which is so constructed and applied to a harvester that the horizontal axle about which it turns, and also the arm to which said axle is applied, shall be free to vibrate and allow the wheel to conform to the circular movements of the machine while turning, in the manner substantially as specified.

81,216.—SAMUEL SEITZ and L. D. ARNOLD, Melmore, Ohio.—*Wagon.*—August 18, 1868.—The end boards, while securely held in place, may be readily detached and reapplied.

Claim.—1. The springs F, in combination with the side boards C and end boards E, substantially as herein shown and described, and for the purpose set forth.

2. Securing the end boards E to the side boards C, by means of the springs F, catches G, projections *d'* of the cleats D, and the notches or recesses *e'* formed in the said end board E, substantially as herein shown and described and for the purpose set forth.

81,217.—C. M. SEXTON, Aurora, Ill.—*Running Gear for Wagons.*—August 18, 1868.—In turning short about with this wagon the front axle maintains a radial relation to the circle described, and the inner ends of the two halves of the rear axle are respectively pushed backward and drawn forward by their connections with the front axle.

Claim.—1. The combination and arrangement of the divided axle C, double guide *h*, rods I, braces K, and slotted plates L, substantially as herein set forth.

2. The hangers O *o*, strap P, pulleys Q, equalizer R, and springs H, when constructed and used for the purpose substantially as herein specified.

81,218.—ALBERT P. SEYMOUR, Jr., Hecla Works, and W. RILEY GOODRICH, Whitestown, N. Y., assignors to HECLA WORKS COMPANY.—*Sash Pulley.*—August 18, 1868.

Claim.—1. The construction of the cheeks B B with projections, locking in a dovetailed or hooked manner within or through the face plate A, and secured by a rivet, *e*, holding the said cheeks together by the lugs or ears *f*, at their outer edge, substantially as shown and described.

2. Forming the pivot or pivots, on which the pulley C turns, by a projection or projections, *h*, cast on or to the inside of the cheek or cheeks B of the frame, substantially as described.

81,219.—ELISHA SHIVER, Columbia, S. C.—*Sewing Machine Motor.*—August 18, 1868.—Both springs are wound up at one operation, and when their force is thrown upon the machinery the drum from which the driving band of a sewing machine derives motion is rotated. The balance wheel, by means of its adjustable wings, insures uniform motion. In case of breakage of the thread the catch is permitted to fall upon the fly wheel, thus instantly stopping the motive mechanism.

Claim.—1. A sewing-machine motor, when constructed with the double springs and shafts *a* and *a'*, gearing, drums, and brake *n*, and adapted to be placed under the ordinary sewing machine, substantially as and for the purpose set forth.

2. In connection with the motor so constructed, a balance wheel, when provided with wings, constructed and arranged as and for the purpose set forth.

3. In combination with balance wheel of such a motor, the catch *h*, with its cord and hook, all arranged to operate as and for the purpose set forth.

81,220.—ANDREW SIMMONS, Fairfield, Iowa.—*Trellis for Propagating Bees.*—August 18, 1868.—At the approach of the cold season, the external shell of the hive is removed from the base board, and the working frame, to which the honey combs are fixed, is covered with a fabric suitable to maintain warmth and preserve the inclosed bees.

Claim.—The protecting of bees during winter by means of a cloth or other textile covering substantially in the manner and form as above described, rendering other protection, as housing, placing in cellars, wrapping hives with straw, &c., unnecessary.

81,221.—ELISHA W. SKINNER, Madison, Wis. —*Harvester.*—August 18, 1868.—The cast plate and box in conjunction with the timbers are designed to form a strong and durable main frame. The position of the reel may be changed to cause it to stand parallel with or obliquely to the sickle bar.

Claim.—1. The plate A, provided with the projections or flanges for attaching the parts to, and otherwise constructed, as shown and described.

2. The main frame, consisting of the plate A, bars B and C, and the iron box D, all constructed and arranged substantially as set forth.

3. The tubular reel support *l*, attached at its outer end to the adjustable post *n*, and resting at its inner end upon the bar *r* in such a manner as to permit the inner end of the reel to be adjusted forward or backward, as described.

81,222.—SIDNEY SMITH, Worcester, Mass.—*Steam Boiler Furnace.*—August 18, 1868.—Designed to produce intense combustion, upon the principle explained in letters patent granted to same party July 31, 1866. The ash pit being tightly closed, air to support combustion is admitted only through the air space behind the jacket plates, and reaches the interior of the fire chamber through perforations in the plates and in the walls themselves. The quantity of air admitted to the air spaces is regulated by dampers. The method of binding the parts together by plates and tie rods facilitates the removal of individual blocks.

Claim.—1. A fire chamber, with walls of perforated blocks, with perforated sheet-metal jackets behind said blocks, and said blocks and jackets secured between plates, substantially like plates C H I, by the rods J, so that the fire chamber may be set up and its parts secured before the construction of the encasing wall.

2. The blocks G G′, made in the form and perforated as shown, to adapt them to the construction of a fire chamber such as described.

2. The plates C and I, constructed as described, in combination with perforated fire bricks, substantially as and for the purpose described.

81,223.—W. G. Smoot, Washington, D. C., assignor to himself and Antonio Pelletier, same place.—*Registering Fare Receiver.*—August 18, 1868.—The ticket or fare is placed in an opening at the top of the case and passes down one of the semicircular tubes which terminate at the bottom at opposite sides of a concave table forming the top of a cylindrical tilting device which is actuated by means of a strap so as to deposit the fare in the lower part of the case.

Claim.—1. The registering apparatus, consisting of the stationary dial B, with the index E, operated by the tilting table G and the rotating dial wheel H, all constructed and arranged to operate substantially as described.

2. The combination of the registering apparatus, as above described, with the case A, having the tubes *f* and the tilting table G arranged therein, substantially as set forth.

81,224.—James Hervey Sternbergh, Reading, Pa.—*Making Nuts.*—August 18, 1868.—The top of the knee-shaped lever will be forced backward and the short arm of the weighted lever depressed, when the pressure in the die box preponderates, room being thus made in the box for the extra amount of metal.

Claim.—1. The combination of the weighted lever (or levers) P W with cross-head H H, crowner L, and cam *n* on shaft B, for the purpose of throwing the finished nut or washer out of the die box at the time and in the manner specified.

2. The combination of the crowner L, with weighted lever P W and gauge T, for the purpose of graduating the space in the die box between the punch D and crowner L to different thicknesses of iron, without unnecessary waste of time, substantially as described.

81,225.—James Sutliff, East Boston, Mass.—*Steam Generator.*—August 18, 1868.—Steam is generated within the bridge and walls, as well as in the boiler, and pipes are employed to convey steam from the walls to the drum.

Claim.—The combination of the bridge wall B, hollow sides C C, pipes *c c*, drum D, boiler A, pipes *b*, *d*, and *a*, all constructed, arranged, and operating as herein set forth.

81,226.—John Thielemann, Newark, N. J.—*Piano Lock.*—August 18, 1868.—The action of the cams upon the intermediate stud produces a deflection of the hook bolts, when actuated by the key, which enables them to engage with and release the locking plate.

Claim.—The hook bolts C C′, connected together by a lug and stud, and provided with cams *e e′*, in combination with a stud, *d*, substantially as and for the purpose described.

81,227.—Smith Titcomb, Amesbury, Mass.—*Carriage.*—August 18, 1868.—The movable rails or slides may be removed with the top; the seat is then placed upon and supported by the fixed rails of the wagon body.

Claim.—1. The construction of a carriage body with fixed and movable seat slides, the movable slides having a carriage top attached thereto, and combined as described, so that the carriage and the same seat or seats may be used with or without the top.

2. The combination of the plates E E, *c c*, and G G with flanges *d d* and thumbscrews F F, with the fixed and movable seat slides of a carriage, substantially in the manner and for the purpose as herein described.

81,228.—E. S. Torry, New York, N. Y.—*Weather Strip.*—August 18, 1868.—The object is to provide for the application of rubber to two faces of the molding without weakening the same, as is usually done, by the formation of two saw kerfs or deep, narrow grooves.

Claim.—As an article of manufacture, the construction of a weather strip, on one side of which is inserted, in a dovetail groove, *c*, a piece of India-rubber, or other elastic material, as described, and on the other side of which is inserted a straight strip of India-rubber, or other elastic material, *b*, as and for the purpose herein set forth.

81,229.—Charles L. Tucker, Chicago, Ill.—*Cementing and Strengthening Boxes for Packing Lard and other Substances.*—August 18, 1868.—Designed to strengthen the box where the scorings are made in the box, and to render the same tight by filling the depressions and correcting the inequalities of the wood.

Claim.—1. Filling the score openings of angular boxes with cement, substantially as and for the purposes specified.

2. Filling the interstices or openings caused by imperfect construction or material in thin wood boxes with an insoluble cement, so that the boxes, are strengthened and made tight at the same time, substantially as specified.

3. As a new article of manufacture, tight or non-leaking angular boxes, when the sides *a* are made of veneers of thin wood, and cemented, substantially as described.

81,230.—Benjamin D. Vanderveer and Daniel Riddel, Freehold, N. J.—*Potato Digger.*—August 18, 1868.—The potatoes being unearthed by the plow, slide backward over the wings of the same and upon the shakers, which are formed of wire prongs fastened to upright bars which are jointed to the plow standard.

Claim.—1. In combination with a plow or plowshare of any construction, when used for the purpose described, the shakers J J and the vine clearers or bars *k k*, arranged substantially as described, for the purposes specified.

2. In combination with the shakers J, the double crank shaft D, connecting rods O, and gearing, whereby motion is communicated from the axle to the crank shaft, all arranged to operate substantially as herein shown and described.

3. The lever P, when connected directly with the pole R, by means of the chain *t*, and provided with the spring *p′*, adapted to rest upon the hounds, to prevent the lever P from falling forward, all constructed and arranged to operate as herein shown and described.

81,231.—Michel Vander Weide, St. Petersburg, Russia, assignor to Cassius M. Clay.—*Submarine Lantern.*—August 18, 1868.—The channels communicate respectively with flexible tubes which extend above the water when the lantern is submerged, and which admit air to supply the flame and carry off the emanations from the same.

Claim.—The submarine lantern, having the semicircular channels B C, formed concentrically in the body of the cylinder, the former being closed at the top and opening into the cylinder at the bottom, and the latter closed at the bottom and opening into the cylinder at the top, said chambers communicating, respectively, with the supply and exhaust tubes F G upon each side of the burner, as herein described, for the purpose specified.

81,232.—P. H. VANDER WEYDE, M. D., New York, N. Y., assignor to ALFRED PHILLIPS and JOHN MACDOUGALL, same place.—*Apparatus for the Manufacture of Illuminating Gas.*—August 18, 1868.—A series of revolving, metallic disks, covered with flannel or similar material, and dipping into the hydrocarbon liquid. The flannel is thus kept saturated and presents a large evaporating surface to the air passing between the disks, such air being compelled to pass from center to circumference and *vice versa*, by stationary deflecting disks.

Claim.—1. The rotating carbonizer, consisting in a revolving disk or disks, operating in connection with shaft or pulleys and chain, as herein described and for the purposes specified.

2. The detachable carbonizer *h h* and *d d d*, with its compartments *a*, *b*, *c*, and *e e*, and valve *v*, as herein shown and described, and for the purposes specified.

3. The gas regulator *k*, with its buoyant chambers *m m* and interior valve, as shown and described and for the purposes specified.

81,233.—WILLARD B. WALTERS, Lock Haven, Pa.—*Composition for Cleaning and Renovating Brick Walls.*—August 18, 1868.—The mixture consists of lime water, refined petroleum, benzine and Indian red, and is applied with a whitewash brush.

Claim.—The combination of the ingredients above mentioned and described, and the application of the same to brick buildings, using for that purpose the aforesaid compound, or any other substantially the same, and which will produce the intended effect.

81,234.—C. W. WARNER, New Haven, Vt.—*Horse Hay Rake.*—August 18, 1868.—A lever projects from the rake head to a point convenient to the driver's hand, and a single movement of the same withdraws the locking bolt and imparts an initial movement to the rake head in the direction of its rotation. The rake may be swung upward and made to rest upon the carriage frame for transportation.

Claim.—In combination with the lever H, carriage frame A, and revolving rake C, the bolt F, link K, and lever L, or their equivalents, to operate substantially as and for the purpose set forth.

81,235.—HORACE J. WICKHAM, Manchester, Conn., assignor to himself and MILTON KEENEY, same place.—*Jack for Knitting Needle.*—August 18, 1868.—The back of the jack is cut away sufficiently to admit the shank of the needle, and a transverse notch receives the bent end of the needle. The rebate is somewhat inclined, to allow of a slight play of the needle.

Claim.—A knitting needle jack, constructed with an inclined rebate, *d*, and slot *e*, as and for the purposes set forth.

81,236.—DAVID WOLF, Easton, Kansas.—*Drum Evaporator.*—August 18, 1868.—The drawers may be drawn out for filling and also for regulating the draught; when they are closed they form a zigzag flue to increase the radiation and arrest sparks, the atmosphere being tempered by vapor from the water in the drawers.

Claim.—A safety boiler, as constructed, when the same is provided with two or more pans or troughs for holding water, so arranged as to be drawn out, one from either side of the drum or case, whereby the treble function of tempering the atmosphere in the room, arresting the sparks, and regulating the draught is accomplished, substantially as and for the purposes set forth.

81,237.—IRA WOOD, Woodstock, Vt.—*Composition for Tanning.*—August 18, 1868.

Claim.—A tanning liquid, made from the leaves of the oak and the maple, or of the willow, or of the three combined, or by the addition of the leaves of the beech, in about equal proportions, when combined with alum, Glauber's salt, and nitric acid, in about the proportions specified, for the purpose and in the manner set forth.

81,238.—HENRY WOODWARD, London, England.—*Apparatus for Carbureting.*—August 18, 1868.—A vessel of cylindrical form is divided by a horizontal partition into two chambers, the lower one of which contains benzole or other carbureting fluid. In the upper chamber is a series of curved concentric diaphragms upon each of which is spread wicking extending at each end into the liquid chamber. Pipes are suitably arranged for the entrance of air and the exit of the gas.

Claim.—1. The arrangement, in a cylindrical carbureting vessel, of a partition dividing said vessel into an upper and lower chamber, in combination with concentric perforated bridges or diaphragms in the upper chamber, as and for the purposes set forth.

2. In combination with the arrangement of chambers and concentric bridges, as claimed under the preceding clause, wicking passing over said bridges, through the partition and into the lower chamber, substantially as set forth.

3. The combination, with the bridges and dividing partition, of plates arranged tangentially or nearly so to said bridges, and forming with the wicking a packing joint, as and for the purposes set forth.

4. In combination with the arrangement of chambers and concentric bridges, as claimed in the preceding clauses, an air inlet pipe, opening into the annular space formed by the casing and the outermost bridge, and a gas eduction pipe leading from the space between the dividing partition and the innermost bridge out of the carbureter, as and for the purposes set forth.

5. The carbureting vessel and float contained therein, in combination with the wicking or equivalent material, and curved bridges or diaphragms, upon which the same is spread and held, under the arrangement and for operation as herein shown and specified.

6. The combination, with a carbureter, substantially as herein described, of an inlet tube for carbureting liquid, arranged to traverse both the upper and lower chambers, and terminating at or near the bottom of the latter, as shown and set forth.

81,239.—JOHN WOODY, Mount Vernon, Ind.—*Rotary Steam Engine.*—August 18, 1868.—Upon a horizontal shaft is placed a wheel, each side of which is recessed out so as to form abutments which are arranged in reversed positions, so that the wheel may be driven in opposite directions. The induction pipes are arranged obliquely on opposite sides of the wheel, so that the motion of the engine can be changed at will.

Claim.—The arrangement of the ingress steam pipes E E, exhaust pipes F F, abutments *i i*, and casing B B, substantially as described.

81,240.—JAMES M. WYNN, Scipio, Ind.—*Wagon Coupling.*—August 18, 1868.—A plate is affixed to the front end of the rear hounds so as to hold the same rigidly and form a recess in which the pole rests. A bolt passes through the reach pole and hounds and is held in place by a spring button, by which the rear axle is coupled to the reach pole.

Claim.—The coupling device *a a a*, *e e*, *b*, *f*, *g*, all substantially as and for the purpose set forth.

81,241.—GEORGE W. N. YOST, Corry, Pa., assignor to the CORRY MACHINE CO., same place.—*Harvester.*—August 18, 1868.—A device for encasing and protecting the gearing of grass or grain cutting machines.

Claim.—The two cases, A and A′, combined with the main axle G, when the axle is put transversely through the middle of the cases, so that the body may be evenly balanced thereon, and combined with and fastened together by the axle bolt H, when the axle bolt is put through the cases, parallel with the main axle, midway between the middle and hind end, and also combined with the support bolt I, when the support bolt is put through the cases parallel with the main axle, midway between the main axle and the fore end.

81,242.—FRANCIS S. BABBITT, Taunton, Mass.—*Nozzle for Pipe.*—August 18, 1868.—A hollow screw-plug, provided with ports, is arranged within a tapering hollow tube, having two arched chambers, so that by turning a milled nut on the end of the screw plug the issuing stream may be of the full size of the bore, or assume the form of spray, or of a hollow cone, as desired.

Claim.—An improved hose-pipe nozzle, consisting of the body A, the hollow screw plug B, the milled nut D, and the check nut E, the whole being constructed and made to operate together, substantially as above set forth.

2. The screw plug B, as made with the chamber or recess *f*, the same operating in conjunction with the stud or projection *h* disposed on the inner periphery of the body A, in the manner and for the purpose set forth.

81,243.—Christian Barry, Philadelphia, Pa.—*Air Tight Can.*—August 18, 1868.—The flaring end of the can, in connection with the depression of the cover, enables the tool to be applied externally.

Claim.—A cylindrical can, having ends flaring from the direct line of the body, and the lid or cover for the top or bottom of which is swaged or depressed and bent at the edge so as to overlap the flaring end of the can, to which it is secured, substantially in the manner herein described and represented.

81,244.—W. J. Benedict and John Wylie, South Norwalk, Conn.—*Felting Machine.*—August 18, 1868.—A fold of cloth is attached at one end to the upper part of a vertically-reciprocating steam-tight box, and passing down under a roller upon which the hat cones are placed, is secured at the other end to a plate which may be readily adjusted during the process of felting.

Claim.—1. In a hat felting and napping machine, the combination of the reciprocating steam box L, the bight or loop of cloth H, roller K, and adjustable plate M, substantially as described, for the purpose specified.

2. The racks J J, box L, and bight or loop of cloth H, constructed and arranged substantially as set forth, and for the purpose specified

3. The arrangement of the shaft D, crank E, rod F, box L, uprights B, and looped cloth H, all substantially as and for the purpose shown and described.

4. The screw K, in combination with the plate M and looped cloth H, arranged substantially as shown for the purpose set forth.

81,245.—Silas R. Boardman, Fort Wayne, Ind.—*Water Elevator.*—August 18, 1868.—A long bucket of conical shape is provided with a disk below its bottom for conducting off the water, which latter escapes through a valve that is opened by a tilting rod and stop when the bucket is elevated from the lower apartment.

Claim.—The bucket A, the bottom valve *a*, the tilting rod *d*, the stop *s*, the disk *b*, in combination with the cylinder C, the same being constructed in the manner and for the purpose substantially as set forth and described.

81,246.—C. F. Bosworth, Milford, Conn.—*Attaching Wire to Brim of Hats.*—August 18, 1868.

Claim.—Attaching the wire to hat brims by a continuous or direct line of stitches parallel with the wire, the said stitches alternately crossing the wire, so as to secure the wire to the brim, substantially in the manner specified.

81,247.—Elias Brock and Judson Shultz, Ellenville, N. Y., assignors to Judson Shultz.—*Machine for Unhairing Hides.*—August 18, 1868.—Designed as an improvement upon patents to E. Brock and to J. Shultz, each dated June 25, 1867.

Claim.—1. So arranging the operating mechanism of the feed of an unhairing machine that the said feed may move in the same direction with or in an opposite direction from the movement of the knife cylinder, at the will of the operator, substantially as herein shown and described, and for the purpose set forth.

2. Connecting the knife-cylinder B with the main feed roller H, by means of the gear wheels D F I J G, and lever E, constructed and arranged substantially as herein shown and described, and for the purposes set forth.

3. The combination of the roller T, ratchet wheel U, and pawl V, with the pivoted frame R, for the purpose of adjusting the tension of the apron S, substantially as herein shown and described.

4. The combination of the rollers L M Q, and finger gear wheels N O P, with each other, and with the rollers H, substantially as herein shown and described, for the purpose of holding the hide and controlling its movement.

5. So arranging the operating mechanism of the feed of an unhairing machine, as to ease or diminish the shock caused by reversing the feed, substantially as herein shown and described, and for the purpose set forth.

6. The combination of the crank arm K with the journal of the feed roller H, and with the slotted gear wheel G, substantially as herein shown and described, and for the purpose set forth.

81,248.—Arthur W. Browne, Brooklyn, and William F. Goodwin, East New York, N. Y.—*Mechanical Movement.*—August 18, 1868.—Keyed to a shaft and running loosely upon it, is a series of cog wheels, between which is a series of pinions carrying arms, on the extremities of which are a pair of geared pinions, one of the same meshing with the driving cog wheel, around which they are carried by an arm, while the other is cast or attached to a cog wheel of larger diameter than itself, which gears with the next loose pinion on the shaft.

Claim.—1. Any number of revolving arms F F^1 F^2, each carrying a train of wheels, rotated by the wheels D D^1 D^2, in the manner herein described, to communicate motion with multiplied speed or power.

2. The intermediate pinions G G^1 G^2, employed in combination with the wheels D H I, substantially as and for the purposes explained.

81,249.—Manly T. Campbell, Lima, Pa.—*Clothes Drier.*—August 18, 1868.—Horizontal racks are attached to a main or central post and to outer hinged legs, and held by means of bolts, so that when not in use, the device may be compactly folded.

Claim.—The hinged legs E, applied to the racks C D of the main stand A, in the manner described, and held in supporting position by the bolts F, or their equivalent, for the purpose set forth.

81,250.—Edward Card, North Providence, R.I.—*Shoe Buttoner.*—August 18, 1868; antedated August 7, 1868.—The button being held by the lower slotted jaw, the descending hook of the other jaw catches into the button hole and draws it upon the button, the presser performing the function necessary to complete the operation.

Claim.—The use of a jointed arm D, furnished with a hook *a* and presser *b*, operating substantially as described.

2. The combination of the opening *c*, hook *a*, and presser *b*, to insert a button in a button hole, substantially as described.

81,251.—John Casho, Newark, Del., assignor to Casho and Company, same place.—*Link for Endless Chain for Horse Powers.*—August 18, 1868.—The construction is designed to prevent the links from spreading apart, the same being held by the through bolts or welded shanks, so as not to yield vertically, the longitudinal rib, at the same time, preventing any torsion of the through bolts.

Claim.—1. The combination of the grooved and slotted plank with ribbed journal-bearing brackets, geared links, friction rollers, and through bolts, all arranged as set forth for joint operation.

2. The combination, substantially as set forth, of the grooved and slotted plank with ribbed journal-bearing brackets, each carrying geared links and friction rollers, and secured to the plank by a shank connecting the brackets, for the purpose set forth.

81,252.—Angelo Cattaneo, Newark, N. J.—*Felting Machine.*—August 18, 1868.—The upper rollers while revolving in one direction receive an endwise motion, so as to combine a squeezing and a rubbing effect.

Claim.—A felting apparatus, formed of two ranges of rollers, arranged in pairs, and driven by the worm pinions and gears, as represented, in combination with the frame *g*, carrying the upper range of rollers, to which frame and rollers a reciprocating motion is given in the manner and for the purposes specified.

81,253.—William R. Clough, Cambridge, Mass.—*Paper File.*—August 18, 1868.—The saddle pieces in the base of the device, to which the pivoted links are attached, serve to hold the cap in any desired position.

Claim.—1. Combining, with the cap C, the two links E E′ and D D′ with the base A B, arranged and operating substantially as described, and for the purpose set forth.

2. Combining, with the links E E′ and D D′, the saddles N N′, arranged and operating substantially as described, and for the purpose set forth.

81,254.—Charles S. Corbett, Middleville, Mich.—*Water Wheel.*—August 18, 1868.—The upper face of the wheel is made concave and the lower face convex, so as to cause the water to pass to the buckets of the lower section and be discharged at the center, and thence to the upper section.

Claim.—The wheel A, composed of sections C and D, when the upper and lower surfaces of the same are concave and convex in form, and the whole is constructed and arranged substantially as described, as and for the purposes specified.

81,255.—John P. Courtney and Charles Redmayne, Brooklyn, N. Y.—*Device for Applying Cloth Patches to Paper Collars.*—August 18, 1868.—A paste receptacle is formed with a space in its bottom part, the surrounding portion of the base being provided with perforations by which the paste is confined to the portion required for the patch.

Claim.—1. The receptacle *a*, for paste, formed with a perforated bottom, of the size and shape required, for pasting the surface of the collar for the cloth lining or patch, substantially as set forth.

2. The tube *f*, applied in the bottom of the paste receptacle *a*, in combination with the peg *e*, that acts as a guide to the button hole of the collar, the patch, and the paste receptacle, substantially as set forth.

81,256.—William W. Crapster, Mechanicsburg, Pa.—*Hoisting Apparatus.*—August 18, 1868.—The drum is placed loosely on the shaft and is made to rotate with the same by means of a clutch or dog passing through the shaft, so as to engage with the drum when required to turn the latter. A rope passing round the drum is operated by a connecting bar and bell crank to act as a brake.

Claim.—1. The combination of the drum D, shaft B, clutch or dog E, rod F, and lever G, for attaching the drum to the shaft, and detaching it therefrom, substantially as shown and described.

2. In combination with the above named elements, the connecting bar I, bell crank I′, and the belt or chain K, arranged substantially as shown and described.

81,257.—James A. Cushman, Seneca Falls, N. Y.—*Hose Pipe Nozzle.*—August 18, 1868.—Four metallic segments are so arranged as to form a continuous ring when lapped together, and by simply turning the cap the orifice of the nozzle is contracted or expanded at pleasure.

Claim.—The overlapping segments E, operated through the medium of the pins F, fixed radial slots *i* in the parts C, and the curved movable slots K in the section H, whereby, as the nozzle is contracted and expanded, the overlapping segments form a continuous metallic ring, as herein shown and described, for the purpose specified.

81,258.—Jacob David, New York, N. Y.—*Curtain Fixture.*—August 18, 1868.—The roller is so placed that one end of the curtain can be drawn up and the other down as required.

Claim.—The within-described method of hanging and operating a curtain, by securing the same to its roller at or about the middle of its length, said roller being fastened to the window frame at the middle thereof, and the curtain being operated substantially as set forth.

81,259.—Anthony G. Davis, Watertown, Conn.—*Umbrella.*—August 18, 1868.—An improvement on his patent of March 10, 1868. The cap consists of a flanged ring cut away at regular intervals so as to leave projections which are bent at right angles to the ring.

Claim.—The cap *a*, constructed as explained, in combination with runner A, substantially as and for the purpose described.

81,260.—S. W. Davis, Wilmington, Del.—*Bit Stock.*—August 18, 1868.—A movable case or sleeve provided with a shoulder fits upon the shank, and slides freely upon the same against the tension of a spring, which latter serves to bear the free end of a pawl in a notch in the bit.

Claim.—The combination of the shank D, and spring *e* coiled thereon, the movable sleeve C, pawl *a*, and projection *b*, in a bit stock H G, all substantially as shown and described, and for the purpose set forth.

81,261.—John S. Davison and Nicholas Lofton, Cranberry, N. J.—*Cover for Chambers and other Vessels.*—August 18, 1868.—The edge of the circular sheet of caoutchouc incloses the wire hoop, and is secured thereto by cement, in order to prevent the ingress of air or the escape of offensive odor.

Claim.—The formation of an air-tight cover, by means of caoutchouc or India-rubber, when stretched over a hoop as herein described, the whole being arranged as and for the purpose above set forth.

81,262.—Robert Bleloch Duncan, West Roxbury, Mass.—*Bustle Attachment for Skirt.*—August 18, 1868.—A supporting frame formed with a projecting piece is secured to the waistband behind, and serves to maintain the hoop skirt in proper position and prevent its bulging out in front.

Claim.—A bustle frame or hoop shirt supporter, constructed and adapted to be used as and for the purposes set forth.

81,263.—Job Dyson, New Britain, Conn.—*Frame for Stretching Drawers.*—August 18, 1868.—The stretcher boards are designed to shape the drawers in conformity with the natural contour of the limbs, and the bar, which retains the boards in their expanded condition, affords a ready means of suspending the instrument on a frame.

Claim.—A board or frame for stretching drawers, constructed substantially as described, with its hinge *a* arranged in direction of the width of the boards A A, at their upper or body ends, and they shaped on their edges *b c* to conform to the profile of the leg, and provided with a stretcher, B, at their opposite ends, substantially as specified.

81,264.—William Emmett, Paterson, N. J., assignor to himself and S. E. Horton, Windsor Locks, Conn.—*Lathe Dog.*—August 18, 1868.—The dog is hung in the lathe plate by the pinion shank. The object to be dogged is grasped between the angular faces of the dog frame and sliding frame, and under this arrangement the faces of the sliding frame may be passed entirely beyond those of the dog frame; hence very small objects may be held.

Claim.—The construction and arrangement of the dog frame B, having angular sides D, pinion shank E and groove O, the set screw C, sliding frame F, consisting of plates G H with inclined sides I, stud or projection J, extension arms M, and lug N, and operating substantially as and for the purpose described.

81,265.—Samuel F. Estell, Richmond, Ind.—*Animal Trap*—August 18, 1868.—The platform being depressed by the weight of the game is caught by the latch and closes the entrance.

Claim.—1. The lever, as formed by the end of latch *e*, extending beneath platform B, by which the platform is raised by the action of gate P, substantially as specified.

2. The latch *e*, for holding the platform in its reversed position when operated by means of gate P, substantially as described, in combination with the lever *e′* that raises the platform simultaneously with the opening of the gate.

3. The lock H, for securing the gate when operated by the platform, as set forth.

81,266.—John A. Finnegan, Charlestown, Mass. —*Self-Adjusting Curb for Hydrant.*—August 18, 1868.—Relative changes between the mouth of the curb and the surface are prevented by the broad flange supporting the curb, inasmuch as the curb cannot settle materially by its weight, and any subsidence or upheaval of the surface earth is attended with a corresponding movement of the flange and curb.

Claim.—A curb made with a flange, and arranged relatively to the pipe or well, substantially as and for the purpose specified.

81,267.—John F. Folmer, Philadelphia, Pa., assignor to himself and A. J. Kelly, same place.—*Circular Saw.*—August 18, 1868.—Designed to avoid the tedious manipulation required in gumming the saw as ordinarily done, the sharpening being effected by cutting away the beveled ends of the teeth.

Claim.—A circular saw, the blade of which is composed of any desired number of straight sides, the continuation of each of which forms the back of one tooth, the front of the latter being parallel, or nearly so, with the back, as set forth, for the purpose specified.

81,268.—M. D. Fowler, Vincennes, Ind.—*Rat Trap.*—August 18, 1868.—A pivoted drop in the bottom of the trap is so connected with tripping devices that, upon the bait being touched, the animal will fall into a receptacle below.

Claim.—The arrangement herein shown and described with relation to the catch-arm E and lever catch F, of the crank shaft M, connection N, angular lifting lever O, all arranged within the trap A G H, to operate as set forth, for the purpose specified.

81,269.—Charles Gooch, Cincinnati, Ohio.—*Skate.*—August 18, 1868; antedated August 8, 1868.—The skate is secured to the boot sole by turning the thumb-nut which causes the toe clamp and movable heel to clamp the sole. The toe and heel clamp can be readily adjusted to boots of different sizes by changing their relative positions on the screw rod.

Claim.—The sliding toe clamp C, sliding heel clamp M, fixed heel clamp I, screw rod G, and thumb nut K, all constructed as described, whereby said clamps are adapted to bear only upon the sole and heel of the boot or shoe, without touching the uppers, as herein shown and described.

81,270.—Adam Good, Jr., and Simon Strouse, Titusville, Pa.—*Connection for Wooden Rod.*—August 18, 1868.—The tapering tube is driven over the wooden section of the rod to compress the wood upon the tongue piece, the latter being connected to the tube through the medium of the adjusting screw. The union coupling joins the adjacent tubes.

Claim.—As combined with the union joint A, the socketed connection, consisting of the tapering tube B, the tongue C, with its enlargements, and the adjusting screw D, all substantially as shown and described.

81,271.—William F. Goodwin, East New York, N. Y.—*Mechanical Movement.*—August 18, 1868.—An arrangement of gearing within a series of pulleys, upon which the driving belt may be shifted to increase the power or speed of the drum.

Claim.—1. The drum F, with its ratchet *b* and pawl *c*, in combination with two or more of the series of pulleys G, all substantially as shown and described.

2. The combination of two or more of the series of pulleys G with their circles of internal cogs *g*, external pinion *k*, and intermediate pinions *i* and *j*, and arm I, substantially as shown and described.

3. The arm I, carrying the pinions *i* and *j*, in combination with the shaft D, both so constructed that the said arm will move freely on the said shaft longitudinally, but will not revolve upon it, substantially as and for the purposes shown and described.

4. The combination of two or more of the series of pulleys G with the non-revolving shaft D and arm or arms I, all as shown and described.

81,272.—Christopher Gullmann, Poughkeepsie, N. Y.—*Mop Head and Wringer.*—August 18, 1868.—The mop may be compressed forcibly between the stationary cup and the block attached to the mop head, the handle of the mop-head forming the lever, and the hooks of the stationary cup the fulcrum.

Claim.—1. The combination of the hinged jaws B D, convex block C, handle A, and sleeve *b*, as shown and described.

2. The hooks *e*, on the stationary cup E, in combination with the jaws B D, block C, and handle A, as and for the purpose set forth.

81,273.—Wilhelm Hoeft, Fountain City, Wis. —*Washing Machine.*—August 18, 1868.—The parts which act directly upon the clothes are made to approach and recede from each other by the vibration of the arms to which they are attached, said arms receiving motion from a central crank shaft through the medium of yielding connections.

Claim.—1. The combination of the pivoted frames E, beaters F, connecting rods G, and double cranks *c′*, formed upon the driving shaft C, with each other and with the tub B, when arranged so that the double beaters approach and leave each other, substantially as herein shown and described, and for the purpose set forth.

2. The arrangement of the hinged parts *b′* of the sides of the tub B, end boards of said tub, and removable top K with each other and with the projecting ends of the frame A, substantially as herein shown and described, and for the purpose set forth.

81,274.—Edward Holmes and Britain Holmes, Buffalo, N. Y.—*Power Windlass for Making Casks.*—August 18, 1868.—This invention combines in a windlass, a friction driving pulley, to prevent injurious strain upon the truss rope or windlass, and a clutch-coupling to the windlass drum, whereby said drum may be readily disengaged and reversed to unwind the truss rope therefrom.

Claim.—The combination of the driving pulley E, provided with a friction clutch, the screw shaft D′, worm D, worm wheel C, clutch H, and windlass drum B, operating in the manner and for the purpose described.

81,275.—S. A. Holt and C. H. Williams, Hudson, Mass.—*Peg Feed Stop for Pegging Machinery.*—August 18, 1868.—When the shoe is removed from the machine, the peg-feeding pawl is thrown out of gear, and no more pegs are supplied for the time being.

Claim.—The lever C C′, or its equivalent, for actuating the pawl *a a′*, substantially as described, and for the purpose set forth.

81,276.—Erwin T. Hope, Philadelphia, Pa.—*Elevator.*—August 18, 1868.—To elevate the carriage, the tubes are extended by introducing water at the bottom of the lower stationary tube. The carriage moves an arm projecting into its path, and thereby closes the cock and arrests the ascent at the proper moment.

Claim.—1. The combination, with the telescopic tubes of a carriage H, and ways K, substantially as and for the purpose described.

2. The combination, with the telescopic tubes, of the rods E and cushions L, substantially as and for the purpose described.

3. The combination of the telescopic tubes, provided with cushions L and stuffing-boxes D, and connected by rods E, the grooved ways K, carriage H I, three-way cock N, and rod M, having arms, as described, all substantially as herein set forth and shown, for the purposes specified.

81,277.—A. S. Kilby, Huntington, Ind.—*Apparatus for Printing Photographs.*—August 18, 1868.—The grouping of the heads or other pictures is accomplished by moving the slider to obtain a lateral arrangement of the impressions; the longitudinal arrangement being attained by winding up the paper on the roller.

Claim.—The leaves D E, slider G, case A, roller B, any suitable clamps *f f′*, all substantially as described, when contributing to form an apparatus for printing photographic pictures, all as set forth.

81,278.—G. W. King, Saratoga Springs, N. Y. —*Vagina Injector.*—August 18, 1868.—Designed to take the place of the female syringe in common use.

Claim.—1. An improved vagina injector, formed by the combination of the bowl or cup A and tube B, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

2. Forming a partial cover, C, upon the top or mouth of the cup or bowl A of the injector, substantially as herein shown and described, and for the purpose set forth.

81,279.—M. M. KNOWLES, Elmira, N. Y.—*Extension Ladder.*—August 18, 1868.—This contrivance is made to serve either as an ordinary house ladder or as a step ladder.

Claim.—The combination of ladders A and B, adjustable brace D F, and pin J, all constructed and arranged substantially as described, as and for the purpose specified.

81,280.—J. D. LEGG, Long Eddy, N. Y.—*Curtain Fixture.*—August 18, 1868.—Improvement on the curtain fixture patented to J. D. and J. W. Legg, May 5, 1868. When the curtain is hooked at bottom to the sill, the pulling of the cord will roll up the curtain from the top and lower it, the cord being fastened to a bracket to hold the curtain in the desired position.

Claim.—The coil springs J, inclosed concentrically within the cylindrical boxes G, and attached to the shafts or axes I, and the peripheries of the boxes G, in combination with the pawls *e*, ratchets d^x, and curtain A, all being arranged substantially in the manner as and for the purpose set forth.

81,281.—JASON B. LOOMIS, Chelsea, Mass.—*Bustle.*—August 18, 1868.—A series of bowed springs provided with end pockets, and connected at their centers by a bow spring having a hook at its lower end, which connects with an eyeleted band, so as to increase or diminish the curvature of the connecting spring.

Claim.—1. The arrangement of bow springs *b* (connected as described) with the bow spring *c*, the hook *f*, or its equivalent, and the adjusting strap *g*, the whole being applied to a waistband, as set forth.

2. The combination and arrangement of the shield or abutment *k* with the bustle made and provided with the spring *e*, as set forth.

81,282.—DUMONT MARBAU, Hubbardstown, Mass.—*Easy Chair.*—August 18, 1868.—The chair seat rocks upon its elastic supports.

Claim.—The springs E, arranged as described, in combination with the seat A, rails C, links F, and hooks *g*, substantially as set forth, for the purpose specified.

81,283.—JOHN MERLETT, Bound Brook, N. J., assignor to himself and JOHN SMALLEY, same place.—*Breech-loading Fire-arm.*—August 18, 1868; antedated August 7, 1868.—The recess, at the forward end of the breech piece, permits the same to swing laterally, and is covered by a plate to exclude dirt, &c. The breech piece being released by the retraction of the hammer, is acted upon by a spring which throws it into position to receive the cartridge.

Claim.—1. The laterally-swinging chambered breech piece C, attached to the barrel by the semicircular joint *c*, and arranged in relation with the spring A^*, substantially as and for the purpose herein set forth.

2. The sliding plate or apron *e*, arranged in relation with the joint *c*, substantially as and for the purpose specified.

81,284.—ANTHONY NULSEN, EUGEN HAURISEN, and ALBERT WAGNER, Cincinnati, Ohio, assignors to A. NULSEN & CO.—*Brick Machine.*—August 18, 1868.—The result of the rotation and approximation of the rolls is to both feed down and gradually temper and compress the clay, and to force the same into the molds with the requisite impetus to produce compact and homogeneous bricks.

Claim.—The relative arrangement of the endless carrier A, hopper G, case F, rolls B C D E, and throat H, constructed to operate as described.

81,285.—SAMUEL PATTON, Chatsworth, Ill.—*Belt Tightener.*—August 18, 1868.—The belt is kept in contact with the face of its pulleys, so that uninterrupted motion shall be transmitted from one shaft to another, even though one side of the belt should hang slack.

Claim.—1. The arrangement of the drums D D′, in connection with the belt C and pulleys B B′, in such a manner that the drums press the belt directly against the surface of the pulleys, substantially as described.

2. The combination and arrangement of the belt C, drums D D′, pulleys B B′, spring bearings E E′, and adjusting screws, or their equivalent, F F′, substantially as shown and described.

81,286.—JOSEPH A. PEABODY, Philadelphia, Pa.—*Mortising Machine.*—August 18, 1868.—Circular plates provided with rectangular slots are made to fit in flanged rings set in the side of the movable table, and, by turning the plates so that the slots will assume the required position, a right or left hand mortise of the desired angle may be made.

Claim.—The regulators, composed of rings R and R′, plates P and P′, with slots S and S′, bolts *b*, b^1, b^2, and b^3, screws C and C′, substantially in the manner and for the purpose specified.

81,287.—ANDERSON H. PILAND and ANDREW H. TURNER, Indianapolis, Ind.—*Stock Pump.*—August 18, 1868.—Water is forced from a submerged barrel into a trough by the cattle stepping on a platform, which operates a piston.

Claim.—1. The foundation framework, consisting of the elements A B C F G, constructed and arranged substantially as and for the purpose set forth.

2. The hinged platform E E′ E″, supported on the timbers J and by the braces K L M, strutting from the sliding post D, and attached to the post F by the straps I I′, as set forth, in combination with the lever N, eduction pipe V, and pump, all arranged and operating substantially as and for the purpose set forth.

3. The cone-shaped piston T, packed as described, in combination with the valve chamber and valve X, and eduction pipe V, attached to the vibrating platform, all arranged and operating substantially as set forth.

81,288.—J. F. POOL, Monroe, Wis.—*Grain Separator.*—August 18, 1868.—Improvement on his patent of January 14, 1868; designed to save the grass seed and effect the separation of a third grade of wheat.

Claim.—1. The spouts *i i*, placed one on each side of the frame A, and emptying into the conductors O O, substantially as and for the purposes herein set forth.

2. The box *h*, placed under the slide *g*, so that when said slide is removed the grass seed will drop into the same, substantially as herein set forth.

3. The adjustable and movable screens *d d*, when constructed as described and operating as and for the purposes herein set forth.

4. The cross-screen *m*, placed between the series of screens *c c* and screens *d d*, substantially as herein set forth.

81,289.—GEORGE H. REYNOLDS, New York, N. Y., assignor to himself and CORNELIUS H. DELAMATER, same place.—*Hoisting Machine.*—August 18, 1868.

Claim.—1. In a system of hoisting machines, providing for end play by the employment of the feather *b*, or its equivalent, in combination with the V-shaft, friction gear wheels B′ C^1, substantially as and for the purposes herein set forth.

2. In combination with the shaft C and friction wheels B′ C^1, the movable box M′, links m^2, and eccentric pins O, mounted relatively to the shaft P and handle *p*, so that the pins *o* shall come nearly on their dead points when the friction wheels B′ C^1 are properly connected, as and for the purposes herein set forth.

3. Connecting the shaft C and the winding drum E in a hoisting machine by the peculiarly-constructed and arranged parts C^3 C^4 and E^3 E^4, as and for the purposes herein set forth.

4. The bearings m^1 for supporting the drum E and its connections, independently of the concentric shaft B, as and for the purposes herein set forth.

5. The binders H h^1 h^2, constructed and arranged to serve relatively to the shafts B C, and their several connections, so as to support the frame A and aid in preventing any spring or displacement of the parts under the strains and vibrations to which they are subjected, as herein set forth.

81,290.—C. B. Richards, Hartford, Conn.—*Breech-loading Fire-arm.*—August 18, 1868.

Claim.—So shaping and connecting the breech plug *a* and a yielding hooked extractor, that the free end of the extractor will be locked to the breech plug by the relative movement of the two in the act of retraction, substantially as and for the purpose hereinbefore set forth.

81,291.—Thomas Richards, Medford, Mass., assignor to Edward D. Manning, same place.—*Machine for Manufacturing Fuse.*—August 18, 1868.—The powder descends through a vertical, rotating shaft, from which it is delivered at a point where strands of thread are twisted about it, a continuous fuse being thereby formed. The fuse, pursuing a downward course, is overlaid with threads supplied from spools on a rotating frame. These overlaying strands are passed through open slots in a hollow, rotating shaft, after which a ring is fitted over it, and secured for the purpose of keeping the strands in place.

Claim.—The hollow shaft M, having open slots *s* at its upper end, in combination with the ring *t*, substantially as described, for the purpose herein set forth.

81,292.—Charles L. Ridgway, Boston, Mass.—*Corkscrew.*—August 18, 1868.—The hinged fulcrum is provided with a notch, which fits upon a shoulder on the screw portion, for the purpose of preventing the screw from being bent when in use.

Claim.—The stud or fulcrum F, provided with the notch N, working in combination with the shoulder E, substantially as described, and for the purpose set forth.

81,293.—Alva Rittenhouse, Philadelphia, Pa.—*Clamp for Holding Leather.*—August 18, 1868.—On depressing the lever with the foot, the lower ends of the jaws are spread apart, and their upper ends made to firmly clamp the leather to be stitched.

Claim.—The arrangement of the jaws J and J', hinge H, and lever L, substantially in the manner and for the purpose specified.

81,294.—Hiram H. Robbins, Lynn, Mass.—*Feather Renovators.*—August 18, 1868.—Two closed cylinders, one placed within the other, are provided with a steam pipe and a tubular valve, and a series of steam ports so arranged as to allow the steam to enter the inner cylinder to dampen the feathers, and then to cut off the steam from the inner cylinder and allow it to circulate about its exterior.

Claim.—The above-described device for restoring feathers, consisting of the two cylinders A and B, constructed and arranged as described, in combination with the steam conduits *f f*, &c., and the ports *g g*, &c., such conduits and ports being regulated by the tubular valve *h*, and the whole operating in manner and for the purpose as before explained.

81,295.—L. C. Robinson, Shepardsville, Mich—*Shingle Machine.*—August 18, 1868.—The saw gate is provided with two sashes and two sets of saws, one of the latter being moved within the other, by means of a bell crank, connecting rod and feed roller. A butting saw is secured to a mandrel provided with a sliding ratchet bar and pawl, by which the action of a coiled spring is restrained until the saw has swung back from the shingles.

Claim.—1. The combination with the sash C, of the laterally moving sash *b*, having its saws hinged, as described, and operated by the feed roller d^2, through the medium of the bell crank *d* and connecting rod d^1, substantially as and for the purpose specified.

2. The cut-off saw D, in combination with the sliding mandrel, spring *f*, ratchet bar f^1, and pawl f^2, operating in the manner described, with relation to the hinged saws *a a'*, as and for the purpose specified.

81,296.—F. Rohrbacher and F. Hormann, Philadelphia, Pa.—*Fruit Jar.*—August 18, 1868.

Claim.—A jar, having, at the inside of the neck, inclined recesses *b*, and vertical recesses *c*, open at the top, and above the said recesses a flanged projection, the upper edge of which is an unbroken circle, in combination with a cap, B, rubber ring *i*, and lugs *a*, arranged as specified.

81,297.—William M. Russell and D. E. Holmes, Cincinnati, Ohio.—*Railroad Car Ventilator.*—August 18, 1868.—The deflector is fastened in a slot formed in a block which is inserted in the side of the window frame, and held in place by means of projecting pins entering the sash and the lower sash frame.

Claim.—The deflector D E, when the same is provided with projecting pins *e e'*, in combination with the angular base, *b*, and sash C, and the whole is so constructed and arranged to operate substantially as described and for the purpose specified.

81,298.—William Sailer, Philadelphia, Pa.—*Clamps.*—August 18, 1868.—When the clamp is turned laterally by pressure at one end, the serrated projections will bite into the opposite sides of the joist and firmly hold the clamp.

Claim.—1. A clamp, consisting of a bar, *a*, upon which are projections, *b d*, serrated at their edges, and lugs *f f*, the said clamp being adapted for use in connection with a wedge, *y*, substantially as described.

2. The clamp A, consisting of a bar, *a*, upon which are lugs *f f*, and projections *d b*, serrated at their inner edges, the said lugs and projections being arranged as and for the purpose described.

81,299.—George Scott, Louisville, Ky.—*Elevator.*—August 18, 1868.—The rope that sustains the platform passes over a series of pulleys and is secured at both ends to the upper portion of the frame. A balance weight on the rope serves to maintain a continuous tension of the same. The hoisting rope passing through "bulls'-eyes" in the corners of the platform enables a person standing on the platform to operate the same.

Claim.—1. The combination of the wheel G, rope *f*, axle Q, wheels Q' and P, and the clutch O, substantially as and for the purpose set forth.

2. The pulley E, when constructed with a double beveled groove, and used in combination with a rope, *b*, fixed at both ends, and operating substantially as described.

3. The arrangement of the rope *b*, fixed at both ends, at B B, the platform F, the pulleys E, L, D, and C, the latter being placed in a balance weight, M, substantially as described.

4. The arrangement of the rope *f*, passing through bulls'-eyes in the platform F, substantially as and for the purpose set forth.

81,300.—Thomas S. Sedgwick, Onargo, Ill.—*Fastener for Buttons, Studs, &c.*—August 18, 1868.

Claim.—An auxiliary attachment for securing buttons and studs, consisting of an elastic loop passing through or united to the fabric near to the button-hole or eyelet, all substantially as described.

81,301.—Jacob Shearman, Fayetteville, Pa.—*Machine for Turning Boot Leg.*—August 18, 1868.—The boot leg when seamed up is slipped upon the cylinder and the straps of the legs placed on hooks attached to a rod passing through the cylinder. A ring, surrounding the cylinder, and rising simultaneously as the hooks descend, actuates the leg upward on the cylinder, thus turning it right side out.

Claim.—1. The cylinder E, table B C C, wheels *c*, racks *d d*, rod *f*, hooks *g*, shaft *a*, and crank *j*, all arranged and operating substantially as and for the purpose shown and described.

2. The racks *b*, and ring *i*, substantially as described, in combination with the accessory mechanism, all as set forth.

81,302.—Robert Side, Union Street, Borough, England.—*Machine for Obtaining Motive Power.*—August 18, 1868.—As the cranks rotate one within the other in opposite directions in each pair of cranks, the lowermost crank will lift one end of the beam and the other crank will depress the opposite end of the said beam, and when that end of the beam which is being lifted has passed a horizontal line the opposite end of the beam will move downward, thereby lengthening this end of the beam and cause it to descend with a force equal to the difference between the long and short weighted levers of the beam thus brought into action.

Claim.—The cranks, working in pairs, one within the other, in opposite directions, for imparting rocking motion to weighted beams, having no fixed axis of motion, but so constructed that the crank pins move in slots in the said beams, substantially as above described.

81,303.—Franz G. Siemers, Winona, Minn.—*Ice Cutter.*—August 18, 1868.—To a vertically reciprocating frame is attached a series of knives or pickers against which a piece of ice is forced by means of a follower suitably operated.

Claim.—1. The reciprocating frame D, having the series of pickers *a a'*, arranged to operate substantially as described.

2. In combination with the ice-cutting frame D, the follower L, arranged and operated substantially as described, for feeding the ice to the pickers as it is cut.

3. The combined ice cutter and refrigerator, when constructed and arranged for use, as shown and described.

81,304.—Thomas P. Sink, Fairton, N. J.—*Oyster Dredge.*—August 18, 1868.—Each end of the dredge rake is connected by bolts or pivots to the frame, so that the rake can be adjusted and set to any desired pitch, where it is held by a clevis or ratchet.

Claim.—1. The construction of an oyster dredge with an adjustable rake, as herein described, and for the purpose set forth.

2. The clevis or ratchet, or its equivalent, in combination with an oyster dredge, for the purpose of setting and keeping a dredge rake to the proper pitch, as herein described, and for the purpose set forth.

81,305.—David P. Smith, Salem, N. J.—*Faucet.*—August 18, 1868.—A washer or jam nut, having a broad face and provided with an elastic packing, is placed on the faucet, and when the latter is inserted in a vessel, the washer is screwed against the face of the said vessel.

Claim.—The washer or jam nut B, in combination with the elastic packing C and the screw cut cylindrical portion *a' a'''* of the barrel A, the said parts being constructed and arranged to operate together, when applied to the wooden vessel, substantially as and for the purpose described.

81,306.—Theodore Steinway, New York, N. Y.—*Piano Forte.*—August 18, 1868.—The metallic hangers or standards are provided with holes to receive the metallic traverses, so that the derangement of the action due to expansion and contraction of the wooden rail is avoided. Flanged metallic rods, forming traverses, connect the metallic hangers of the action frame so as to form a firm connection for the same. The ends of the standard of the action frame are formed with segments or spheres, so that the ends can roll in their steps while the hangers are being adjusted by the set screws.

Claim.—1. A metallic action frame for piano fortes, said frame being secured to the wrest-plank, and composed of metallic hangers or standards A, provided with holes to receive the metallic traverses, substantially as shown and described.

2. The flanged traverses B, constructed substantially as and for the purpose set forth.

3. The intermediate plates C, provided with holes to receive the flanged traverses B, substantially as and for the purpose described.

4. The adjusting screw F, provided with a square end *n*, and jam nut *o*, in combination with the hangers or standards A, substantially as and for the purpose set forth.

5. The segmental or spherical ends, *p*, of the hangers, fitting into corresponding steps, and operating in combination with the screws F, substantially as and for the purpose described.

81,307.—Charles O. Stevens, Auburn, Me.—*Horse Shoe.*—August 18, 1868.—The shoe is constructed with a cap to fit over and about the hoof. It is jointed at the sides, and fastened to the hoof by means of a screw in the rear.

Claim.—The top piece B, and rear piece C, joined by the pivot G, secured to the hoof by means of the screw cross bar *e*, substantially as herein set forth, and for the purposes herein mentioned.

81,308.—James Stewart, St. Cloud, Minn.—*Fastening Handles to Axes, Picks, &c.*—August 18, 1868.—A tongue is inserted into and forms a part of the handle, and is so constructed that when the handle is inserted in the eye of the tool the wood will press firmly on either side of the said tongue.

Claim.—The metal tongue C, constructed as described, and provided with a circular projection, *i*, on its lower end, and one or more bolts, *a*, on its upper end, when used for the purpose of fastening handles to tools, substantially as herein set forth.

81,309.—Squire Teal, Rochester, N. Y.—*Engine Lathe.*—August 18, 1868.—The guide bar is made in two parts to render it adjustable. Upon one part is a movable guiding pin which works in a groove of a pattern plate bolted upon a bracket, the object being to turn shafts in a tapering or an irregular form, without changing the center of the tail-block of common engine lathes.

Claim.—1. The combination of the adjustable bracket H, the pattern plate attached thereto, and the jointed guide bar B, with the tool holder, when arranged and operating substantially as described.

2. The combination of the sleeve *r*, set screw *e*, and screw *f*, with the tool holder, in the manner described, for the purpose of permitting or prohibiting to the tool holder, as may be found necessary, independent transverse movement.

3. Arranging the bracket which supports the pattern on the tail stock of the machine, and connecting the tool holder with the pattern by a jointed lever, in the manner substantially as herein described.

81,310.—Francis W. Tilton and Moses C. Swift, New Bedford, Mass.—*Clothes Line Supporter.*—August 18, 1868; antedated August 12, 1868.—Within a slotted tubular stand is arranged a sliding pole, having a cross piece or rod at its lower end, which rests in notches in the said stand, so as to adjust the pole at any desired height.

Claim.—1. The tubular slotted stand A, with the hooked notches *h* therein, substantially as and for the purposes described.

2. In combination with the stand A, the pole E, with the rod G and hook F, arranged substantially as and for the purposes set forth.

81,311.—John Way, Waterbury, Conn.—*Strap Holding Device.*—August 18, 1868.—The cam being free to turn upon its pivot bites the strap and holds it firmly when it is pulled upon in either direction. By holding the cam in an obvious position the strap may be inserted or withdrawn.

Claim.—A holding device, composed of a double-acting cam or eccentric button, in combination with a suitable bearing surface, the whole operating substantially in the manner described for the purpose set forth.

81,312.—Theophilus Weaver, Harrisburg, Pa.—*Clothes Hook and Line Holder Combined.*—August 18, 1868.—A pivoted lever is provided with two arms upon the ends of which are posts, between which, and stationary posts upon a metal disk, a cord or line is held, the line acting upon one of the lever posts to press the opposite one upon the portion of the line between it and the stationary post.

Claim.—The combination of the hook S, lever L, and the posts *a b a′ b′*, substantially as described and for the purpose set forth.

81,313.—Darius Wellington, Boston, Mass.—*Brick Machine.*—August 18, 1868; antedated August 6, 1868.—The crude clay is fed from the pug mill into molds, automatically and successively brought under and fed from the mill, and is solidified in the molds and ejected from them, the surface of the mold, after being filled, being passed under a cutter which cuts off the clay in the mold from that above it, and then under a throat piece which presses the loose clay into any unfilled parts of the mold, and then under a scraper which smooths the surfaces of the bricks and scrapes off all projecting pieces or edges.

Claim.—1. In combination with the follower, (which intermittently feeds forward the series of molds,) and with the rotating pulverizing blades *d*, and feed screw *k*, (which break up the clay and force it into the molds,) the scraper bar *t′*, the throat piece *u*, and the "doctor" *y*, each arranged to operate substantially as set forth.

2. In combination with the reducing and feeding mill *b*, and with the mold-feeding mechanism, the solidifying plunger *v*, and expelling plunger *w*, when arranged to operate substantially as described.

3. The arrangement of the bevel gear *f*, at the bottom of the pulverizing and mold-filling mill *b*, to be driven by a pinion *g*, on the driving shaft, just above the bed *a*, substantially as described.

4. The arrangement of the crank and cam wheel *s*, connecting rod *r*, slides *q*, lever *d′* and slide plates *a′*, for driving the follower *o* and plungers *v w*, substantially as described.

81,314.—Darius Wellington, Boston, Mass.—*Machine for Separating Stones from Clay.*—August 18, 1868.—The part of the pocket where the stones collect is provided with bars, placed at distances apart about equal to the spaces between the grates, so that any clay which is carried forward with the stones may escape past the bars. The bars are movable, so that when a considerable quantity of stones has collected within the pocket they may be taken out.

Claim.—In a clay mill, the arrangement of the parts, substantially as herein described; that is to say, arranging the delivery grate *d*, beyond the shaft *b*, and these in relation to the incline *e*, so that the blades on said shaft shall cause a movement of the mass of clay over the grate and under the incline *e*, by which movement the clay is forced through the grate, and the stones moved forward thereon, and into the pocket *h*, which pocket is provided with movable bars *g*, or their equivalents.

81,315.—J. Burns West, Geneseo, N. Y., assignor to Samuel Finley.—*Lathes for Turning Balls.*—August 18, 1868.—The block from which the ball is turned is supported at one end only. The chucks are perforated and the tool is mounted in a swing rest having a vertical, lateral, and a longitudinal adjustment in its socket, and also a horizontal swinging movement across the axis of the mandrel.

Claim.—1. The swing rest, constructed and arranged as described, for the purpose of rounding one end and the sides of the block from which the ball is cut, by a single traverse of the tool across the axis of the mandrel, as set forth.

2. The combination, with the swing rest, of the fixed notched tool holders, and swinging locking clamps O, all these parts being constructed and operating as described, so as to hold the tool either horizontally or at an angle, as set forth.

3. The combination, with the swing rest and locking clamps, of the twisted gouge L, and stop block or gauge *k*, these parts being constructed and arranged as described, for joint operation.

4. The combination of the perforated chuck and mandrel with the pushing rod sliding through them, and with the vibrating hammer to knock out the finished balls, these parts being constructed, arranged, and operating as described.

5. The combination, as described, with the chuck supporting the block from which the ball is to be cut at one end only, of the swing rest, which carries the tool across the axis of the mandrel, as set forth.

6. The method, herein described, of finishing a portion of the ball somewhat greater than its hemisphere, by a tool swinging transversely across the axis of rotation of the ball, (which is sustained at one end only,) and then inserting the finished end in a perforated concave chuck, and completing the remainder of the sphere by a repetition of the former swinging movement of the tool.

7. The combination, as described, with the chuck and swing rest, of the marking spring O′, constructed and arranged as set forth.

81,316.—George Willett, Richburg, N. Y.—*Turning Logs in Saw Mill.*—August 18, 1868.—Wheels mounted on a horizontal shaft in the frame receive the weight of the log, when the latter has been partly turned by the ordinary cant hook, and carry the same to its position on the carriage, adjusting it, and letting it down without jar or shock.

Claim.—The described arrangement of the wheels E E, relatively with the head blocks, operating in connection with the cant hook to turn the log, as herein shown and described.

81,317.—C. Williams, New York, N. Y.—*Crane.*—August 18, 1868.—The clamping brake retains the load at any desired height. In raising very heavy weights the foot piece prevents the oversetting of the apparatus. Provision is made for holding the crane in a fixed position during the operation of moving the weight vertically.

Claim.—1. The clamping brake, arranged with reference to the crane, and the lifting rope thereof, substantially as and for the purpose specified.

2. The brace, constructed with the swinging post E, in combination with the standard B of the crane, substantially as and for the purpose specified.

3. The detachable foot piece L, in combination with the base, A, of the crane, substantially as and for the purpose specified.

4. The pawl K, arranged in relation with the notched collar of the turning standard B, substantially as and for the purpose specified.

5. The collar B*, and its sustaining braces *c*, in combination with the turning standard B, and the base, A, substantially as and for the purpose specified.

81,318.—H. C. Wissel, Indiana, Pa., assignor to himself and H. F. Shryock, same place.—*Buckle.*—August 18, 1868.—The frame of the buckle is provided with a loop near each end, with a tongue in the center, so as to connect two straps together and secure itself to the straps without being sewed or stitched to either.

Claim.—A buckle, composed of a plate, *a*, provided with loops *b b*, and a tongue, B, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

81,319.—Alexander K. Young, Boston, Mass.—*Hoop Skirt and Bustle Combined.*—August 18, 1868.

Claim.—1. The arrangement of the hoop bustle on the outside of the main skirt, and with the ends of the hoops of the bustle connected with the hoops of the skirt, as set forth.

2. The combination of an expansive hoop bustle, as described, with a hoop skirt, it being arranged on the outside of and fixed to the hoops of the said skirt, substantially as set forth.

81,320.—E. G. Allen, Boston, Mass.—*Steam Safety Valve.*—August 25, 1868.—The mode of applying the spring insures its even pressure upon the valve, together with an unfailing and precise action when the working pressure is exceeded. The perforations in the let-off pipe afford free egress to the steam, but preclude tampering with the valve through said pipe.

Claim.—1. The combination of a spring, *g*, sleeve *d*, and stem *c*, substantially as and for the purpose specified.

2. Constructing the let-off pipe with the perforations *s s s*, as and for the purpose described.

3. So arranging a whistle, with reference to the safety valve, that at the first escape of the steam from said valve the whistle will be sounded, and will continue to sound so long as the steam con-

tinues to escape, substantially as shown and described.

81,321.—John Allen, New York, N. Y.—*Lamp Burner.*—August 25, 1868; antedated August 12, 1868.—When the draught needs to be increased the regulator is unscrewed to widen the space between the lamp body and the regulator.

Claim.—The adjustable draught or air regulator A, arranged, constructed, and operated on the center extension screw B, substantially as described and for the purpose set forth.

81,322.—Ira R. Amsden, Buffalo, N. Y.—*Railroad Car Heater.*—August 25, 1868.—An independent car, not intended for purposes of transportation, has an air inducting, forcing, and heating apparatus, which is convertible at will into a refrigerating apparatus, and from which the air, either heated or cooled, is conveyed to and distributed in the cars of the train.

Claim.—1. Constructing a furnace car, with a furnace or furnaces, C C, and surrounding chamber, K, provided with transverse or intermediate partitions *a a*, having suitable apertures for the passage of air, substantially as shown, and for the purpose described.

2. The combination of the furnace or furnaces C, space K, and partitions *a a*, constructed substantially as described, with a receiving chamber J, and fan blower I, the whole constituting the furnace car, as herein set forth.

3. As a whole, the construction of furnaces C C, surrounding chamber K, alternating partitions *a a*, receiving chamber J, fan I, driven from the axle or car wheels, and conducting pipes G F, with flexible connections H, for distributing the heated air, the whole arranged as described, and operating in the manner and for the purpose specified.

81,323.—Theophilus Arndt, Mount Joy, Pa., assignor to himself, Christian H. Nissley, and Israel L. Landis.—*Car Coupling.*—August 25, 1868.—A swinging support is provided for holding the bolt, and an interior hinged device holds the link horizontally. These features, in connection with the central prolongation of the link, produce an automatic coupling.

Claim.—The combination of the pin supporter E, link holder C, pin E, and link M, all arranged and constructed substantially as described, and for the purpose specified.

81,324.—William Ascough, Buffalo, N. Y.—*Lamp Bracket.*—August 25, 1868.—The guard is secured to the bracket ring by elastic connections, which are especially advantageous on shipboard and in similar situations, where the movement has a tendency to displace the lamp.

Claim.—Securing lamps in brackets by means of an upper guard ring, C, and connections *d*, for attaching to the supporting ring, substantially in the manner and for the purpose set forth.

81,325.—E. H. Ashcroft and J. R. Brown, Boston, Mass., assignors to E. H. Ashcroft.—*Elevator.*—August 25, 1868.—Not less than two of the screw bosses are in engagement with the screw plate at any one time, and a greater number may be maintained in engagement with said plates, to afford greater power.

Claim.—1. The shafts I, having a series of screws or bosses, R, arranged therein, substantially as and for the purpose described.

2. In combination with the shafts I, having the bosses R, secured thereon, the plates J, having the semicircular grooves with screw-threads cut therein, said parts being arranged for joint operation, substantially as described.

3. An elevator, consisting of a cage or platform, having the screw plates J and the guide rollers *a* attached, and the shafts I, with the bosses R, mounted in a suitable frame, and arranged to operate substantially as herein described..

81,326.—John Ashcroft, New York, N. Y.—*Steam Safety Valve.*—August 25, 1868.—Steam has constant access to the face of the valve, from the subjacent chamber of the valve seat, which chamber communicates with the steam dome. As the valve opens, under excessive pressure, the steam escapes through its open body and through the spaces between the valve guides.

Claim.—1. The construction of the valve M, and its seat, F, with guides *m*, and openings I, as herein set forth.

2. The arrangement of the dome A, case B, and valve seat F, as herein set forth.

81,327.—Calvin Atherton, Wales, Mich.—*Wagon Spring.*—August 25, 1868.—The elastic jacks project from bars which are secured to the rear axle and bolster, respectively.

Claim.—The arrangement of the semi-elliptic springs A and C, in connection with the jacks B and D, and the running gear of any wagon or carriage, substantially as herein set forth.

81,328.—Robert Barclay, Buffalo, N. Y.—*Sewing Machine.*—August 25, 1868.—The cam acts upon the lever, which actuates the upper arm which projects through a slot in the front plate of the machine, said arm having a spring bearing upon it. The arm constitutes the take-up, and the arm below operates as a yielding regulator to prevent the breaking of the thread by undue tension.

Claim.—The cam P and lever R, in combination with the spring arms S and V, constructed and arranged to operate as and for the purpose set forth.

81,329.—John S. Barden, Providence, R. I.—*Mechanical Movement.*—August 25, 1868.—An external and internal gear are combined with a rotating cam or eccentric in such a manner that a rotary motion is imparted to one of the gears, while the other is held in such a way as to be allowed a limited oscillating movement.

Claim.—The combination of an external and an internal gear with an eccentric, substantially as set forth.

81,330.—Charles Bean, East Douglass, Mass.—*Steam Generator.*—August 25, 1868.—The boiler is made up of a number of sections secured together, each section consisting of two outer upright tubes and a plurality of inner tubes, the whole cast in one piece, with apertures affording intercommunication throughout. Fire flues are secured within the tubes of the sections.

Claim.—The construction and combination of the section, formed of the tubes A B, and the flues D, with the apertures C, substantially as herein shown and described.

81,331.—George M. Beardsley, Fenton, Mich.—*Belt Fastener.*—August 25, 1868; antedated August 7, 1868.—The pin which connects the interlocking edges of the plates has a series of notches or depressions which occur alternately at opposite sides of said hinge pin, and correspond with the loops or eyes of the interlocking parts, which latter are held engaged with the notches of the pin, so as to prevent the casual lateral displacement of said pin.

Claim.—The adjustable plates B, turning pin C, staple key E, to be fastened to belt A, all combined and arranged substantially as described and for the purpose set forth.

81,332.—Peter S. Beidler, South Easton, Pa.—*Sawing Machine.*—August 25, 1868.—Consists of an arrangement of devices capable of ready adjustment for sawing felloes of various sizes, and by which the feed may be automatically varied and stopped.

Claim.—1. The combination, with the adjustable carriage D, of the adjustable feeding apparatus, consisting of the trip-catch *h*, pendent bar *g*, weighted lever *f*, slotted bar *e*, connecting rod *c*, rock shaft *d*, feed shaft and pinion I, and swinging frame K, arranged as described for the purpose specified.

2. The combination, with the feeding shaft and pinion I, arranged upon the swinging frame, of the means for changing the feed, when arranged substantially as and for the purpose described.

81,333.—Cornelius Berninger, Mier, Ill., assignor to himself, William Friend, and George

L. Bailey, same place.—*Soil Pulverizer.*—August 25, 1868.—The teeth of the rotary cylinder break the clods upon the surface, while the harrow teeth operate at a greater depth to pulverize the soil.

Claim.—The harrow teeth *d* and toothed cylinder F, provided with the wheels G G, when said parts are applied or attached to a frame, E, suspended to a mounted frame, A, and all arranged substantially in the manner as and for the purpose set forth.

81,334.—Hiram Brown, Lowell, Mass.—*Excavator.*—August 25, 1868.—The excavator is made in two parts, each part in the form of a scoop, and opening at the bottom, the opening being effected by means of lips on the upper edge of each portion, engaging with the curved ends of hangers attached to girts, above which is a wheel bearing a chain that is connected with a shaft or with a yoke, attached to arms pivoted to the scoop.

Claim.—The scoops A B, with the lips *n*, in combination with the arms G and yoke E, when used in connection with the movable carriage, with hangers S and wheel P, ratchet 3 and pawl *d*, all constructed and arranged substantially as described, and for the purpose specified.

81,335.—George Buckel, Detroit, Mich.—*Plane.*—August 25, 1868.—The penetration of the plane bit may be regulated either by a rigid adjustment or by the pressure of the hand.

Claim.—A plane stock, constructed of the parts A and C, pivoted together, and provided with a spring, E, and set screw, F, substantially as and for the purpose set forth.

81,336.—George H. Buckius, Canton, Ohio, assignor to himself, Cornelius Aultman, A. C. Tonner, and P. S. Sowers, same place.—*Harness Saddle.*—August 25, 1868.—The inner portion of the crupper piece sets up against the inner top surface of the tree, while the bent portion extends around the flange of the tree, and holds the crupper loop up opposite the center of the tree flange.

Claim.—The crupper piece I, constructed as herein described, when used in combination with the tree A and water hook C, substantially as and for the purpose specified.

81,337.—A. L. Butler, Ripon, Wis.—*Farm Gate.*—August 25, 1868.—The gate is constructed in two sections of unequal length, the shorter section being hinged to the post, and the longer one being operated by means of a lever, through the medium of a system of bell cranks, levers, and rack gears.

Claim.—1. Making this gate into two sections, substantially as described, and the manner in which it folds.

2. The bar or lever J, extending from the gate to either one of the standards of the framework, this lever being pivoted at each end.

3. The whole of the device, comprising levers, bell cranks, latch, rack gear, and pinion, substantially as described and for the purposes specified.

81,338.—Wilson W. Carey, Lowell, Mass., assignor to himself and George W. Harris, same place.—*Tool for Turning Moldings.*—August 25, 1868.—The block secures a precise adjustment of the cutter, and enables different cutters, in each tool, to be so adjusted that the moldings may be made to match the work previously finished.

Claim.—The adjustable cutter block *c*, when arranged as described, and for the purposes fully set forth.

81,339.—Elijah M. Carrington, New York, N. Y.—*Self-cementing Band for Holding Bank Notes, Papers, &c.*—August 25, 1868.—Strips of paper or other material are provided with an adhesive coating at each end, so as to be united by simple pressure.

Claim.—The band herein described, as a new article of manufacture, having a body of paper, with the ends made adhesive by rubber cement, so as to serve in the manner and for the purposes herein set forth.

81,340.—John S. Carson, Brookhaven, Miss.—*Churn Dasher.*—August 25, 1868.—The dasher consists of two thin, metallic cross-plates, the ends of which form wings of peculiar construction, and is attached to the lower extremity of the spindle. The pinion or bevel gear wheel, which operates the shaft gear, is attached to a hinged frame.

Claim.—1. A churn dasher, when composed of the plates A and C, and these plates constitute four wings, as herein described, when these wings are constructed and relatively placed with respect to each other, and are held together, and on the spindle of the churn, by the collar B, substantially as herein described, for the purpose set forth.

2. The above-described dasher, in combination with the hinged cross-table F, when the latter supports the shaft L and its appliances, as herein described, for the purpose set forth.

81,341.—John S. Carson, Brookhaven, Miss.—*Churn.*—August 25, 1868.—The four parts of each sectional helix are so arranged as to leave a narrow opening at the point where they overlap each other by curved extremities, so as to allow the milk to pass between them, and at the same time deflect the same in diverse directions.

Claim.—1. The sectional helix dasher A B, when the same is composed of the sections or parts 1 2 3 4, constructed and relatively arranged as described; for the purpose set forth.

2. The sectional helix dasher A B, when constructed as described, in combination with the pulley C, the driving wheel E, the band or cord F, and the crank H, the whole being arranged for conjoint operation, substantially as shown and described, for the purpose set forth.

81,342.—Benjamin F. Carter, Manville, R. I.—*Let-off Mechanism for Loom.*—August 25, 1868.—Designed to provide means whereby the warp yarns shall be held rigidly against the action of the lay while beating up—which is essential in weaving heavy goods—and at the same time permit the tension of the yarn to effect the delivery of the same after the lay has beaten up the weft.

Claim.—1. The combination of the cam block *a* on the wheel B with the lever C, spring-actuated rod D, escapement lever Y, wheel *n*, and whip roll *b*, substantially as and for the purpose described.

2. The combination of the whip roll *b*, lever C, rod D, springs X and *j*, escapement lever Y, and wheel *n*, substantially as and for the purpose described.

3. In combination with the above, slide *g*, formed with a socket for the reception of the head of the set screw K, substantially as and for the purpose specified.

81,343.—Richard Dover Chatterton, Bath, England.—*Snow Clearer.*—August 25, 1868.—The circumferential velocity of the bucket wheel being greater than that of the wheels of the carriage, the snow is raised and removed from the track faster than the car can be propelled. The shield and scrapers clear off any snow which the buckets may fail to raise.

Claim.—The combination of the wheel C, shield D, and spring scrapers E, arranged and operating substantially as described.

81,344.—Augustus D. Clark, Wilkinsonville, Mass.—*Shuttle for Loom.*—August 25, 1868.—To introduce or remove a bobbin, the spindle is turned outward upon its fulcrum, and during this movement the pin meets an abutment, and then offers a positive resistance to the movement of the spring catch in the direction of the spindle's movement; the effect being to increase the distance between said spring catch and the spindle head, and permit the insertion or withdrawal of the bobbin head. A spring restores the parts to working position.

Claim.—1. The combination and arrangement of the pin *h*, plate *f*, and bent spring *q*, constructed substantially as herein described.

2. The bent spring *q*, formed as shown, for the purpose of actuating both the spindle head and the pin *h*, substantially as herein specified.

81,345.—Alonzo P. Cook, Collins Center, N. Y., assignor to himself and Sylvanus B. Cook, same place.—*Milk Can.*—August 25, 1868.—The bottom is composed of a circular plate having a downwardly-projecting flange, surrounded by a packing ring. Within the flange is a disk of wood acting as a follower; below which is an adjustable cross-bar, and through the latter passes a set screw for retaining the bottom in place.

Claim.—1. The removable bottom C, having a flange *c'*, in combination with the packing ring D, follower E, adjustable cross-bar F, and set screw H, all parts being constructed, arranged, and operating substantially as herein described.

2. Making the sides of a metallic receptacle for milk or other fluid beveled or flaring near its lower end, in combination with the removable bottom C, substantially as herein described.

81,346.—John Crandell, Chicopee, Mass., assignor to Lamb Knitting Machine Manufacturing Company.—*Treadle Attachment for Sewing Machine.*—August 25, 1868; antedated August 17, 1868.—The lower or treadle end of the connecting rod forms a ball joint and the socket is composed of two parts hinged together at one end, and having a spring at the other end which passes the socket end of the cap upon the ball, so as to compensate for wear of the joint.

Claim.—A treadle attachment, consisting of the piece B and cap A hinged thereto, spring *d*, the socket formed in A and B, and the ball *m* formed upon the connecting rod C, or upon the crank G, the whole arranged and operating substantially as described.

81,347.—George Crompton, Worcester, Mass.—*Loom.*—August 25, 1868.—Relates to the jack mechanism of the class of fancy looms which have angular levers operating upon upright jacks to form the shed, and upon horizontal harness levers (to which the jacks are jointed) to return the jacks to their normal position for redistribution by the pattern chain or cylinder.

Claim.—1. In combination with the upright hooked jacks, the angular lifter, depresser, or evener lever or levers, connected to the actuating slide rod by means of the gear rack fixed to the slide rod, and the segment gear on the lever, substantially as described.

2. In combination with jacks and slide rods, a lever or levers adjustable in length by means of a sliding piece or pieces, substantially as shown and described.

81,348.—Nathan R. Davis, Freetown, Mass.—*Attaching Gun Barrels to Stocks.*—August 25, 1868.—At the front end of the lock case is a dovetailed socket to receive two notched tenons projecting from the breeches of the barrels, and in the lower part of the socket is a pivoted tongue having an inclined plane on its upper edge, against which a clamp screw presses to secure the tongue in place.

Claim.—1. The combination and arrangement of the tongue and clamp screw with the tenon socket of the stock or its lock case, such being to operate with the tenon or tenons of the barrel or barrels, as specified.

2. The combination of the inclined plane with the tongue and the clamp screw, arranged with respect to and combined with the socket for receiving the tenon or tenons of the barrel or barrels, as described.

81,349.—B. F. Day, East Freedom, Pa.—*Automatic Fly Brush.*—August 25, 1868.—This machine is for actuating pendent brushes, with a horizontal reciprocating motion, the motive power being furnished by a spring and train of wheel work.

Claim.—The rods *b*, carrying brushes *d*, when pivoted at one end eccentrically to the wheel *a*, which are adapted to be rotated automatically, said rods working in guides *g*, all substantially as herein shown and described, whereby both horizontal and vertical reciprocating motion is imparted to the brush carriers, as set forth.

81,350.—John M. Deitz, Berne, N. Y., assignor to himself, C. T. Bush, and Sanford & Sisson.—*Brick Wall.*—August 25, 1868.—The wall is composed of layers of brick, inclosing a quantity of concrete, which latter is held in place, on the inner side, until set, by a guide board, sustained by stanchions and braces.

Claim.—In the construction of walls, composed of brick and concrete, the combination and arrangement of the bricks B B and H H, concrete C, stanchions P P P', braces *b b b*, cleats W W and *s*, and guide board D, substantially as and for the purposes herein set forth.

81,351.—George R. Doubbins, Lowell, Mass.—*Boiler Flue Cleaner.*—August 25, 1868.—This device is connected to a steam pipe, and its larger cylindrical part is inserted in the flue to be cleaned out by blowing steam through the same. The spreader concentrates the steam upon the sides of the flue.

Claim.—The arrangement of the spreader *c*, flue end *e*, pipe *a*, flange *b*, and rib *d*, when constructed as herein set forth.

81,352.—Otis Earl, Hermon, N. Y.—*Milking Stool.*—August 25, 1868,—The cow's tail is thus held to prevent her from switching or lashing with the same during the milking operation.

Claim.—The combination, with a milking stool, or a tail-clamping attachment, arranged to be actuated by the weight of the milker, substantially as and for the purpose described.

81,353.—George F. Evans, Chelsea, Mass., assignor to himself and George P. Riley, same place.—*Fanning Machine.*—August 25, 1868.—A strong watch spring furnishes the motive power to drive the mechanism which vibrates the lever to which the fan is attached.

Claim.—The fan D, operating as described, in combination with arm *h*, connecting rod *e*, pinion wheel *i*, crank pin *t*, large wheel K, pinion S, barrel wheel *m*, spring *d*, fan wheel W, thumb screw *b*, and crank *a*, for winding, all arranged and operating relatively to each other, substantially as described and for the purpose set forth.

81,354.—Charles Faas, North Attleboro, Mass.—*Watch-Chain Hook.*—August 25, 1868.—If the springs be pressed inward, so as to allow the band to be slidden upon the hook, the hook may be turned upon its swivel into a position admitting of the removal of the eye from the button hole.

Claim.—1. The eye A, in combination with the swiveling hook *a*, the sliding band *b*, and the springs *b' b'*, as and for the purpose set forth.

2. The divided link *c*, in combination with the band *b*, substantially as described.

81,355.—Reuben Fink and Jacob B. Hershock, Lancaster, Pa.—*Thill Coupling.*—August 25, 1868.—When the shafts are turned upward so as to be out of the way, the coiled spring causes the hinged piece to interlock with the slotted extension of the clip, and by this means the shafts are sustained in their elevated position.

Claim.—1. The combination of the hinged pieces A B, arranged and entering the slotted prolongation of the bed plate *c*, substantially in the manner and for the purpose specified.

2. In combination with the piece A, hinged at *a* to the notched piece B, the bed plate *c*, when prolonged and furnished with a slot, H, and coiled spring D, arranged and operating substantially in the manner and for the purpose described.

81,356.—John Frey, Osnaburg, and John M. Eichholtz, Canton, Ohio.—*Sawing Machine.*—August 25, 1868.—The main frame of the machine, with the saw and its immediate connections, may be moved along the side of the log to be sawed without changing the position of the motive power.

Claim.—The driving shaft S T, composed of the tube S, with journal *s*, and shaft *t* T T', with collar *t'*, when used in combination with the driving pulley P of a sawing machine, said pulley being maintained in its relative position to the machine, by means of arms Y Y, the extended ends of which form the boxes of the driving pulley P, substantially as and for the purpose specified.

81,357.—JIM B. FULLER, Norwich, Conn.—*Machine for Drawing and Spinning Cotton.*—August 25, 1868.—The peculiar bearing enables the back top roller to be adjusted to suit the length of the fibers without changing the position of the stirrup, weights, or saddle. The "middle top roller" may be placed so close to the drawing rollers as to bear upon and straighten, the shortest fibers being drawn without holding or breaking the long ones.

Claim.—1. The bearing *d*, or its equivalent, constructed as described, so that by turning it in different positions the roller D may be adjusted to the length of cotton being drawn, substantially as and for the purpose specified.

2. The saddle, the back part of which is cut out, as described, so that in moving the back top roller forward or back the position of the saddle stirrup and weight or spring is not altered, substantially as and for the purpose set forth.

3. In a drawing or spinning frame, where two top rollers rest on only one bottom roller, and where the sliver is drawn partially around the said bottom roller, the middle top roller C′, constructed and operated as shown and described, in combination with the roller D and C and bearing *d*, substantially as and for the purpose specified.

4. The rollers C C′ D and the bearing *d*, combined and arranged substantially as and for the purpose set forth.

5. The rollers B′, C, and D, in combination with the saddle *a*, substantially as and for the purpose herein specified.

81,358.—ELI K. GARRETSON, Ottawa, Ill.—*Expanding Bottom for Beds, Seats, &c.*—August 25, 1868.—The weight upon the mattress or cushion devolves chiefly upon the central longitudinal bar, the perpedicular supports of which, resting on the bolts at the intersection of the cross legs, extend the legs and tighten the sacking.

Claim.—The construction of a cot, bed, or seat, with a flexible bar, D, in combination with legs A B, stretchers C C, supports *e e*, bolts G G, and friction rollers *i i*, the bottom of the cot being of canvas or other suitable materials, and secured by means of cords fastened to the edges, with rods *h h* and stretchers C C, substantially in the manner and for the purposes described.

81,359.—WILHELM AUGUST GENSH, New York, N. Y.—*Lamp Wick.*—August 25, 1868.—The animal fiber may be hare's hair or lamb's wool, and the vegetable fiber cotton, the two being united in a compact mass by a felting or pulling process. The immediate charring of the animal fiber on igniting the wick produces an incrustation which prevents the wick from expanding and thus secures a steady flame. The fiber, before felting, is treated with a solution of mercury, arsenic, copper and nitric acid. The felted material is steeped in a mixture of zinc, saltpeter, and analine, dissolved in sulphuric acid.

Claim.—The lamp wick composed of animal and vegetable fiber, and steeped in the composition composed of the ingredients herein set forth, in the manner and for the purpose specified.

81,360.—ISAAC H. GILDERSLEEVE, Whitewater, Wis.—*Base Burning Stove.*—August 25, 1868.—The grate is made in two parts with openings in its several arms and rings for air to pass through. The periphery of the grate is serrated to relieve the same when coal or clinkers get between the grate and bottom of the fire pot.

Claim.—1. A stove, consisting of base A, outer shell B, inner shell C, pot K, magazine L, grate M, and pipes N N, substantially as described.

2. Grate M, when made with air spaces for air to pass through, for the purpose of consuming the gases from the coal, and to keep the grate from burning out, substantially as described.

3. Grate M, with a serrated rim, substantially as described.

80,361.—F. D. GREEN, Williamsport, Pa., assignor to himself and GEORGE ZIMMER & Co., same place.—*Machine for Cutting Panels.*—August 25, 1868.—The cutting part of the teeth is inclined forward, and the cutting edge is made overhanging, and on the outer edge is formed a tooth having a cutting edge on its outer end, so as to leave the edge of the raised part of the panels square and finished.

Claim.—The tooth or cutter B C, constructed and operating substantially as herein shown and described, in connection with the cutter head A, as and for the purpose set forth.

81,362.—WILLIAM A. GREENE, Troy, N. Y.—*Heater Range.*—August 25, 1868.—The range is so constructed as to be used in warm weather without consuming more fuel than will suffice for cooking purposes, and produce no surplus heat, and also be used for heating and cooking when desirable.

Claim.—1. The removable contracting or dividing plate H, lined with fire brick or soapstone, and combined with the boiler-hole top plate C, fire box G, and exit flues J E J E therefrom, all in manner substantially as shown, and fully described hereinbefore, for the purposes specified.

2. The combination of the fire box G, boiler-hole top plate C, the dumping fire grate Y, the contracting plate H, and the stationary fire grate X, which forms a fixed support for the foot or bottom part of said plate H, all in manner substantially as shown and described herein, for the purposes specified.

3. In combination with a boiler hole *q*, of top plate C, the curve *c*, in the upper part of a removable contracting plate, constructed so as to fit or correspond with the said boiler hole, substantially as set forth herein.

4. The relative arrangement of the deflecting plates I I, in the boiler-hole flues *u u*, when employed in combination with the removable contracting plate H, with its curved recess *c*, boiler hole top plate C, fire box G, and flues J J, in manner substantially as herein set forth.

5. The deflecting cover plate L, when constructed with closed sides and open ends, and inclined so that there may be a greater current toward the front, and combined with the direct flue F and oven plate M, substantially as herein shown and described.

81,363.—CHARLES W. GRETER, Three Rivers, Mich.—*Coupling for Vehicles.*—August 25, 1868.—An arrangement of devices for accomplishing the abrupt or sharp turning of the front wheels of vehicles, without jointing the coupling or reach-pole of the same.

Claim.—1. A coupling device for vehicles, constructed and arranged substantially as described and for the purposes set forth.

2. The curved plate *m* with notch *i*, braces *j j* with curved slot E thereon, and cross-plate *l* with nib *g*, substantially as described, when constituting the prominent features of a vehicle coupling, all as set forth.

81,364.—WILLIAM C. GRISWOLD, Brooklyn, N. Y., AUGUSTUS PELISSE, Newark, N. J., and ALBERT H. HOOK, New York, N. Y.—*Machine for Blocking Hats.*—August 25, 1868.—The expansible block consists of two side pieces hinged to a cross-head attached to the upper end of a sliding hollow vertical rod. Surrounding a hole in the table are two annular plates, the lower one being stationary and the upper one hung on a swinging forked lever. From another forked lever is suspended a band ring having a lower sharp edge for stretching the side crown of the hat and breaking the band.

Claim.—1. An expansible block, in combination with the brim plates *b* and *b′*, constructed, arranged, and operating substantially as herein specified.

2. The combination of the band ring *r*, holding plates *b b′*, and expansible block, substantially as and for the purposes herein specified.

81,365.—JOHN S. HALL, Jeffersonville, Ind.—*Machine for Bending Wood.*—August 25, 1868.—The snath sticks are turned to the form and size required, and steamed, after which the straps are applied to them and they are bent to the mold by means of a rope, crank and levers, and a clamp, applied to the small end to hold it to the mold until it is dried or set.

Claim.—The flexible strap, provided with the sockets C and D, in combination with the mold or former P, constructed and arranged to operate as set forth.

81,366.—FRANCIS H. HAWKS, St. Louis, Mo.—*Attaching Soles to Boots and Shoes.*—August 25, 1868.—The screws being fully inserted, their heads rest upon the broad rim of the eyelet or washer, and the rubber or other water-proof material is thus prevented from closing over or imbedding the screw head.

Claim.—The new application and use of screws, together with washers or eyelets, as herein described, for the purpose of attaching water-proof half soles and heel taps to boots and shoes.

81,367.—WILLIAM B. HAYDEN, Columbus, Ohio.—*Wire Stretcher for Fence.*—August 25, 1868.—The lever is moved along from tooth to tooth of the lower series, and, finding a fulcrum upon each, it is vibrated so as to move the sliding pawl in the direction to stretch the wires.

Claim.—1. A hooked ratchet bar C, constructed with teeth *h l*, and a hook, *c*, in combination with a hooked sliding pawl, said parts being adapted to operate substantially in the manner and for the purposes described.

2. A hooked ratchet bar, C, and a hooked sliding pawl adapted for receiving a lever, G, for effecting the tightening and loosening of wire in fences and vine frames, substantially as described.

81,368.—JAMES L. HELMER, Rome, N. Y.—*Gate for Water Wheel.*—August 25, 1868.—A portion of the guide is hinged and has an arm at each end, the parts being so arranged that by moving the said portion to and fro, the width of the passage to the wheel may be enlarged or diminished at pleasure.

Claim.—The movable part C of the guide, in combination with the arms C^4 and C^3.

81,369.—CHARLES E. HENDRICK, Chicopee, Mass.—*Feather Renovator.*—August 25, 1868.—Steam is introduced through one set of valves into annular valve chambers and passes through a conveyor provided with branches into the feathers; and by closing said valves and opening another set, the steam passes into a drier and dries the feathers.

Claim.—The annular chambers P P, in combination with the valves O O *m n*, and conveyer F, provided with branches *i i*, drier E, and feather box B, when constructed, arranged, and operated substantially in the manner shown and described, for the purpose set forth.

81,370.—JOSEPH E. HENDRICKS, Waterbury, Conn., assignor to BROWN AND BROTHERS.—*Lamp.*—August 25, 1868.—The base of the burner is formed with a series of radial spring leaves which bear against the internal surface of the chimney, and operate in connection with springs on the outside of the chimney.

Claim.—The sustaining and clasping springs *f*, adapted to support the base of the chimney below the base of the burner, in combination with the internal spring holder, formed on the rim of the base, the whole arranged to operate substantially as shown and described for the purposes set forth.

81,371.—CHARLES P. HOFFMAN, New Orleans, La.—*Combined Potato Planter and Cultivator.*—August 25, 1868.—This machine makes the ridges, carries the potatoes, cuts the potatoes into pieces, and drops the pieces at intervals into furrows or trenches which it makes in the tops of the ridges, the plantings being covered by the falling in of the sides of the trenches.

Claim.—1. The eccentric T, when provided with wire fingers or cups *d*, and otherwise constructed, as described, in combination with the box U and the feeding trough V, when these several parts are arranged and operate substantially as described for the purpose set forth.

2. The cutting box M, when provided with a knife, N, that is constructed and operates substantially as described for the purpose set forth.

3. The eccentric T, in combination with the trough V, the cutting box M, and the knife N, when these several parts are constructed and arranged with respect to each other, and operate substantially as herein described for the purpose set forth.

4. The eccentric T, the cutting box M, and the knife N, in combination with the plows G G‴ G″ G′ and the planting "shoes" R, when these several parts are constructed, arranged, and conjointly operate substantially in the manner and for the purpose herein set forth.

5. The eccentric T, and its equivalent, when provided with the wire fingers *d*, in combination with the box *u*, when these parts are arranged for conjoint operation substantially as herein described.

81,372.—SAMUEL P. HOPKINS, Port Deposit, Md.—*Churn Dasher and Lid.*—August 25, 1868.—The dasher is formed of a series of wedge-shaped projections placed one above the other and alternating with spaces above and below. The cover is formed in two parts with a space between the two, to prevent the milk or cream from escaping over the churn.

Claim.—1. The star dasher, constructed and arranged substantially in the manner as herein described, for the purposes specified.

2. The double lid or covers D E, for dasher churns, when constructed in the manner herein described.

3. The combination of the star dasher and double cover, as and for the purposes set forth.

81,373.—FRANK A. HOWARD, Belfast, Me.—*Machine for Mitering.*—August 25, 1868.—The molding is moved transversely to the path of the cutters, in being placed in position to be acted upon thereby. The molding, when under the action of the cutters, is sustained by the notched rest plate, which permits the passage through it of the cutters at the maximum angle of inclination at which they may be adjusted. The joint is cut by successive movements, after each of which, the cutters and rest plate are simultaneously moved downward.

Claim.—1. The movable V-shaped cutters E, affixed to plates G, in combination with the notched rest plate I, operated in the manner described, for the purpose specified.

2. The cutters E E, affixed to plates G G, which are hinged together at H, and provided with rods, *n*, passing through arched slots, *m*, in the vertically adjustable holder U, whereby the said cutters are adjusted to the desired angle and there retained, substantially as described, for the purpose specified.

3. Adjusting the plate I and the cutters E E simultaneously, by means of the screw shaft Q *f*, nuts *e i*, shaft M, beveled gearing N O L W, substantially as herein described, for the purpose specified.

4. A V-shaped cutter, E E, when arranged to approach the wood to be mitered with a horizontal movement, and also provided with a vertical movement, substantially as shown and described, and for the purpose set forth.

81,374.—WILLIAM M. IRVINE, Montgomery, Ala., assignor to himself and ALFRED H. MOSES, of same place.—*Bale Fastening.*—August 25, 1868.—The end of the fastening plate is doubled over or thickened to afford a sufficient bearing for that end of the band which passes but once through the plate.

Claim.—Reinforcing one end of the plate B, and confining the ends of the strap or band, in the manner herein set forth and shown.

81,375.—GEORGE F. JOHNSON, Marshall, Iowa.—*Corn Sheller.*—August 25, 1868.—A rotating wheel having a central opening, is provided with a series of hooked shellers having gauges which press upon the cob, and provided also with radial stocks which slide in grooves in the rotating wheel, and surrounded by a spring which bears them toward the center of the rotary wheel.

Claim.—1. The radially-expanding shellers, provided with the curved plates *e e* and e^1 e^1, in combination with the wheel C and spring D, substantially as and for the purpose described.

2. The arrangement, with relation to the drawing rollers E E and shelling wheel C, having the toothed rim C^1 of the drive shaft S, main wheel F, pinion G, and connecting gearing, as herein shown and described, upon the frame A B B^1, for the purpose specified.

81,376.—L. A. JOHNSON, New York, N. Y.—*Guide for Scroll Saw.*—August 25, 1868.—The roller stiffens the saw and effectually holds the same to its work, preventing it from springing backward, while the stuff is fed toward it, and also holding it against lateral movement.

Claim.—The grooved guide roller D, fitted in the pressure clamp A to receive the saw E, substantially in the manner as and for the purpose set forth.

81,377.—S. M. JOHNSON, Lockport, N. Y.—*Sad-Iron Heater.*—August 25, 1868.—An improvement on his patent dated December 10, 1867. A rod which passes through the pipe forming the axis of the heater, has a conical end fitting in a corresponding opening to form a valve, so as to be operated from the end outside. Vertical slots are made in the burner to allow of free admission of air to escaping vapor. Radial corrugations are formed on the inner surfaces of the smoothing irons in order to equalize the heat in the same.

Claim.—1. The valve *l m*, arranged with the burner F and hollow rod G, substantially in the manner and for the purpose set forth.

2. The burner F, consisting of the tube *x*, provided with slots *s s*, and radiating wire *o*, in combination with the vaporizing chamber *e*, arranged as and for the purpose specified.

3. The radial corrugations *u u*, arranged with the burner F, substantially as shown and described.

81,378.—JOSEPH L. JOYCE, New Haven, Conn.—*Button Boot.*—August 25, 1868.—The object is to prevent wrinkling at the upper instep and over the ankle.

Claim.—Cutting or dividing the fly at or near the ankle-joint line, substantially in the manner and for the purpose herein set forth.

81,379.—CARL KIHN, New York, N. Y.—*Treadle for Sewing Machine.*—August 25, 1868.—The foot-rest of the treadle is made of roughened glass held in a cast angle-iron frame to serve as a non-conductor of electricity. Spring clutches connect the frame to the shaft so as to allow it to move laterally if desired.

Claim.—The sewing machine treadle, composed of a plate, A, of roughened glass, supported in and elevated above the frame B, carrying a standard, D, or its equivalent, and the open clutches C, the whole being constructed, applied, and operating substantially in the manner and for the purpose set forth.

81,380.—JACOB KRITCH, Cleveland, Ohio.—*Die for Making Clevis Blanks.*—August 25, 1868.—The two-part dies are employed for forging or swaging the clevis, instead of doing the work by hand. One part of the die is fixed to the head of a trip hammer, while the other rests upon an anvil.

Claim.—The dies as herein described for the purpose set forth.

81,381.—JACOB KUNEMAN, Canton, Ohio.—*Joiners' Clamp.*—August 25, 1868.—The clamp is used in gluing up doors and other wide objects, and the purpose is to adapt it to fold into a small compass when not in use.

Claim.—A joiners' clamp, composed of a clamp-lever, A, with pawl *a*, ratchet bar B with ratchet teeth *b*, and clamping-head block F, and bar C D, with holes *c c*, connecting bolts *k k*, and clamping-head block E, when said ratchet bar B is pivoted to the lever A, between the bar C D and the ratchet *a*, and the whole clamp is so arranged as to fold up in the form shown, substantially as and for the purposes herein specified.

81,382.—F. D. LADENBERGER, Glenbeulah, Wis.—*Wagon Brake.*—August 25, 1868.—As the sway-bar iron is brought in contact with a roller hung under the reach, the said roller takes a portion of the draught strain, and the lengths of the slots in the cross-bar plate are so arranged that the draught strain will be proportionately distributed upon them all instead of being sustained by the king bolt.

Claim.—1. The combination, in a wagon brake, of the cross bar A, loose sway bar B, connected by any suitable rods *i i*, and kept back to the extent of their play by a spring *e*, of any suitable form or arrangement, with brake shoes, *j j*, suspended by stirrups or links, *k k*, connected with the axletree by rods, *h h*, all arranged to operate as brakes by being connected with the double tree *m*, by the plates *a* and *b*, all substantially as shown and described.

2. The combination, in a wagon brake, of the concave iron *l* on the sway bar B with the friction roller *n*, the slotted plate *b*, slotted tongue, and doubletree bolt, all arranged to take the draft strain proportionately when the sway bar and cross bar are drawn forward to the extent of their forward movement, all substantially as herein shown and described.

81,383.—JOHN LEHMANN, Crown Point, Ind.—*Bridge Guard or Barrier.*—August 25, 1868.—A combination of racks, ratchet wheels and a pawl, so arranged that, with the opening of a drawbridge, a barrier is raised up to guard persons from accidents.

Claim.—The combination of cog segment A, ratchets B B, pinions C C, racks D D, pawl L, and catch levers P P', all arranged and operating substantially as herein set forth, for the purpose of operating a bridge barrier.

81,384.—WILLIAM J. LINTON, Detroit, Mich.—*Device for Locking Loose Pulleys.*—August 25, 1868.—The sleeve is screwed into a collar on a shaft or into a fast wheel, and the pin is pushed forward into a hole in a loose wheel running adjacent to the collar or fast wheel, to lock them together, or drawn back to allow the pulley to run loose, the said pin being locked in either position by the spring, and prevented from turning in the sleeve by the screw which passes through the slot and into the pin.

Claim.—The improved locking device herein described, consisting of the sleeve, sliding pin, stationary pin, spring, and stud, all arranged substantially as set forth.

81,385.—CHARLES S. LOCKWOOD, Newburg, N. Y.—*Derrick.*—August 25, 1868.—The weight, descending as the bucket ascends with its freight, assists the elevating power. The bucket descends of itself, having sufficient preponderance over the weight to raise the latter.

Claim.—The counter-weight to balance the bucket on a derrick, in the way as shown and described, and for the purpose as specified.

81,386.—WILLIAM C. LONG and HARVEY A. LOWNSBERY, Lockport, N. Y.—*Filter.*—August 25, 1868.—The diaphragms give a zigzag course to the water in its passage through the filtering medium. The ribs serve to stiffen and stay the filter as it is handled by the pipe.

Claim.—The arrangement, in connection with the galvanized iron filter A, of the diaphragms *a b*, dividing the packing chamber, and the ribs *g g*, strengthening the water chamber, the whole operating in the manner and for the purpose specified.

81,387.—CHARLES LYNE, Padstow, England.—*Perambulator.*—August 25, 1868.—An arrangement whereby the front wheels may be controlled and guided.

Claim.—The arrangement of the axle A, cross piece C P, bolt *b*, plate P, rod R, guides G and G', and springs S and S', in the manner and for the purpose herein set forth and described.

81,388.—H. MARANVILLE, Akron, Ohio.—*Steelyard.*—August 25, 1868.—For ordinary use, the beam is suspended near the center by the loop or head in the upturned parts of which the beam is fitted so that it may slide, in order to bring the point of suspension of the beam nearer its end when the balance is to be adapted for weighing articles which are heavier than the ordinary maximum.

Claim.—The loop or head C, spring *b*, as arranged, in combination with the yokes G D and beam A, for the purpose and in the manner set forth.

81,389.—G. H. McELEVEY, Newcastle, Pa.—*Fireplace.*—August 25, 1868.—The fuel is supplied with air at the back and ends, as well as at the front and under side of the grate. Air-heating chambers are employed in connection therewith, so as to more fully control and utilize the heat.

Claim.—1. The described arrangement of the air-heating chambers G H I and their connecting flues, the supply flue P, the fire and smoke flue, J, and the exposed grate E, as herein described for the purpose specified.

2. The arrangement of the slide damper *m* and damper K with relation to the air-heating flues, G, H, and I, whereby the products of combustion are either directed to the flue J, between the chamber G, and fire grate, or over the chamber G, between the same and the chamber H, or over the chamber I, or over the chamber G, and downward around the chamber I, as herein described for the purpose specified.

81,390.—William J. McLea, Leroy, N. Y., assignor to himself and Frank Ladd.—*Bail Ear for Pail.*—August 25, 1868.—Two tips are cut or stamped with the bail ear, the lower of which extends under the upper hoop of the vessel, or is bent inward through the side and turned up, (the latter being the case with tin vessels,) while the other tip is bent inward over the upper edge of the vessel. Rivets are thus dispensed with.

Claim.—Attaching bail ears to pails and other vessels by means of the tips *d d'*, in the manner set forth.

81,391.—Thomas McMullin, Osgood, Ind., assignor to himself and Miles Mendenhall, same place.—*Coupling Belt.*—August 25, 1868.—To each end of the belt is attached a plate on which an eccentric roller is pivoted, having grooves formed in it immediately above prongs upon the plate, the end of the belt being clamped between the grooves and prongs when the roller is rotated.

Claim.—The combination of the eccentric rollers *a*, furnished with V-shaped grooves *b*, with the plates A A' and prongs *c*, when arranged and operating as and for the purpose set forth.

81,392.—W. S. McNeil and O. S. Cadwell, Jr., Springfield, Mass.—*Railroad Car Heater.*—August 25, 1868.—Air is purified, heated, and discharged into the car. There is no way of escape for the burning fuel in case of accident.

Claim.—1. The described arrangement of the case H, fire box A, combustion chamber D, hot air chambers E J, fire opening B, pipes K L *m*, perforated pipe F, screen *d*, water chamber *z*, air-purifying chamber X, and air supply tube and double funnel W P, as herein described for the purpose specified.

2. The hot air pipe L *n*, and the cap *o*, in combination with the perforated pipe F and hot air chambers J E, as herein described for the purpose specified.

3. The arrangement of the air-purifying chamber X, lined with absorbent material, and containing the curved deflectors, with relation to the water chamber *z*, air-supplying pipe W, and hot air chamber E, whereby the motion of the car splashes the water through the perforated bottom of the air chamber, and saturates the absorbent material for the collection of dust and cinders, as herein shown and described.

81,393.—Daniel S. Merritt, Mount Morris, Mich.—*Mechanical Movement.*—August 25, 1868.—Through the medium of these devices, each quarter revolution of the crank is made to impart a full stroke to the saw pitman.

Claim.—The combination and arrangement of the four levers D, the pitmen C and H, and the levers J, when attached to any suitable frame, A, and constructed and operating substantially as and for the purposes set forth.

81,394.—Charles H. Miller, Buffalo, N. Y.—*Trace Buckle.*—August 25, 1868.—The cam presses the trace against the cross bars of the buckle, and securely holds the same; holes in the trace are dispensed with.

Claim.—The hinged pressure cam F, constructed and operating as specified.

81,395.—Charles H. Miller, Buffalo, N. Y.—*Bridle Bit.*—August 25, 1868.—The guide levers enable the mouth piece to be actuated more forcibly than a bit having direct attachment to the reins. The guide levers are cast in an amplified compass, so that by the subsequent permanent contraction of its sides, its appendages may be secured in position.

Claim.—The bar or mouth piece A, and slotted lever guides B, when constructed, and the latter cast distended, to permit the insertion of the bar A and tongue *m*, in the manner described.

81,396.—John B. Mitchell, Portland, Me., assignor to himself and Perez B. Burnham, same place.—*Hose Nozzle.*—August 25, 1868.—To attach the nozzle, the ring is turned off the end of the hose tube; the nozzle is then passed up through the ring, a partial rotation effecting the coupling of the two. The ring and nozzle being then turned into position over the tube, the nozzle is clamped to the tube by screwing down the collar connected to the pivotal extremities of the arms.

Claim.—1. A hose nozzle, having the adjustable tube B, ring A, arms *b*, and ring *i*, arranged to operate as and for the purpose described.

2. In combination with the above, the belt *d*, as and for the purposes set forth.

81,397.—Leonard Monzert, New York, N. Y.—*Car Coupling.*—August 25, 1868.—A ring fitted around the coupling box upon being turned serves to lock the jaws together, or to release them, to allow them to open, as desired.

Claim.—The pivoted ring C, arranged with relation to the jaws B B, provided with concentric depressions *d*, all operating as set forth, whereby the ring is swung back over the depressions, to permit the opening of the jaws, and swung forward to securely lock and hold them in place, as herein described and shown.

81,398.—Hiram Moon and DeWitt C. Turner, Red Creek, N. Y.—*Surplus Honey Box in Bee Hive.*—August 25, 1868; antedated August 21, 1868.—The inner adjustable case is provided with strings, by which it can be raised and held in an elevated position, when filled with honey, so as to provide additional space for more honey to be made below.

Claim.—1. The adjustable honey case C, when constructed as and for the purpose set forth.

2. The case C, in combination with adjustable box B and hive A, when constructed substantially as described.

81,399.—Charles A. Moore, Westbrook, Conn.—*Knife and Fork Handle.*—August 25, 1868.—This mode admits of a variety of changes in form and effect. For example, the handle may be of ivory, associated with either pearl, metal, wood, or other material. Variety in respect to color, quality, and shape may also be embodied.

Claim.—The making of knife and fork handles in sections or pieces, substantially as herein specified, and for the objects set forth.

81,400.—M. P. Noel, St. Cloud, Minn.—*Sawing Machine.*—August 25, 1868.—The invention consists in the arrangement of a sliding log-holding frame and means for communicating reciprocating motion to the saw by power applied to the driving shaft.

Claim.—1. The oscillating log-holding frame F, when pivoted to the oscillating saw-guide frame E, controlled by the lever *h* and hook *h'*, whereby the holding dogs *g* clamp the log upon each side of the saw-holding frame, and saw-guide frame, all constructed, arranged, and operating as herein shown and described.

2. The log frame B, operated in the transverse guides *a* by the lever C only, whereby the log is set to the saw by one movement of the lever, as herein set forth.

81,401.—Dudley L. Page, Lowell, Mass.—*Confection.*—August 25, 1868.—The maple syrup or maple sugar syrup being inspissated, kneaded, and indurated, is melted and molded and coated with chocolate to produce confections.

Claim.—A new and improved combination maple-chocolate cream, as herein described, using for that purpose the aforesaid ingredients or composition of matter, as a new article of confection, substantially as and for the purpose described.

81,402.—John Peace, Camden, N. J.—*Pipe Cutter.*—August 25, 1868.—The tube and its bushing are made to encircle the pipe, and the cutter is forced into the side of the pipe by turning the screw. The pipe is then severed by turning the instrument around upon it.

Claim.—The improved pipe cutter herein described, consisting of the threaded handle C, tubular holder B, having female screw therein, knife *g*, cylinders A and D, and set screw F, all constructed, arranged, and operating as described.

81,403.—Thaddeus Peck, Stratford, Conn.—*Trace Fastener.*—August 25, 1868.—The shank of the key is inserted in the recess in the whiffletree and turned partially round so as to be secured by the projections, and, when attached, is prevented from turning by a staple passing through notches in the shank of the key.

Claim.—The key C, whose shank is formed with projections c^2, when adapted to be fitted into recesses formed in the ends of the whiffletree, and prevented from turning therein by means of the staple D, passed transversely through said recess, and resting in notches formed in the sides of the shank c^1, all as herein shown and described, for the purpose specified.

81,404.—Elijah S. Pierce, Hartford, Conn.—*Apparatus for Feeding Screw Blanks.*—August 25, 1868.—The roller, acted upon by the belt, shakes the feeding apparatus, to cause the screw blanks to pass from the hopper to the trough and thence onward.

Claim.—The combination of the roller C and belt D with the hopper and trough A B, when constructed and arranged substantially as herein described.

81,405.—Benjamin Porter, Jackson, Mich., assignor to himself, John George, Thomas E. Lusk, Alfred E. Vandercook, and Oscar Vandercook, same place.—*Brick Mold Safety Guard.*—August 25, 1868.—The front faces of jack molds for brick machines are provided with proper doors and springs, to act as safety guards for the molds, so as to allow stones or other obstacles to pass out from the molds.

Claim.—The springs D, when provided with hinge joints H and braces E, which latter move in the recesses G of doors C, all operating and arranged substantially as described and for the purposes set forth.

81,406.—Andrew J. Post, Hudson City, N. J.—*Bridge.*—August 25, 1868.—The strut is composed of four plates of rolled iron, united along the edges by flanges and rivets. The cast-iron end pieces are adapted to accomodate the diagonal braces or other parts to which the struts are to be bolted.

Claim.—In combination with a wrought-iron strut, the employment of end pieces of cast iron, fitted into and between the parts of the wrought iron, and receiving a through bolt through both the wrought and cast-iron parts, all substantially in the manner and for the purposes herein set forth.

81,407.—John Richards, Cincinnati, Ohio.—*Mortising Machine.*—August 25, 1868.—The screw which impels the chisel bar has reverse threads, and gearing and devices for operating said screw are employed in connection with a friction clutch actuated by the driving power. The graduated resistance of the weight which returns the chisel bar after the mortise is completed enables the operator to stop the chisel at any point of its downward stroke.

Claim.—1. The right-and-left threaded screw *m*, and fixed and movable nuts *k* and *l*, when used to operate the chisel bar of a mortising machine, as herein set forth and described.

2. The shaft *p* and bevel gears *n'* and *n*, when used in combination with the ram or carrier *a*, and as a means of rotating the reverse-threaded screw *m*, substantially as specified and shown.

3. The shaft *p* and bevel gears *n'* and *n*, for rotating the screw *m*, as specified and shown.

4. The belt *q* and pulley *r*, when used in combination with the ram or carrier *a*, and as a means of operating the reverse-threaded screw *m*, for feeding the chisel bar down, substantially as set forth and shown.

5. The friction clutch, consisting of the plate *o*, pulley *r*, in combination with the reverse-threaded screw *m* and carrier *a*, for producing a graduated feed of the chisel bar *h*, for the purposes and in the manner shown.

6. The weight *u* and belt *t*, when arranged to operate as a graduated resistance to the rotation of the screw *m*, and as a means of returning the chisel bar to its up stroke, arranged and operating as herein described.

7. The screw W, when formed with a compound or right-and-left-hand thread, and used as a means of adjusting the table bracket M, arranged and operating as set forth and specified.

81,408.—Charles H. Riggs, Warwick, N. Y.—*Liquid Meter.*—August 25, 1868; antedated August 17, 1868.—The meter tank is filled and emptied by the action of siphons, and the influx of water through the receiving pipe is automatically controlled by floats, which are indirectly the means of opening and closing the inlet gate.

Claim.—1. An automatic liquid meter, having its receiving pipe C opened and closed by the buoyancy and weight of a float, I, the said float being controlled in its action by the floats G and H, and the whole in combination with the siphon F, all substantially as shown and described, and for the purpose set forth.

2. The receiving cistern D, substantially as shown and described, in combination with the meter tank B, floats I, G, and H, the siphons E and F, as and for the purpose set forth.

3. The springs *m* and *l*, or other equivalent device, substantially as shown and described, in combination with the float I, pins *e* and *n* and levers *k* and *g*, all as and for the purpose set forth.

4. The levers *q* and *b*, operated by the float I, substantially as shown and described, in combination with the gate *d*, pipe C, and tank B, and siphon E, all arranged as shown and described, and for the purpose set forth.

5. The ratchet *f* and pawl *u*, substantially as shown and described, or the equivalent thereof, for the purpose of operating the registering dial J of a meter, when in combination with the float I, rod *i*, meter tank B, and floats G and H, all as set forth.

6. The reservoir M, substantially as shown and described, in combination with the siphon F, floats I, G, and H, and meter tank B, as and for the purpose set forth.

81,409.—A. H. Robbins, Copenhagen, N. Y.—*Horse Rake.*—August 25, 1868.—The lever is attached to a carriage, whereon the attendant may ride, and from which a lever is made to act for raising the rake bodily from the ground. The rake may be readily detached from the carriage, when it is desired to manage it, in the ordinary way.

Claim.—1. The bars O O, attached to the handle shafts M M, and provided with oblong slots *g*, through which screws *h* pass into the shafts K K, for the purpose of admitting of the proper operation of the stop *e*, as set forth.

2. The connecting or suspending of the rake to the cart or sulky by means of the rods Q Q, arms R R, shaft S, and lever T, all arranged substantially in the manner as and for the purpose set forth.

81,410.—Henry Rodes, Clarence Centre, N. Y.—*Plaster Sower.*—August 25, 1868.—The loops on the rotating shaft act to stir up and prevent the packing of the plaster, and the raised edges arrest the plaster and cause it to be forced out of the hopper.

Claim.—1. The arrangement, in connection with the intermediate brush G, of the lifter E, provided with the spiral loops *e e* situated above, and the raised edges *h h* of the discharge openings, situated below said brush, the whole operating in the manner and for the purpose specified.

2. The hinged arm D with holding band *p* and elevating toggle *r*, and serving, with gear *b*, to give motion to the parts in the hopper, as set forth.

81,411.—Franklin Root, Boston, Mass.—*Car Brake.*—August 25, 1868.—The lever brakes are made to clasp sheaves on the axles with their short arms, the long arms being operated by pressure exerted by the driver. A sliding incline, connected with one of the brakes, is made to aid in starting the car, by being released from a forward position, to which it is carried when the brake is applied.

Claim.—1. The arrangement of the lever brakes B and C, pins *r* and *n*, and sheaves E, substantially as and for the purpose specified.

2. The combination of the sliding inclined plane D with lever brakes B and C, clasping sheaves upon an axle, when constructed substantially as described, and for the purpose specified.

3. The lever-clutch brakes C and B, with removable shoes, when each shoe clasps one-half the circumference of a sheave, in combination with sheaves having V-shaped grooves, into which the shoes fit, when constructed substantially as and for the purpose specified.

81,412.—Sarah Ruth, Philadelphia, Pa.—*Sun Shade for Horses.*—August 25, 1868.—The device consists of a canopy and articulated, adjustable supporting frames, whereby the animal may be shielded from either vertical or oblique rays of the sun in hot weather.

Claim.—The canopy A and the supporting frames B and C, the said parts being constructed, applied, and operated substantially as and for the purpose set forth and described.

81,413.—David Sattler, Mifflin, Ohio.—*Saw.*—August 25, 1868.—The several forms of teeth are so arranged as to cut out the sides of the cusp, plane out the center, and carry out from the same the sawdust not removed by the planing teeth.

Claim.—The peculiar arrangement and combination of the knife teeth D F, planing teeth B B, gauge tooth C, and clearing tooth E, on the saw blade A, when the several parts are constructed and arranged substantially as and for the purpose herein specified.

81,414.—S. W. Y. Schimonsky, Cheyenne, Dak. Ter.—*Car Brake.*—August 25, 1868.—The shoes are attached to a sliding frame, and made to act as wedges when brought in contact with the wheels.

Claim.—The brake shoes G, rigidly attached to the frame D, sliding through the wheels E upon the guides F, and attached to the lever I, all operating as described, whereby the shoes G are alternately wedged upon each side of the wheel, between the same and the guide F, as the lever is operated in either direction, as herein shown and described.

81,415.—Alexander Selkirk, Albany, N. Y., assignor to John Gibson, Jr., same place.—*Hand Stamp.*—August 25, 1868.—The instrument is inked by applying the type end to an ink pad and is used after the manner of a mallet, striking the paper or letter with sufficient force to not only print the outer name, but cause the needle-pointed type to penetrate the paper, the latter result being insured by the momentum of the plunger.

Claim.—1. The loaded plunger B, with its slot *e*, set screw *d*, the dovetail or T-shaped terminus of the plunger B, in combination with the type blocks *h h*, with their recesses *s s*, or their equivalents, substantially for the purpose set forth and described.

2. The socket *b*, or its equivalent, and the handle *c*, in combination with the outer cylinder A, for the purposes set forth and described.

3. In combination, the cylinder A, with its printing-type end, the loaded plunger B, as described, the elastic spring *f*, the perforating type *h h*, handle socket *b*, or its equivalent, and the handle *c*, all in combination, substantially for the purpose set forth.

81,416.—W. A. Sharp and John A. Shannon, Tama City, Iowa.—*Horse-Collar Fastening.*—August 25, 1868.—The collar is severed at the part which rests under the neck of the horse, and the parts are joined and disjoined at this point by means of a dovetail fastening designed to facilitate putting on and taking off the collar.

Claim.—The described construction of the metallic sockets *d d*, secured to the ends B C of the collar, and provided respectively with the longitudinally-beveled recess *c* and tenon *f*, arranged as described for the purpose specified.

81,417.—Jehyleman Shaw, Bridgeport, Conn.—*Pump.*—August 25, 1868.—The power is applied to a pipe extending upward from one of the tubular piston rods. Cords and a pulley connect the piston rods and cause them to move simultaneously in opposite directions. Operates as a force pump.

Claim.—The two lifting pumps C^x C^x, fitted within the external case A, provided with a valve, C, at its bottom, and all constructed and arranged to operate in the manner substantially as and for the purpose herein set forth.

81,418.—Pius Lee Shepler, Whitehouse, Ohio.—*Sawing Machine.*—August 25, 1868.—On either side of a spool placed upon a shaft, which is made to couple with the main shaft, is loosely sleeved a drum, each revolving independently of the other, and upon which the log rests so that the carriage can be drawn back without moving the log. A curved lever working in a slotted rest serves to elevate and depress the log.

Claim.—1. The combination of the drums M″, shaft G″, spool I″, chain J″, and carriage K″, all arranged to operate as herein described and shown.

2. The rest Z, when provided with a slot, B″, and operated by means of the curved and bent lever C″, all as and for the purpose described and shown.

81,419.—William Shields, Philadelphia, Pa.—*Die for Making Square-headed Bolts.*—August 25, 1868.—Designed as an improvement on his patent of Feb. 18, 1868. Combined with the three supporting walls and plunger is a bottom opening for preventing the "fin" from causing the bolt and heading plunger to bind in the final operation of the latter.

Claim.—The narrow ledge *e*, at the bottom of the die, in combination with the side walls thereof and the plunger, as and for the purpose herein described.

81,420.—M. M. Shur, Delaware, Ohio.—*Device for Soldering Cans.*—August 25, 1868.—A series of expanding staves are combined with a hollow box, within which latter is a sliding staff, so that the staves can be inserted within a can and pressed against the interior. Spiral flanges, in connection with studs and operated by the handle, cause the staves to impinge more firmly against the can.

Claim.—1. The arms B, having slots *i*, and pivoted within the slots *d*, and the pins *a* fixed in the slots *b*, all constructed, arranged, and operating as and for the purpose set forth.

2. In combination with the staves A and arms B, bearing pins *l*, the cage slats *k*, as and for the purpose described.

3. In combination with the parts D C G, the collar H, when provided with inclined surfaces *m*, and the loose handle E, having pins *h*, all constructed and operating as and for the purpose specified.

81,421.—Franz G. Siemers, Winona, Minn.—*Meat Cutter.*—August 25, 1868.—The rotation of the chopping block presents a new part of the meat to each stroke of the knives. The chopping block is constructed with a view to prevent splitting and remedy shrinkage. For convenience in removing the meat from the chopping block, or in cleaning or repairing the same, the curb is adapted for ready detachment.

Claim.—1. The meat-cutting machine, consisting of the frame A B, with the tables C D, the reciprocating frame *h*, with the series of knives attached thereto, and the rotating chopping block K operated by the shaft G, the rock shaft *q*, and pawls *t* and *w*, all constructed and arranged to operate substantially as herein described.

2. The chopping block K, consisting of a series of pieces set endwise and bound together with a band *o* and set screws *p*, and provided with the removable curb M, constructed and arranged as herein described.

3. The arrangement of the tables C D, in combination with the meat-cutting apparatus, when constructed as herein set forth.

81,422.—Philander Sisson, Brant, N. Y.—*Spring Bed Bottoms.*—August 25, 1868.—Between two parallel slats are placed short inclined slats acting as springs to support the upper slat.

Claim.—Supporting the slat A on the ends of the inclined spring levers B B, when arranged substantially in the manner and for the purpose set forth.

81,423.—Amos Smith, Vienna Cross Roads, Ohio.—*Harvester.*—August 25, 1868.—By an arrangement of bars which are connected with the shoe of the finger bar, the latter may be adjusted higher or lower as desired. To one of the said bars is fulcrumed a lever by which the outer end of the finger bar may be raised.

Claim.—The arrangement of the bars K L, at the junction of which the cutter bar is pivoted, upon the outer end of the axle of the machine and the bearing of the pitman shaft respectively, when said bars are adjustable as described, and the bar K provided with the pivot *i*, of the lever O and the slotted standard P, for raising the outer end of the cutter bar, all constructed, arranged, and operating substantially as set forth.

81,424.—Charles A. Smith, New York, N. Y.—*Lifting Jack.*—August 25, 1868.—The safety wheel, together with the band and lever, aid the pawl in holding the cog wheel stationary upon its axis, when the weight to be sustained by the rack bar is greater than usual.

Claim.—The combination of the lever H, ratchet wheel D, cogged wheel E, slide B, ratch bar C, with the safety wheel F, and brake or safety band *i*, all constructed as described, and operating substantially as and for the purposes herein set forth.

81,425.—F. Smith and I. Carpenter, Lancaster, Pa.—*Plane.*—August 25, 1868.—The guard rises with a gentle curve from the wedge; it prevents the shavings from catching upon the screw. The wedge is metal and serves, in conjunction with the clamping screws, as a substitute for the tightening wedges and tapered notches of the ordinary stocks.

Claim.—1. The adjustable cap, provided with the guard in front of the set screw *b*, substantially as and for the purpose described.

2. The set screws a^2 in the lugs a^1, arranged to clamp upon the adjustable wedge C, as herein shown and described, for the purpose specified.

81,426.—Youngs W. Smith, Bristol, N. Y.—*Hop Vine Trellis.*—August 25, 1868.

Claim.—The improved hop trellis, formed of the elevated parallel supporting wires *a a* and standards A A, in combination with stakes B B, and diagonal net work of twine, alternating from row to row, and stake to stake, over the intermediate supporting wires *a a′*, arranged substantially as set forth.

81,427.—James D. Soles, Lynn Township, Ill.—*Bread Cutter.*—August 25, 1868.—The handle of a hinged cutter plays in a slotted arched frame; an adjustable guide is adapted to the size of the loaf, and a gauge determines the thickness of the slice to be cut.

Claim.—The combination of the arched standard A, its guide plate B, and flange *i*, and bed plate *m*, the gauge E, the guide F, the spring S, the lever and knife C and D, all as and for the purposes described.

81,428.—Henry Stanley, St. Johnsbury, Vt.—*Smut Machine.*—August 25, 1868.—The cases which surround the fans are curved in the form of scrolls, which are perforated at their sides, and into one of which the grain is admitted, and from which it is forced, by the blast of air around the scroll, to the mouth, into a spout communicating with the next fan chamber, and from thence to the mouth of the scroll, where it is subjected to the blast from another fan.

Claim.—The grain-cleaning machine, composed of one or a series of perforated scroll cases, surrounding one or more fans, the spouts E G, and the fan I, arranged substantially as and for the purpose described.

81,429.—James H. Stone, Washington, D. C.—*Fan for Sewing Machine.*—August 25, 1868.

Claim.—Operating the rotary fan to a sewing machine directly from the driving shaft A, through the medium of the beveled gearing B F, as described, for the purpose specified.

81,430.—T. J. Sullivan, Albany, N. Y.—*Permutation Lock.*—August 25, 1868.—Attached to the disk containing the combination wheels are circular springs, each being provided with a detent pin for detaining the combination wheels at any desired point.

Claim.—The tumblers constructed as described, of the perforated annular plate *a*, grooved disk G, and divided annular spring *b*, having the pin *i*, all arranged and operated as described for the purpose specified.

81,431.—Charles D. Sutton, Tarrytown, N. Y.—*Spring for Vehicles.*—August 25, 1868.—The cross springs are fitted at their centers by laying the leaves upside down upon a level surface, the leaves being laid and fitted alternately, first a leaf of one spring and then a leaf of the other. The leaves are brought together at the points where the fifth wheel rests. After the centers are fitted, the leaves are marked and numbered. They are then taken apart, turned right side up, and bent to the desired shape.

Claim.—An improved platform spring, formed by the combination of the cross springs C, constructed substantially as described, and forming a flat support for the fifth wheel, with the side springs B and shackles D, as and for the purpose set forth.

81,432.—Esau Tarrant, Muskegon, Mich.—*Machine for Turning Logs in Saw Mills.*—August 25, 1868.—The toothed bar is pivoted to two sliding blocks, and so arranged as to enable it to move back and forth to adjust itself to the size of the log. The hoisting chain is so arranged as to force the upper end of the bar forward, causing the teeth to take firm hold of the log. A cam shaft is made to raise or lower the bridge-tree, to which the bearings of one end of the actuating shaft are attached, so as to bring the friction pulleys into or out of contact with each other.

Claim.—1. The toothed bar C, pivoted at its lower end between the blocks E, which are adapted to slide in vertical grooves formed in the posts D, whereby the said bar C is rendered vertically movable, and capable of adjustment to suit logs of different sizes, substantially as herein set forth and shown.

2. The combination with, and the arrangement with relation to, the bar C, of the cord or chain F, pulley G, shaft J, drum I, friction pulleys K L, and adjustable shaft M, all as set forth and shown.

3. The arrangement of the pivoted brake R, connection S, and pivoted bridge-tree O, (in which is formed the outer bearing for shaft M,) substantially as herein shown and described, whereby the pulley L is removed from contact with pulley K, and the brake brought into contact with the latter, and *vice versa*, simultaneously, as herein set forth.

4. The arrangement of the cam and shaft P Q and weighted arm T with relation to the connected brake and bridge-tree, to operate as and for the purpose described.

81,433.—Edwin Taylor, Tecumseh, Mich.—*Steam Generator.*—August 25, 1868.—Inclosed within a fire box or furnace is a boiler connected with a counter-balance on a notched lever, so that when the boiler rises by the evaporation of its contents, the end of the lever will be depressed and cause the opening of a valve in a tank above to supply water to the boiler.

Claim.—The arrangement of the suspended counterbalanced boiler B within the fire box or chamber A, and the elevated tank or reservoir I, substantially as and for the purpose set forth.

81,434.—George Thompson, Nashua, N. H.—*Belt Saw.*—August 25, 1868.—The belt saw is steadied by a number of small adjustable pulleys, and runs upon a main pulley which is driven by a belt so arranged upon several other pulleys as to hug the main driving pulley for half its circumference, and transmit motion to it by friction.

Claim.—The arrangement, substantially as herein shown and described, of the pulleys *d*, each adjustable independently of the others, with relation to the pulley A and saw *a*, as set forth.

81,435.—THOMAS THOMPSON, Buffalo, N. Y.—*Shingle Bolt Machine.*—August 25, 1868.—The mechanism which supports and feeds the saw consists of a counterbalanced swinging frame, carrying the bolting saw, and a reversing friction apparatus, whereby the saw frame may be raised and lowered as required. A step lever, with a pivot arm extending through a stationary table, serves to present the different sides of the block to the action of the saw in dividing it into bolts.

Claim.—1. The arrangement of the rack bars H, pinions G′, friction wheels I and J^4, and shifting rod and lever K K′, with the counterbalanced swinging saw frame C, as a means of raising and lowering the same, as set forth.

2. The step lever M′ and pivot arm M, in combination with the stationary table F, provided with a slit in one side for the passage of the saw, arranged and operating in the manner for the purpose described.

81,436.—THOMAS TOMPSON, Jr., New York, N. Y.—*Fire Escape.*—August 25, 1868.—Designed for permanent attachment to the outer sides of buildings, and forming a convenient mode of escape in case of fire.

Claim.—The ladder D, constructed substantially as herein shown and described, that is to say, with two side bars at each side, to which the flanged ends of the broad steps are pivoted, in combination with the balcony B, permanently attached to the outer wall of the building, in the manner and for the purpose set forth.

81,437.—FRANZ VESTER, Newark, N. J.—*Burial Case.*—August 25, 1868.—A means of deliverance from interment for resuscitated persons.

Claim.—1. The application of the tube C and ladder H to a burial case or coffin, substantially as and for the purposes described and set forth.

2. In combination with the tube C and ladder H, the cord K and bell I, for the purposes substantially as set forth and described.

81,438.—ADOLPH WAGNER, New York, N. Y. assignor to SAMUEL BEINSTEIN, same place.—*Loom for Circular Weaving.*—August 25, 1868.—A circular machine for weaving petticoats and hoop skirts. The fabric is woven around a block suspended between the warp carriers and the track of the shuttles, said block being movable vertically and laterally, in order that it may be adjusted centrally. The shuttles move on a circular, or other endless track, and deposit their woof threads alternately above and below a warp thread around the block. The warp carriers receive an alternate vertical reciprocating motion from a cam on a revolving drum, from which the shuttles also derive their motion.

Claim.—1. A circular weaving machine, in which the core or block H is vertically as well as horizontally adjustable, substantially as described, so that tubular, as well as irregular-shaped, fabric may be produced, as set forth.

2. The device herein shown and described, for imparting reciprocating motion, in opposite directions, to the two sets of carriers, E or E′, which compose a group, said device consisting of the pin *p*, cam on the drum B, and pinion *m*, in combination with the toothed carrier stems, substantially as and for the purpose herein shown and described.

3. The carriers E′ E′, when arranged in combination with the upright bars I I and sliding blocks *o o*, the bars I I being divided in the middle, as set forth, to allow the passage of the woof threads, as specified.

4. The carriers E E, when provided with diverging horizontal arms, substantially as set forth, for the purpose of distributing the warp threads, and of allowing the grouping of the carriers between the pinions *e e*, as herein described.

5. The carriers E or E′, when arranged and operating as described, the shuttles L L, when made as described, and the up-and-down as well as horizontally adjustable block H, all in combination with each other and with the rotary drum B, and all made and operating substantially as herein shown and described.

6. The sliding pins *p*, in combination with the carrier stems, substantially as and for the purpose shown and described.

81,439.—P. H. WAIT, Sandy Hill, N. Y.—*Curb for Water Wheel.*—August 25, 1868.—Water wheels of this class are secured on a vertical shaft, and rotate in a horizontal plane at the lower end of a cylindrical case, under chutes or water guides. By means of this curb, the water may be admitted into the case at either side by reversing the gate and curb, and a right or left hand wheel may thus be obtained at will.

Claim.—1. The portion F of the curb, constructed as described, of the top and bottom plates *g g′*, the latter provided with a pendent flange, *h*, forming a portion of the case A, the side and end bars *i j*, adapted to receive the gate D and door G, all arranged as described, for the purpose specified.

2. The curved gate D, constructed as described, with a flange, *f*, adapted to work against the vertical central bar *d* in the frame E, said frame being provided with the ledges *c c*, out of line with each other, as herein described, for the purpose specified.

81,440.—DANIEL F. WALLACE, Ripley, Ohio.—*Quilting Frame.*—August 25, 1868.—Movable posts, which hold the rollers, are set in base pieces or rests, and are held in position by rods, so that the rollers can be moved toward or away from each other.

Claim.—A quilting frame, constructed with rests D D, movable posts *a a a a*, rollers A B, braces E E, and nuts *b b b b*, as combined and arranged for the use and purpose as specified and herein set forth.

81,441.—ELISHA WATERS, Troy, N. Y.—*Vessel for Holding Petroleum and other Liquids.*—August 25, 1868.—It is proposed to coat, size, or cement the continuous inner surface of the vessel, or permeate the whole fiber of the paper with any varnish or substance insoluble in and suited to resist the action and prevent the leakage of the liquid the vessel is to contain.

Claim.—1. A closed cylindrical tank-like or barrel-shaped vessel, formed essentially or mainly from paper pulp, paper in sheets, or paper or straw board, of any suitable quality, and supported internally by disks or hoops at the ends, or an extended wooden shell, substantially as described herein.

2. A closed cylindrical tank-like or barrel-shaped vessel, formed essentially or mainly from paper pulp, paper in sheets, or paper or straw board, with or without internal end hoops, or an inner wooden shell, substantially as described, in combination with an exterior protecting case formed of wooden staves and heading, and fitted or secured to the paper vessel, substantially as set forth, so that the paper vessel shall not turn within the wooden case, and yet shall be free or separable therefrom along the joints of the staves.

81,442.—W. B. WEAVER, Reading Centre, N. Y.—*Saw Set.*—August 25, 1868.—To one side of the bar that bears the stationary jaw is attached an adjustable plate, formed with a grooved projection, in which groove is a strip of leather. The said projection serves as a gauge for setting fine or coarse saw teeth.

Claim.—The combination of the leather packing *l* and adjustable plate E with the jaws *f* and *f′*, as herein described, for the purpose specified.

81,443.—WILLIAM WEILD, Manchester, England, assignor to ELIAS S. HIGGINS, New York, N. Y.—*Mechanism for Operating Pile Wires in Looms.*—August 25, 1868.—Relates to mechanism for actuating the wires in that class of looms for weaving pile fabrics where the terry loop forming the pile is obtained by inserting wires in a shed formed between the body warp and pile warp, which wires are woven in the fabric to be again withdrawn in succession when a sufficient number of wires have been woven in the fabric to secure the loops or woven pile against the strain produced in the process of weaving.

Claim.—1. Wire motions, where the head of the wire only is guided during its insertion and withdrawal, and the point is supported and transferred from the point of withdrawal to the point of insertion by a trough or bar *d*, oscillating on a fulcrum or joint, substantially as hereinbefore described.

2. The combination of wires, with heads of the shape shown in Figs. 4 and 4^a, with an oscillating grooved trough *d*, substantially as hereinbefore described.

3. The spring pieces d^3, or their equivalents, in combination with the oscillating grooved trough *d*, substantially in the manner described.

4. The slide *b*, provided with a projection b^3, for pushing directly against the head of the wire, when combined with an oscillating trough, substantially as hereinbefore described.

5. The combination and arrangement of the mechanism of the wire motion shown by Figs. 1, 2, 3, 4, and 4^a, and hereinbefore described.

81,444.—DANIEL S. WEIBE, Brecknock Township, assignor to himself, JACOB H. BINGAMAN, and JOSEPH W. GOSHERT, Durlock, Pa.—*Railroad Gate.*—August 25, 1868.—A rocker shaft is so connected with a short rail placed adjacent to one of the rails of the track, as to be actuated by the tread of the car wheel, and cause the elevation of a gate to a vertical position, through the medium of a crank arm, connecting rod and bracket.

Claim.—The combined arrangement of my notched rocker T, adjoining the rail, pivoted bars L, rocker shaft B, and lever *t*; also the crank arm *e*, connecting rod D, stirrup bracket E, and gate F G H, all arranged and operated substantially in the manner and for the purpose specified.

81,445.—C. N. WHITE, Batesville, Miss,, assignor to himself, W. S. HARRIS, and T. P. ROLAND, same place.—*Churn.*—August 25, 1868.—Means are provided for readily dismounting the churn from its pivotal supports. The "dasher" is made up of wings, extending from end to end as well as from side to side of the churn. The churn is turned around upon its pivots by handles fixed to its sides, and the wings and churn move simultaneously in the same direction.

Claim.—1. The combination of the dasher plates E, block F, plate G, and cover H, with each other, and with the churn body D, said parts being constructed and arranged substantially as herein shown and described and for the purpose set forth.

2. In combination with the above, and with the frame A B C, the fixed center *j* and crank screw L, all arranged and operating substantially as and for the purpose set forth.

81,446.—SAMUEL R. WHITLOW, Rosefield, Ill.—*Cough Mixture.*—August 25, 1868.—Composed of bayberry bark, Solomon seed root, sarsaparilla, Seneca snake root, red bark, (Peruvian,) black cherry bark, prickly ash bark, spikenard root, maidenhair root, blackberry root, oil of wintergreen, pine tar, skunk cabbage, lobelia, ginseng root, comfrey root, elecampane root, hoarhound leaves, wafer-ash bark, white sugar, and water. When boiled down, Jamaica rum is added.

Claim.—The compound cough mixture, prepared and compounded, and to be used substantially as described.

81,447.—HENRY C. WILDER, Ashby, Mass.—*Bail-making Machine.*—August 25, 1868; antedated August 13, 1868.—The wire is drawn from a reel, guided through the bail wood, (the latter being held, in the meantime, by the spring supports,) gauged and cut off in proper length to form the bail, then bent to the curve of a bail and hooked at the ends.

Claim.—1. The spring supports R R so arranged with formers V V′ and vibrating arms X X′, or their equivalents, as to receive the pressure of the wire at the ends of the bail wood, while being bent, as described, and for the purpose specified.

2. The vibrating shaft J, the lever *g*, and the hardened steel die F, with the guide thereto, combined and operating as described, and for the purpose set forth.

3. The opening tunnel H, so arranged with other necessary parts as to guide the bail wire through the bail wood, in combination with the stationary slotted tunnel S, constructed substantially as described, and for the purpose set forth.

4. The arrangement and combination of the bent lever B with the pivot *v*. the spring *x*, the spring top C, the incline *t*. the adjustable gauge *a*, and the set screw *b*, constructed and operating substantially as described, and for the purpose set forth.

5. The arrangement and combination of the spur-gears P P′, the washer and screw *n n′*, the connections A A, the catch *r*, the spring W, and the ratchet wheel Q, constructed and operating substantially as and for the purpose set forth.

6. The arrangement and combination of the shaft D D, the gears *m n*, the pins *j j*, or their equivalent, with the lever *g*, and vibrating shaft J, operating substantially as and for the purpose set forth.

7. The arrangement and combination of the lever *g*, the spring *p*, the arms *c i*, the spring *h*, the shaft J, and the spring W, operating substantially as and for the purpose set forth.

8. The arrangement and combination of the adjustable cutter plate D, the hardened steel ring G, the hardened steel cutter *d*, the lever C C, the pin E, and the spring K, operating substantially as and for the purpose set forth.

9. The arrangement and combination of the crank *z*, the grooved rolls O O O′, the pivoted lever Z, or its equivalent, and the adjusting screw L, operating substantially as and for the purpose set forth.

10. The plate having thereon the guide *y*, and the incline *s*, in combination with the vibrating shaft J, having the steel die F thereon, operating as and for the purpose set forth.

11. The construction, combination, and arrangement of all the parts, substantially as described, and for the purpose specified.

81,448.—MILES D. WILLIAMS, Lawton, Mich.—*Grain Separator.*—August 25, 1868.—The upper screens, instead of being confined to a certain position by supporting grooves, are provided with jaws upon their upper inner corners that engage with the shoe, while the outer ends may be inclined to any desired degree, and held by tightening the sides of the screen case against them, by means of the bolt and nut.

Claim.—1. The upper screens L, provided with the jaws M, in connection with the shoe B, screen case A, bolt C, and nut D, operating in the manner described and for the purposes specified.

2. The combination of the above-named parts with the grain separator, constructed and arranged substantially as and for the purposes set forth.

81,449.—THOMAS WILSON, Garton, England.—*Lubricating Hubs and Axles.*—August 25, 1868.—A cam nut attached to the axle serves to operate valves, through which oil passes from a proper receptacle to conductors, and thence through spiral grooves upon the whole length of the bearing.

Claim.—1. The cam nut *v*, when arranged to operate substantially as described and set forth.

2. The oil receptacle *j*, in combination with the conductors *n n*, substantially as and for the purpose described.

3. The pistons *l l*, with their valves *m m*, when operated upon by a cam nut *v*, substantially as herein described and set forth.

4. The sand guard *g* and waste box *t*, in combination with the box *c* and bearing *p*, when arranged substantially as described and set forth.

5. The arrangement and combination of the oil receiver *j*, pistons *l l*, with valves *m m*, conductors *n n*, box *c*, with its nuts *d* and *e*, bearing *p*, with spiral groove *q*, waste box *t*, sand guard *g*, shell *f* and *f′*, and hub *a*, all when arranged substantially as described and for the purposes fully set forth.

81,450.—ALOIS WIRSCHING, Brooklyn, N. Y., assignor to himself and ALBERT WILD, same place.—*Watchmakers' Drill.*—August 25, 1868.—By pulling the string a rapid rotary motion is imparted to the drill shaft, and the spring is wound up or contracted; upon relieving the tension upon the string, the spring rotates the drill shaft in a reverse direction and winds the string upon the drum for a continuance of the operation.

Claim.—The drill shaft B, fitted within the tube A, in connection with the spring E, arranged or applied, as shown, or in an equivalent way, and the string F attached to a drum or pulley on the drill shaft, all constructed to operate in the manner substantially as and for the purpose set forth.

81,451.—John Wood, Franklin, Pa.,—*Pump Piston.*—August 25, 1868.—The packing is kept tight by the pressure of the water inside the same. The ribs constitute the cage of the valve and permit the water to pass upward as the piston descends.

Claim.—The movable sections A B C, the packing P, the ball valve V, and ribs *c*, arranged as herein described, for the purpose specified.

81,452.—Edmund Yeiser, Sheridan, Pa.—*Fifth Wheel for Carriages.*—August 25, 1868.—The fifth wheel or perch plate bears against curved guides secured to the axle, so that the tongue can be readily turned in either direction around the connecting pin, for conveniently changing the line of draught.

Claim.—The perch plate B, as constructed, in combination with pin *g*, guides C C, axle D, bar A′, and supports H H, arranged substantially as set forth.

81,453.—Charles H. Young, River Point, R. I.—*Let-off Machanism for Looms.*—August 25, 1868.—When an extra strain is put upon the web by reason of the shuttles getting caught in the shed, the device allows such an extra amount of warp to be drawn off, by the action of the lathe, as may be necessary to prevent damage to the web by the shuttle.

Claim.—The combination of the wheel D with the escapement J, arranged so that the projections *o o* on the arms shall move clear of the projections *r r* on the wheel D, when any extra strain is thrown upon the warp, substantially as herein described and for the purpose set forth.

81,454.—Levi O. Allen, Gardiner, Me.—*Caster for Sewing Machine.*—August 25, 1868.—Casters are placed upon the ends of adjustable legs pivoted to the table frame so that their slotted inner ends cross each other and form a lap over the treadle shaft. The device is operated by a foot lever.

Claim.—The arrangement of the pivoted legs A A with slots *c* and *c*, in combination with the link F, slotted clutch G, and lever D, substantially in the manner as herein shown and for the purpose specified.

81,455.—Thomas Alsop, Elkhart, Ill.—*Governor for Steam Engine.*—August 25, 1868.—The arrangement of the parts, and the consequent operation, are such that if the belt slips or an accident happens to the machinery, the governor will cut off the steam and stop the engine, in addition to performing its functions as a steam regulator at other times.

Claim.—1. The arrangement of the independent rod J, resting upon the rod or stem *b*, and having its upper end held against the rod I by means of a lever, L, or its equivalent, whereby the ingress of steam is controlled or arrested, substantially as herein set forth.

2. The combination of the parts C C′, clutch *m n* and rods I and J, substantially as described.

3. The weighted lever L, or its equivalent, in combination with the valve stem *b* and steam governor apparatus, in such a way that, when the motion of the belt shaft is retarded, as compared with that of the governor balls, the weight will be dropped, and the cut-off valve thereby closed, substantially as described.

81,456.—Thomas Alsop, Elkhart City, Ill.—*Mode of Attaching Springs to Mill Spindle.*—August 25, 1868.—The object is to prevent the jar or backlash generally incident to the operation of mill-gearing. The pinion being moved in the proper direction, communicates motion to the spindle through the spring, the elasticity of which serves to equalise the motion. The pinion may be readily disconnected from its driving wheel by raising it, together with the spring and sleeve, upon the spindle.

Claim.—The combination of case E, pinion D, shaft A, and spring *m*, with its outer end attached to the case E, and the inner end attached to the spindle by the sleeve *e*, arranged substantially as described, and for the purpose specified.

81,457.—Robert Andrews, Milwaukee, Wis.—*Boots and Shoes.*—August 25, 1868; antedated August 7, 1862.

Claim.—The method of making boots and shoes water-proof, by putting the hair side or grained surfaces of two pieces of leather together, and putting between them some lubricating material, to prevent abrasion and injury from attrition, as herein described, using for the purpose of lubrication any material composed by me, or any oily substance which will produce the intended effect, and using any and all kinds of leather which may be used to make boots and shoes made of any and all kinds of skins.

81,458.—Daniel Bacon, Brewersville, Ind.—*Corn Sheller.*—August 25, 1868.—Attached to the upper ends of upwardly inclined springs are four teeth which receive the end of an ear of corn. The ear is pressed downward between the teeth by a follower attached to a lever by which the corn is shelled from the ear.

Claim.—The lever *f*, plunger *d*, teeth *b b*, springs *a a*, and platform A, constructed and operated substantially as shown and described for the purposes set forth.

81,459.—A. R. Bailey, Elmore Vt.—*Butter Tub.*—August 25, 1868.—The object of the interior cover is to press the brine and salt close upon the butter, preventing the butter from working and becoming rancid.

Claim.—In combination with a butter tub, having the usual cover, and provided with angular grooves *b b*, on the inner side, near the top, the additional interior cover B, having journals *a a*, for fitting into the grooves *b b*, as and for the purposes specified.

81,460.—Alexander R. Ball and William M. Phelps, Marshall, Mich.—*Wash Boiler.*—August 25, 1868.—As soon as ebullition commences, the water below the false bottom rises through the opening at the highest part of the incline, and, permeating the immersed clothes, is drawn rapidly through the same to the space at the lowest part of the incline, through which it is returned to supply the displacement at the opposite end. When the inclination of the false bottom is reversed, the direction of the boiling current is reversed also.

Claim.—1. The inclined false bottom, B, in combination with a wash boiler, substantially as and for the purpose specified.

2. Providing said inclined false bottom B, with side flanges C, or other equivalent means for reversing its incline, when employed in combination with a wash boiler, substantially in the manner and for the use set forth.

81,461.—Thomas Bardon, Brooklyn, N. Y.—*Engravers' Plate.*—August 25, 1868.—The lines are produced by cutting the soft-coating metal down to the surface of the plate, and the softer metal is cut with ease without spreading under the tool or breaking off.

Claim.—An engraving surface, formed of type metal, or its equivalent, fused upon the surface of a harder metallic plate, such as brass or steel, for the purposes and substantially as set forth.

81,462.—Albert B. Beaumont, Austerlitz, Mich.—*Steam Machine for Extracting Stumps.*—August 25, 1868.—The wire ropes and tackle are connected to suitable fastenings about the stump, whereupon steam is applied and the stump drawn out.

Claim.—1. The combination and arrangement, with the derrick A A, mounted upon wheels B B, of the steam-engine D E *g*, with stack *l* and the reservoir Z, the whole being in portable form, whereby the machine may be moved over a stump, and the steam applied for extracting it, as herein set forth.

2. The combination and arrangement of the connecting rods I I, jointed arms J J, pawls *h h*, with the ratchet wheel *i*, whereby the forward turning of the ratchet is produced at both strokes, in the manner and for the purpose specified.

3. The combination, with the pawls *h h*, of the cam plate *y*, having cams *j j*, rods K K, and lever L, for throwing said pawls out of gear, as herein set forth.

4. The arrangement of the wire ropes *s s*, passing through slots *t t*, and retained by a rod passing through the loops, as set forth.

5. The arrangement of the brake Q, connecting cord or rod R, and lever S, with the brake wheel P, as herein described.

6. The combination and arrangement, with the wheels B B, of the swing or sustaining bars C C and the rope or chains *c c*, pulleys *a b*, and holding devices *z z*, as herein set forth.

7. The arrangement, as a whole, consisting of the derrick A, steam-engine D E *g*, connecting rods I I, arms J J with pawls *h*, ratchet wheel *i*, roller N with wire cords or chains *s s s*, and adjusting wheels B B, all as herein set forth.

81,463.—Jacob Brchtel, Roxbury, Pa.—*Boot Tree and Stretcher.*—August 25, 1868.—The screw being turned and consequently depressed by means of a crank, actuates the blocks which serve as levers to force the parts of the tree asunder.

Claim.—1. A boot tree, when made in two parts, one of which is provided with blocks and rollers worked by a screw, for the purpose of pressing them outward, substantially as and for the purposes herein set forth.

2. The last C, constructed as described, in two parts, adjusted by screws, and provided with a tongue fitting into a slot on the lower end of the front part of the boot tree, substantially as and for the purposes herein set forth.

81,464.—Alma Bedford, Coldwater, Mich.—*Tool for Cutting Holes in Cloth or Leather for Buckle Tongues.*—August 25, 1868.—A lock plate is pivoted by its shank within the jaw of the punch and is operated by a key-like handle so that it may be made to hold and release different cutting tools. The folded end of the strap is operated upon by the cutter, and an oblong opening is formed thereby.

Claim.—A tool for cutting holes in leather or cloth, to receive buckle tongues, consisting of the cutting tool J and locking device G, constructed and arranged to operate substantially as herein described.

81,465.—Alma Bedford, Coldwater, Mich.—*Rotary Punch.*—August 25, 1868.—The tubular cutters differ in size, and either of them may be readily brought into requisition. It is designed to protract the dulling of the cutters, by substituting a wooden bed for the ordinary metallic one.

Claim.—A rotary punch, having attached to its upper jaw E, by means of a set screw B, an adjustable plate, A, rotating parallel with it, provided with a series of punches C, and having its lower jaw F provided with a removable wooden or other bed D, all constructed and arranged substantially as herein described.

81,466.—Charles Benedict and O. R. Fyler, Wolcottville, Conn.—*Guide for Sewing Machine.*—August 25, 1868.—The gauge is formed at one end with a curved guiding edge or face having a groove in or through which the edge of the cloth passes. A flange above the groove retains the edge of the cloth in the groove.

Claim.—The gauge, constructed with a curved groove and flanged face, substantially as herein described.

81,467.—Jacob Bernheisel, Sr., Green Park, Pa.—*Lever Jack.*—August 25, 1868.—The slide, actuated by the spring, engages the teeth of the rack, to maintain the position of the same while the lever is undergoing its ineffective vibration.

Claim.—The coiled spring H, the slide K, and the curved oval slot D, in which the pivot G of the lever C works, when arranged, constructed, and operating as herein described and for the purpose set forth.

81,468.—George R. Blanchard, Baltimore, Md.—*Railway Stock Car.*—August 25, 1868.—The deck consists of two sections, hinged, respectively, to the opposite sides of the car. When raised into a horizontal position, they meet at the center, and are sustained by a beam or beams inserted in sockets beneath, to form a platform.

Claim.—1. A car, for the transportation of animals and other kinds of freight on railroads, convertible from a double to a single deck or platform car, and *vice versa*, by means of a swinging or dropping deck or platform attached to the sides of said car, substantially as shown and described.

2. The removable section D^2, which occupies the central position between the sections A^1 A^2 A^1 A^2, substantially as shown and described.

3. The arrangement of devices, substantially such as are shown and described, for receiving and carrying the central portion of the deck when not in position for use.

4. The arrangement of the beams, and their rests or supports, with reference to the platforms or sections of the upper deck and the framework of the car, substantially as shown and described.

81,469.—Thomas G. Brooks, Oneida, Pa.—*Hame.*—August 25, 1868.—The connecting ring passes around both hames, and is held in place by the movable spring, covering the notches with which the ring engages.

Claim.—The hame A, when provided with a notched plate *b*, in combination with the slotted spring D, constructed as described, for the purpose of attaching the hames together by means of the ring B, substantially as and for the purposes herein set forth.

81,470.—N. B. Brown, Antwerp, N. Y.—*Windlass.*—August 25, 1868; antedated August 17, 1868.—While the crank is being turned forward to wind up the windlass rope, the end of the brake merely slides upon the peripheral surface of the ratchet wheel flange; but when the crank is turned backward the clutch catches the end of the brake and forces it against the said flange to control the windlass while a weight is being lowered.

Claim.—1. The brake *j*, in combination with a ratchet wheel E and clutch *g*, the several parts being constructed and operated substantially as and for the purpose specified.

2. The arrangement of the shaft B, wheel E, and crank F, with the clutch G, pawl K, and brake *j*, when the various parts are constructed and operated as and for the purpose herein fully set forth.

81,471.—Thomas F. Brown, Jr., Concord, N. H.—*Skein Holder.*—August 25, 1868.—The holder is contracted lengthwise, to be introduced into the skein; it is then extended by its spring so as to stretch and hold the skein.

Claim.—The combination of the plates A B, slitted and notched, as described, with their connections and operative spring, arranged and applied to them substantially as specified, the whole being for the purpose as explained.

81,472.—Thomas S. Brown, Poughkeepsie, N. Y.—*Harvester.*—August 25, 1868.—A device for throwing the cutters into and out of action. When the wheel is in gear the pressure of the spring is exerted against the wheel and the pin, leaving the fork loose in the groove; the pressure being exerted against the fork, the wheel is at rest, and there is no friction between the parts.

Claim.—1. The shipping lever, provided with a cam or eccentric slot and notch, to receive the pin on the sliding fork, when constructed and operating substantially as set forth.

2. The combination of the slotted and notched lever with the spiral spring and the sliding fork, when constructed and operating substantially as set forth.

3. The combination of the slotted and notched lever with the spiral spring, the sliding fork, and the wheel having a grooved and ratcheted hub, when constructed and operating substantially as set forth.

81,473.—Thomas S. Brown, Poughkeepsie, N. Y.—*Harvester Rake.*—August 25, 1868.—An arrangement of mechanism for controlling the arms of a revolving rake and reel, so that the same will conform to all the movements of the hinged platform and cutting apparatus.

Claim.—1. A swinging gear frame or box mounted upon and vibrating horizontally about the vertical rake and reel shaft, substantially as described.

2. The horizontal driving shaft mounted in a swinging gear frame, whose axis of vibration is the vertical rake shaft.

3. The combination of a swinging gear frame with its gearing and a double-jointed tumbling shaft, by the use of which the usual extensible tumbling shaft is dispensed with, substantially as described.

4. The vertically adjustable switch lever for the purpose described.

5. The adjustable switch lever, in combination with an adjustable hook or spur on the revolving rake arm or rake head, for actuating said switch lever, as described.

6. A movable switch lever, in combination with means for removing said lever out of the way of the actuating hooks or spurs on the rake arms or rake head.

7. Operating the switch lever by means of a spring or equivalent device, and a hand or foot lever within reach of the driver on his seat on the machine, so that said switch lever may be made to engage the hooks or spurs on the rake arms or not, at pleasure.

8. The combination of the switch lever, spring, or weighted lever, and foot or hand lever, substantially as described.

9. Attaching the adjustable hook or stop to the iron roller check or elbow, so that an adjustment of the angle of the rake arm relative thereto will not disturb the relation of said hook to the switch lever.

10. The arrangement of the pulley R, over which the cord for actuating the switch lever passes, in the same or nearly the same plane with the joints which connect the platform with the machine.

11. Giving to the switch lever an inclination backward from its shaft, substantially as described, so that in case of a backward movement of the rake arms, the hooks or stops thereon will press said lever downward, and pass over it without injury thereto.

12. The foot lever, provided with the stops or shoulders and spring, operating substantially as and for the purpose described.

81,474.—James D. Bryson and John H. Hartsuff, Newcastle, Pa.—*Curb for Water Wheel.*—August 25, 1868.—The upper casing of the water wheel is provided with gates and sliding plates to regulate the flow of water between the chutes on the lower casing, said chutes being connected at their inner corners by a band or ring, on which the upper casing rests and revolves.

Claim.—The curved plates F F, loosely attached to the ends of the gates E E, and sliding on the chutes B B, all operating substantially as and for the purposes herein set forth.

81,475.—William G. Bulgin, Vienna, N. J.—*Machine for Sawing Lath.*—August 25, 1868.—The larger gearing effects the gig back motion of the carriage without loss of time.

Claim.—The arrangement of the two sets of bevel gear, *k m* and *b n*, placed centrally in the machine, to be operated by the hand lever G, for reversing the motion of the log carriage, and moving it forward and back, alternately, at a different rate of speed, substantially as and for the purposes herein set forth.

81,476.—John W. H. Cheney, Hartford, Conn.—*Cutting Printers' Leads.*—August 25, 1868.—The strip of lead is fed up to the gauge by successive movements, which are continued until the strip is reduced to leads of uniform length by the cutter.

Claim.—The arrangement of the hand cutter F, and the parts by which it is operated, with the stationary cutter *a*, bed C, and adjustable gauges D and E, when constructed as described and for the purpose specified.

81,477.—Phillip Cohen, Chicago, Ill.—*Trunk Lid Supporter.*—August 25, 1868.—Holds the lid open at any desired angle, preventing it falling either backward or forward.

Claim.—1. Stud B, spring F, hook arm G, all operating substantially as described and set forth.

2. Quadrant bar A, provided with perforations 2, when operating in connection with case D, substantially as set forth and shown.

81,478.—James F. Cranston, Springfield, Mass., assignor to the American Trading Company.—*Construction of Cartridge Shells.*—August 25, 1868.—A groove is run around the shell in which groove the metal is upset, thus forming a flange at the same time that the shell is tapered by the dies.

Claim.—Forming the flange *p*, on the inside of the shell, by means of the dies E and F, at the same operation in which the shell is tapered, substantially as shown.

81,479.—Elizabeth L. Daniels, Boston, Mass.—*Supporter for Stockings.*—August 25, 1868.—Sliding straps, with buckles at the sides, are adapted to support the stockings without interfering with the ease and movement of the limbs. Pendent straps in front and behind support a diaper, or its equivalent, during the period of the menses.

Claim.—The combination of a stocking and diaper supporter, in the manner and for the purpose herein described, when the same consists of the band A, supports D, B, and C, and buckles *e*, substantially as and for the purpose set forth.

81,480.—George P. Darrow, Cincinnati, Ohio, assignor to James L. Haven and Company, same place.—*Cast Nut.*—August 25, 1868.—The nuts are cast with channels at those opposite portions of their threaded surface corresponding to the seam or parting of the core, whereby any fault, stop, or want of continuity, incident to the use of a worn or otherwise imperfect core box, is placed out of contact with the thread of the bolt or axle, the said channels also permitting the escape of dirt.

Claim.—A cast screw nut, whose threads are interrupted at the parting seam, as set forth.

81,481.—Clark D. Day, Chatham, Conn.—*Blacking Brush.*—August 25, 1868.—The dipping part of the brush—which is worn out sooner than the polishing part—is planted in a detachable base piece, and hence when unfit for use it may be replaced, the instrument proper being thus saved and renovated.

Claim.—The combination of the smaller brush *a*, fitting into the socket *b*, with the strap *c* and set screw *d*.

81,482.—Alice M. Eaton, Boston, Mass.—*Shoulder Brace and Suspender Combined.*—August 25, 1868.

Claim.—The within-described shoulder brace and suspender, consisting of the waist band B, with its buckle, elastic straps A and C C, and those, *e e* and *g g*, with their buckles and button holes, the whole combined, arranged, and operating substantially as and for the purpose set forth.

81,483.—Theodor G. Eiswald and James Barbour, Providence, R. I., assignors to T. G. Eiswald.—*Low Water Indicator.*—August 25, 1868.—So constructed that the fusible plug when melted shall not be blown into the whistle, but forced into the cup below.

Claim.—1. The arrangement of the cup E, fusible plug P, tube or stem B, and openings or side pieces *e e*, or their equivalents, when constructed to operate in the manner described.

2. The arrangement of the above-described apparatus within the hollow globe, cylinder, or expanded pipe A, substantially as shown and described.

81,484.—John Fahrney, Boonsborough, Md.—*Coal Stove.*—August 25, 1868.—A detachable rim, to be applied to upright cylindriform stoves, for the purpose of supporting around the stove, dishes, &c., to be warmed by heat radiated therefrom. Slides render the rim extensible.

Claim.—1. An attachable and detachable rim B, when used in connection with base-burning or reservoir stoves, substantially as and for the purpose specified.

2. The sliding plates C C, when employed in combination with the rim B, for the purpose described.

81,485.—MOSES G. FARMER, Salem, Mass.—*Magnetic Telegraph.*—August 25, 1868.—For sending messages simultaneously, in opposite directions upon a single line of telegraph. Upon the receiving magnet is a single set of coils, and the key makes two contacts at the down stroke, closing the branch circuit through the receiving magnet, and the branch through the rheostat, both at the same time, and, at the same time disconnecting the receiving magnet from the direct ground, and connecting with the ground through the battery. The rheostat branch circuit is broken, at the key, at its upward stroke.

Claim.—The arrangement and combination of the rheostat-receiving magnet and two-point key, or their equivalents, substantially as described.

81,486.—A. J. FERGUSON, Sharon, Pa.—*Composition for Curing Corns, Bunions, &c.*—August 25, 1868.—The compound consists of spirits of turpentine, spirits of camphor, hartshorn, and olive oil.

Claim.—The within-described process of treating corns and bunions, consisting, first, in bathing the corn or bunion with muriatic acid, and then applying the compound, prepared as herein specified.

81,487.—LEVI FERGUSON, Lowell, Mass.—*Loom for Weaving Pile Fabric.*—August 25, 1868.—The purpose of this mechanism is to draw from a series of wires, each of them in succession, and move it laterally and then forward, into the space between the decussated warps of a loom, in order that such wire may be woven with the weft into the warps, so as to form pile loops in the fabric.

Claim.—1. The combination of the steadying box I with the lever catch H, and the auxiliary carriage or wire transferrer G, provided with mechanism for operating it, substantially as described.

2. The combination of the steadying finger L (provided with mechanism for operating it as described) with the withdrawing carriage E, its abutment K, and the transferrer G.

3. The combination of the withdrawing carriage E, the heel plate transferrer G, the lever M, and its notched plate N, such being for supporting and transferring the wire, in the manner as specified.

4. The combination of the auxiliary arm *w* and its cam *x* with the lever M, the studs *s* and d^2, the carriage E, and the transferrer G, arranged to operate as specified.

5. The combination of the tripping catch O, its operative rail P, and abutment Q, with the lever M and its notched plate N.

6. The arrangement and combination of the cam or inclined plane R with the withdrawing carriage E, the transferrer G, and the lever catch H, to operate as specified.

81,488.—THEOPHILUS FRAVEL, Westville, Ind.—*Vacuum Apparatus.*—August 25, 1868.—The cape is composed of India-rubber cloth and made to fit closely about the neck, and is secured to flanged rim in the upper portion of the cover, where the head passes through. Below the seat is an aperture and suitable connections for exhausting the air from the apparatus.

Claim.—1. The construction of the cape H, and the manner of fastening it to the door or cover of the apparatus, substantially as shown and described.

2. The construction and arrangement of the pit A, seat D, door G, with its aperture for the neck, and exhaust aperture I, all substantially as shown and described.

81,489.—JIM B. FULLER, Norwich, Conn., assignor to himself, JAMES P. UPHAM, and EDWIN T. RICE.—*Drawing Fibrous Substances.*—August 25, 1868.—Bearing upon the surface of a roller is a band, so arranged in relation to the drawing rollers, that the sliver or roving of fibers of uneven length may be drawn with uniformity and evenness from between the said band and the roller, by the usual drawing rollers.

Claim.—The roller C, the band d', and drawing rollers E F, adjusted and arranged substantially as described, and for the purposes specified.

81,490.—JOHN GIBSON, Jr., Albany, N. Y.—*Fuel Size Indicator.*—August 25, 1868.—This invention consists in affixing to a stove or heater, by casting or otherwise, any representation of the size of fuel proper to be used in such stove or heater.

Claim.—1. The size representations, *a a a*, of fuel, fac similes in form and size, or outline size representations *b b b*, or measurement size representation *c*, or any fuel-size representations equivalent thereto, cast solid with or attached to any stove, heater, furnace, or the like, or cast with or attached to any part or appendage of such stove or heater, as and for the purpose set forth and described.

2. The fuel-size representations or indications *a*, *b*, or *c*, or their equivalents, attached permanently to any stove or heater, or when made detachable, either with or without the words *d d*, or their equivalents, and fo r the purpose set forth and described.

3. The words *d d*, or their equivalents, in one or more languages, when used on any stove or heater of on any appendage thereof, in connection with a fuel-size representation, *a*, *b*, or *c*, or their equivalent fuel-size representations, as and for the purpose set forth and described.

81,491.—WILLIAM F. GOODWIN, East New York, N. Y.—*Automatic Toy.*—August 25, 1868.—As the toy is moved over a floor, by hand or otherwise, the legs alternately actuate each other, the one in contact with the floor throwing the other forward.

Claim.—1. In the construction of the leg of a toy, adapted to imitate the movements of the natural leg, the attachment of the bar B^4 to the lower end of the bar B^1, and to the foot, at a point in advance of the point of attachment of bar B^3 to said foot, substantially as and for the purpose shown and described.

2. The frame or hip plate D, to which the legs are attached, and by means of which said legs are connected with the body of the toy, substantially as described.

3. The construction of the legs or movable parts of the toy, substantially as described, whereby, when the toy is moved over the floor, the said parts are caused to imitate the movements of the corresponding parts of the natural limb which it is designed to represent, substantially as set forth.

4. The legs of a toy, made of one or more pieces, connected with cranks, or the equivalents thereof, and operated or made to walk by contact of the feet or lower extremities with the surface over which the toy is propelled or drawn.

81,492.—C. B. GREGORY, Beverly, N. Y.—*Hot Air Furnace.*—August 25, 1868.—Relates to a chamber arranged above the fireplace of a furnace and having tubes open at each end and extending across it, for the passage of air to be heated; also to perforated gas plates which may be raised simultaneously above the fireplace to afford a more extended opening for the admission of air to the interior.

Claim.—1. The arrangement of the fireplace, chamber H, with its tubes *p*, chamber x', and the flue E, as and for the purpose specified.

2. Perforated plates, arranged above the sides of a fire-pot, so that their lower edges may be raised from contact with the fire-pot, for the purpose set forth.

81,493.—HENRY GROSS, Tiffin, Ohio.—*Window Sash.*—August 25, 1868.—The stiles of the window frame are grooved to receive the sides of the sashes, and the latter are grooved at one side to receive the tongues, which, being acted upon by the springs, sustain the sashes in any position.

Claim.—The tongue C, spring D, set screw *g*, bar *h*, and pins *j j*, arranged in combination with the sash B, to operate as set forth.

81,494.—JOSEPH GRUEY, Kendallville, Ind.—*Water Elevator.*—August 25, 1868.—These devices are employed to cause the alternate ascent and descent of the buckets under a continuous rotation of the crank in one direction.

Claim.—The water elevator described, consisting of curb A, shifting shaft B with bar and pins b^4, loose spools C C' with gear wheels c^1, and cylinder *c* having the face wheels c^2, standard D, adjustable shaft *d* with gear wheel d^2, lever E, clevis H and spring *h*, with wheel h^1, the whole being combined, arranged, and operated in the manner and for the purposes set forth.

81,495.—Stuart Gwynn, New York, N. Y., assignor to Spencer M. Clark, Washington, D. C.—*Preparing Oils.*—August 25, 1868.—The process of preparing oil is divided into five operations, viz, oxidizing, neutralizing, steaming, evaporation of aqueous and other volatile matters foreign to the oil, and, finally, sun-bleaching.

Claim.—Oils prepared and purified in the manner which I have herein set forth.

81,496.—Stuart Gwynn, New York, N. Y., and Spencer M. Clark, Washington, D. C., assignors to Spencer M. Clark, Washington, D. C.—*Apparatus for the Purification of Oils.*—August 25, 1868.—An arrangement of tanks for carrying out successively the operations of oxidizing, neutralizing, steaming and heating for evaporation, oils to be purified; and of special devices to be employed in connection with one or more of the tanks for the addition of oxidizing and neutralizing chemicals to the oils, for stirring and agitating the same, and for indicating the condition of the contents of the several tanks.

Claim.—1. The within-described combination and arrangement, in successively lower planes, of an oxidizing tank, A, provided with a detachable stirring shaft, H, and diffusing sieve P; a neutralizing tank, B, with sieve P′ at top, and steam or hot-air pipes Q within the same; a steaming tank, C, containing suitable steam jet pipes R, and an evaporating tank or vessel, D, the whole being adapted and made to operate for the refinement of oils, as has been herein set forth.

2. In combination with the tanks A, B, C, and D of our apparatus, outer vertical glass indicating tubes S, communicating with the bottoms of said tanks, and operating as herein described.

3. The within-described combination of inclined or cam surfaces and suitable notches, formed upon a revolving sieve, P, with pins supporting the same, when arranged and operating to lift and drop the sieve in its revolutions, substantially as herein set forth.

81,497.—H. H. Hall, Tioga, Pa.—*Box Opener.*—August 25, 1868.—The spring holds the lower hook in convenient position to have its point forced into the side of the box; this having been done the wedge is forced under the lid, which is grasped by the upper hook to prevent the wedge from receding when the lever is vibrated to pry off the lid.

Claim.—The lever or stock A, hooks *d* and J, spring *e*, and wedge *d*, all combined, constructed, and arranged substantially in the manner and for the purpose set forth.

81,498.—William Hamilton, Philadelphia, Pa.—*Pan Folding Machine.*—August 25, 1868.—The machine has a folding plate with four hinged sides, whereby to fold the sides and ends of a pan or box at one operation. The die, folding plate, and adjusting rollers may be changed to adapt the machine for making pans of different dimensions.

Claim.—1. The hinged folding plate, with grooved edges, or its equivalent, the metal projections on their sides and ends, or their equivalent, and the application of the rollers and movable slides, as substantially set forth herein, by the combined action of which the operator is enabled to fold a pan or box at one motion, and of any required form or size.

2. The prepared metallic sheet E E, Fig. 5. as described, and for the uses and purposes herein set forth.

81,499.—George W. Harris and George Elliot, Aurora, Ind.—*Car Spring.*—August 25, 1868.—The spring is composed of a series of steel plates or leaves bent into a curved form, tapering in width from the center toward each end, and having upturned edges or flanges which taper toward the ends, all secured together by a stepped strap, bolt and nut.

Claim.—1. A spring composed of one or more leaves, which taper from mid-length endward, and the upturned margins of which likewise taper endward.

2. A spring, composed of a series of nested leaves, A B C, which, with their upturned margins, taper in width endward, and are secured by means of a central band or strap, substantially as set forth.

3. The pack of flanged tapering and nested leaves A B C, in combination with the stepped strap E *e*, 1 2, 1′ 2′, bolt F, and nut G, substantially as and for the purpose set forth.

81,500.—Benjamin Haviland, Hudson, N. Y.—*Chuck.*—August 25, 1868.—In a circular plate are three radial arms which are operated concentrically by means of three cams, arranged in a plane, and within a circle of the same dimensions as the face or arm plate, in combination with the same number of radial set screws in the back plate to adjust these arms eccentrically.

Claim.—1. The general construction and arrangement of the several parts, which, taken together, constitute the chuck herein described, whereby the same may serve as a screw-cutting die, or a universal chuck, all as set forth.

2. Rotating the cam plate *c c a*, and retaining it in position by means of the rack plate, detent *a*, and stub *e*, substantially in the manner specified.

81,501.—Henry A. Henderson, Avoca, N. Y.—*Gate.*—August 25, 1868.—The pulleys upon which the sliding gate is supported have two different bearings to adapt them to the position of the gate when raised, for winter, as well as when occupying its normal position.

Claim.—The adjustable pulley *b*, running in the slot *c*, and on the rail E, in combination with the movable pulley *a* on the gate post, for the purpose of allowing the gate to be slid backward and forward as well when raised as when in its proper position, substantially as herein set forth and described.

81,502.—Albert E. Herrington and John D. Richards, Big Prairie Ronde, Mich.—*Corn Planter.*—August 25, 1868.—Devices are employed to raise and lower the teeth and regulate the depth of the furrow. In order to facilitate the "setting" of the machine, in starting, to plant rows, a lever and standard are made to partially elevate the machine.

Claim.—1. The combination of the collars M, on the axle B, with the shields P, provided with openings and slides, which latter are operated by levers R S, all arranged and operating substantially as described, and for the purposes set forth.

2. The combination of lever H and arms F F″ with the vibrating bars G and teeth D′, arranged to operate substantially as and for the purposes set forth.

3. In combination with the above, the lever T, hinged at U, and provided with standard V, to operate the frame C, substantially as and for the purpose set forth.

81,503.—Lucian Hill, North Brookfield, assignor to Lawson Hill, North Brookfield, Mass.—*Crimping Clamp.*—August 25, 1868.—Upon a screw spindle is a nut beveled so as to fit against the curved inner surfaces of two outer jaws pivoted to a central jaw-piece. Between the nut and the shoulders of the central jaw-piece is a spiral spring, which forces the hinged jaws against the inclined sides of the nut.

Claim.—1. The combination, with the jaw part C, spindle A, and nut *a*, of the spiral spring, substantially as and for the purposes set forth.

2. The combination, with the jaw part C, screw spindle A, and hinged jaws B B, of the spiral spring *f* and nut *a*, substantially as and for the purposes set forth.

3. The combination, with the jaw part C and nut *a*, of the hinged jaws B B, substantially as and for the purposes set forth.

81,504.—Lewis F. Hobbs, Quincy, Mass.—*Device for Holding Spools of Thread.*—August 25, 1868.—A piece of wire is bent so as to form the several specified members and bring them into the desired relative position.

Claim.—A spool holder formed of wire, and provided with the axle *e*, holder *b*, thread guide *c*, retaining pin *a*, and socket or eye *d*, the whole arranged and operating substantially as herein set forth.

81,505.—Daniel M. Holmes, Williamsburg, N. Y.—*Machine for Making Ginger Snaps, &c.*—August 25, 1868.—The dough is forced out by a follower through holes in the bottom of the dough box, and at the proper time to form snaps of the desired size. The protruding dough is cut off in slices by sliding knives.

Claim.—1. The combination of the follower C, cross-bar E, and screws F, with the dough box A, frame B, and driving shaft I, substantially as herein shown and described, and for the purpose set forth.

2. The knife frame S, adapted to slide in dovetail grooves formed in the bottom of the dough box A, upon each side the perforations, whereby the knives R are adapted to be fastened upon the under side of said frame, and work in contact with the perforations, as herein described, for the purpose specified.

3. Operating the sliding-knife frame S from the shaft M, by means of the cam wheel T and gear wheels V and X, substantially as herein shown and described, and for the purpose set forth.

4. The combination and arrangement of the gear wheels L J N O K and sliding clutch Q, with each other and with the shafts M and I, for the purpose of operating the follower C, substantially as herein shown and described.

81,506.—William H. Hovey, Springfield, Mass.—*Brick Machine.*—August 25, 1868.—The machine is composed of two iron rolls of different diameters and revolving at different rates of speed, in connection with a table containing a set of metallic molds, and having a reciprocating rectilinear motion beneath the rolls. Two straight-edged steel bars are so arranged as to act as scrapers in connection with a curved sheet of metal for finishing the upper side of the brick.

Claim.—1. The rolls A and B, of different diameters, and in combination with the scrapers J J′ and the vibrating table, having a reciprocating rectilinear motion, with or without the curved plate C, when operating substantially as described.

2. In combination with a table, having a reciprocating rectilinear motion, as described, a gate, L, for preventing the return of the molded brick into the machine, and for depositing the same upon the carrying board *b*, substantially as specified.

3. The combination and arrangement of the mold bed P′ and vibrating table having a reciprocating rectilinear motion, rolls A and B, scrapers J and J′ and plate C, plungers P and tracks T, and the gate L, the whole arranged and operating substantially as described.

81,507.—Liverus Hull, Charlestown, Mass.—*Manufacture of Whips from India rubber.*—August 25, 1868.—The body of the whip is formed by rolling into taper form a piece of cloth covered with caoutchouc or gutta-percha in the sticky state; this roll, being bound by a retaining thread, is vulcanized, after which it is sheathed in thread or leather.

Claim.—1. The whip stock or body as composed not only of cloth, covered with a vulcanizable composition, and rolled up as set forth, but of a retainer or retaining covering of thread, either braided or wound thereon, for the purpose of supporting the roll during the process of vulcanizing it by heat.

2. A whip, as composed of the stock or body so made, and one or more coverings of thread, or leather, or other suitable material or materials, either wound, braided, or otherwise properly fixed on such body.

81,508.—A. T. Hyde, Rochester, Minn.—*Bitters.*—August 25, 1868.—Composed of "alcohol, aurantii amar. cortex, gentiana, juniperus, sassafras, prunus virginianna, myristica, xanthoxylum, cinnamomum, caryophyllus, tinct. oleum gaultheria, santalum," mixed in a sirup of dissolved "saccharum album."

Claim.—The within described compound for medicinal bitters, as and for the purposes herein set forth.

81,509.—Silas Y. Ives, Meriden, Conn.—*Cheese Press.*—August 25, 1868.—The lower platen is fixed to a vertically sliding frame, and carries drums and pinions which are rotated during the movement of the frame by engagement with stationary racks, and which wind up or unwind bands extending to a drum on the upper platen.

Claim.—1. The arrangement of the two platens, M and E, combined with the drums G and bands L, so as to operate, by the descent of the platens, substantially as specified.

2. In combination with the above, the drum M, operating as described.

3. In combination with the subject-matter of the first clause, the bands S and drum T, arranged so as to operate substantially as specified.

81,510.—A. F. Jennings, Sherman, N. Y.—*Abdominal Supporter.*—August 25, 1868; antedated August 15, 1868.—An elastic band and a check-strap are so combined with a body belt, that while a proper expansion is obtained, the check-strap will prevent any overstrain. A central elevation and an outer rim on the pad serve to draw the walls of the rupture together.

Claim.—1. The combination of the interposed elastic band C and the check-strap D with the body belt A and pad E, arranged and operating in manner and for the purposes herein set forth.

2. The formation of the pad with the central elevation *c*, raised rim *d*, and intermediate annular depression *f*, in the manner and for the purpose specified.

81,511.—Phillip H. Kells, Adrian, Mich.—*Brick Machine.*—August 25, 1868.—The columns which support the bed plate are provided at their lower ends with screw threads that fit in corresponding sockets. The bed plate is provided with two openings, separated by a wedge-shaped center piece, so as to present its inclined face to the mold wheel. Rings are secured to the under side of the mold wheel through the opening between which the arms of the follower pass.

Claim.—1. The annular wrought iron rings K K′, in combination with the mold wheel I and followers i^2, substantially as and for the purpose described.

2. The provision, in the bed plate B, of the openings *b b*, and wedge-shaped center piece *b′*, substantially as and for the purpose specified.

3. The adjustable columns A′ A′, constructed and arranged as described, in combination with the bed plate B and pug-mill C, substantially as and for the purpose set forth.

81,512.—Albert E. Kroger, Norwalk, Conn.—*Horse Shoe.*—August 25, 1868.—Hollow calks, having a filling of felt, are attached to the shoe by means of studs or tenons fitting in mortises in the shoe.

Claim.—The arrangement and attachment of the hollow calks to the shoe, by means of the studs D and mortises C, or their equivalent, in the manner substantially as and for the purpose described.

81,513.—Abraham Lapham, Farmington, Mich.—*Fence.*—August 25, 1868.—The inclined uprights afford a broad base to support the rails, the ends of which are beveled alternately in opposite directions so as to place the contiguous rails in line, and cause them to interlock and sustain each other laterally.

Claim.—The portable fence, consisting of the bars B and D, pivoted together near their top, the bars B, provided with cross bars A, the ends of which are beveled, and the bars D, provided with the bars E, similarly beveled, all constructed, arranged, and operating as herein described.

81,514.—William Leach and Joseph Leach, New Harmony, Ind.—*Winding Frame for Carding Engine.*—August 25, 1868.—Upon a smooth iron roller are placed a number of thin movable flanges, so arranged as to keep each sliver or roping separate while winding, so as to produce separate rolls, for packing, &c. Above the said roller is arranged a pressing roller.

Claim.—The smooth rod or roller A, provided with movable flanges B B, in combination with a series of drums, D D, above, and another series of drums, C C, below the same, all constructed as described, and operating substantially as and for the purposes herein set forth.

81,515.—Andrew M. Leonard and Belmont Perkins, Ann Arbor, Mich.—*Chalk Holder for Billiard Table.*—August 25, 1868.—The box containing chalk is designed to be fastened by a chain to a billiard table. The circular box upon one side covers a spring lever for locking the box when necessary.

Claim.—The construction of a box, B, provided with a hinged bottom, C, and chain L, in connection with circular box D, lever E, fulcrum screw F, spring G, and key I, when arranged and operating substantially as and for the purposes herein set forth.

81,516.—James S. Lester and Perrin H. Cardwell, Knoxville, Tenn.—*Shoe.*—August 25, 1868.—The quarters are left open above the counter at the back, and at this part of the shoe, the lacing, buckle, button, or other fastening is applied.

Claim.—The front piece A and side pieces B and C, formed in the manner described, for the purpose of forming a shoe, substantially as and for the purposes herein set forth.

81,517.—Charles E. Lins, Ashland, Pa.—*Horse Hay Fork.*—August 25, 1868.—A pair of jaws, composed of a plurality of tines, is attached to a handle or stock, the one by a rigid, and the other by a hinge joint. The hinged jaw is connected, by a rod or brace, to a slide or roller working in a recess in the face of the stock, and engaged by a catch to lock the jaws in a closed position.

Claim.—1. The combination with the movable jaw D of the slide G, connecting rod F, and latch H, arranged and operating in the manner and for the purpose set forth.

2. The combined arrangement of the stock A, rigid and hinged jaws C D, brace E, rod or brace F, slide G, and latch H, all substantially as described, for the purposes specified.

81,518.—Deloss L. Main, Brooklyn, Mich.—*Churn.*—August 25, 1868.—The effect of this combination is to impart a rapid vibrating motion to the wings of the dasher.

Claim.—The combination of the churn A, dasher shaft B, perforated wings D, crank E, bearing F, standard G, driving wheel H, pinion I, crank wheel J, connecting rod K, and hand crank L, when constructed, arranged, and operating substantially as and for the purposes herein set forth.

81,519.—S. E. Mallett, Corry, Pa.—*Cream Saver.*—August 25, 1868.—The device is made of metal, in the form of a truncated hollow cone, with a ring at its lower end united to the body by connections, having openings between them, and fitted in the head of a churn around the dasher rod.

Claim.—The cream saver A, constructed and operating substantially as and for the purposes herein described, with or without the openings *o*.

81,520.—J. C. McAfee, West Alexander, Pa.—*Composition for Grinding and Polishing Marble and other Substances.*—August 25, 1868.—The composition consists of pulverized flint and gum shellac, made into a paste and hardened.

Claim.—The composition above described, substantially as and for the purpose set forth.

81,521.—William McGuire, Chess Springs, Pa.—*Farm Gate.*—August 25, 1868.—By turning the nut the effect is either to give a relative rigidity to the parts composing the gate, or to relax the same, so as to adapt them for parallel motion and enable the gate to be turned up endwise.

Claim.—The paling D', provided with the slot E, in combination with the bolt or pivot f and nut f', substantially as and for the purpose herein specified.

81,522.—David H. Merriam, Fitchburg, Mass.—*Stone Cutting Machine.*—August 25, 1868.—A series of cutters are arranged upon a hollow revolving cylinder, which latter is provided with small perforations, opening near each cutter, and also with a stuffing box and pipe, through which hot or cold water or steam, may be conducted to the stone.

Claim.—The cutter cylinder, provided with cutters and apertures, and supplied with water or steam, for dressing stone or other material, substantially as described.

81,523.—Joseph S. Moody, Saco, Me.—*Lathe Chuck.*—August 25, 1868; antedated July 23, 1868.—The gear in this device is placed at the center of the chuck instead of at the periphery, and pinions are arranged at or near the inner end of the driving screws. The gear hub is retained in place by a set screw made to play in a groove in the gear hub. Scales on the face plate serve as guides in setting an eccentric, and also in adjusting the jaws at the right point.

Claim.—1. The gear hub A and gear B, having the set screw E to play in the groove F, to operate as herein set forth, and for the described purposes.

2. The arrangement of the scales 8, 10, 12, on the face plate, as and for the purposes set forth.

3. The combination, with the center shaft or gear hub A, when operated as herein set forth, the knob D or its equivalent, as and for the purposes specified.

4. The combination and arrangement of a universal chuck with a chuck for eccentrics, when constructed substantially as shown and described.

81,524.—George Mooney, Providence, R. I., assignor to himself, James Shaw, Jr., and Job Arnold.—*Gas Burner.*—August 25, 1868.—The apertures for the flow of gas are drilled at right angles with face or "tip" so as to cause the gas to flow in radiating jets from the burner. An adjustable check is so arranged that by turning the burner in one or the other direction the flow of gas will be enlarged or diminished as desired.

Claim.—1. In an argand gas burner, a beveled tip, drilled or punched at right angles with its face, substantially as described.

2. The combination of the base, A provided with shoulders A A and adjustable check C C, with or without the grooves C C C, with the surbase B and stop screw B B, constructed and arranged to operate substantially as herein shown and described, for the purpose set forth.

3. A chimney holder for an argand gas burner, with the peculiar construction of the outer edge, with the modifications thereof, as described for the purposes specified.

81,525.—George B. Montgomery, Winslow, Ind.—*Saw.*—August 25, 1868.—These teeth are designed to clear the dust from the center of the log each way.

Claim.—The combination of the teeth *a b c*, the tooth *c* being shorter than the teeth *a* and *b*, and formed with the peculiar curved point, and all the different-formed teeth being alternately arranged as herein shown and described.

81,526.—John A. Montgomery, Crawford, N. J.—*Grinding Mill.*—August 25, 1868; antedated August 15, 1868.—The ears of the carriage clip are provided with grooves or key seats, and between the ears is a rubber packing. The end of the thill iron is made eccentric so as to press at its rear against the rubber packing.

Claim.—A grinding mill, consisting of the shell A and runner K, provided with shafts H and M, pinions E and F, and crank G, for the purpose of imparting to said runner a reciprocating rotary motion, as shown and described.

81,527.—Eli M. Morrison and James K. Ross, Noblesville, Ind.—*Thill Coupling.*—August 25, 1868.—A concavo-convex shell attached to a shaft is placed within an outer shell, and the shaft is so arranged as to impart to the inner shell or runner a reciprocating rotary motion.

Claim.—The eccentrically-shaped thill iron E, in combination with the carriage clip A, rubber packing C, and bolt D, constructed as described, and operating substantially as and for the purposes herein set forth.

81,528.—Edward B. Nock, Cleveland, Ohio, assignor to himself, O. B. Perdue, Charles F. Mathews, and John Long, same place.—*Manufacture of Sheet Iron.*—August 25, 1868.—Consists in the superficial application of tin to the iron, during the process of manufacture, giving the iron the quality of resisting the corroding influences of acids and gases.

Claim.—The application of tin to the surface of the iron, by either of the methods herein described, substantially as and for the purpose set forth.

81,529.—W. A. C. Oaks, Reading, Pa., assignor to W. M. Griscom, same place.—*Reversible Knob Latch.*—August 25, 1868.

Claim.—1. The follower E, or its arms *c c'*, constructed substantially as described, in combination with the steps *z* on the yoke projections *f f'*, or their equivalents, arranged in such manner as that the back movement of the latch bolt is effected for a given distance only by the follower, and so restricted by the gear of the follower, with the bolt or yoke, without, however, preventing the bolt from being moved further back by direct application of force to it, essentially as herein set forth.

2. So constructing the follower arms and bolt or yoke, against which they act to draw back the bolt, as that when the latter is pushed back beyond its unlatching position, as described, and the follower slightly further turned, said arm or arms are disengaged from gear with the bolt or its yoke to allow of the protrusion of the bolt sufficiently beyond the front edge of the case to admit of its reversal substantially as specified.

81,530.—Thomas M. Patterson, Tarr Farm, Pa.—*Tool Extractor for Wells.*—August 25, 1868.—Designed for removing tools that have become fast at the bottom of an artesian well which is being bored.

Claim.—The within-described apparatus for grappling tools, consisting substantially of the hollow die or screw socket *a*, in combination with the iron poles *c c*, when said die socket and poles are provided with and connected by means of left-hand screw threads, or threads cut in an opposite direction from the threads upon the tools, substantially as and for the purpose herein set forth.

81,531.—George B. Perkins, Utica, N. Y.—*Floor Clamp.*—August 25, 1868.—The groove in the end of the lever accommodates the tongue of the board, and when the opposite end of the lever is raised the dog bites the joint and becomes the fulcrum from which the lever acts to force the board up to a tight joint.

Claim.—A clamp for laying matched boards, consisting of the lever A, dog B, groove C, and brace E, all constructed to operate substantially as described.

81,532.—Charles W. Perry, Providence, R. I. A *Well Curbing.*—August 25, 1868.—A series of cases are fitted to slide one within the other similar to a telescope.

Claim.—In the construction of wells, the combination and arrangement of a series of tubes or cases, sliding within each other, capable of extension and contraction, when applied in the manner and for the purposes specified.

81,533.—William Pomeroy, Brooklyn, N. Y.—*Hernia Pad.*—August 25, 1868; antedated August 15, 1868.—The pad is formed with a central transverse joint or hinge, provided with an eccentric on one side to work against a corrugated shoulder on the other side of the joint, so as to bend the pad like a finger joint, to adjust the bearing upon a rupture.

Claim.—The spring plate B hinged to the plate C, and the milled eccentric D, working against the shoulder E, combined with the pad A, constructed and operating substantially as herein described.

81,534.—H. Poole, Richmond, Ind.—*Culinary Vessel.*—August 25, 1868.

Claim.—The steamer A, divided into compartments by one or more partitions, in which the boiler is separate from the cooking chambers, and the steam is admitted to the latter at pleasure, as set forth.

81,535.—Frederick Post, Plano, Ill.—*Water Wheel.*—August 25, 1868.—The minor or lower and smaller wheel is attached to a sleeve upon the main shaft so that the said wheel can be moved up within a flange of the major or upper wheel, and any desired or requisite quantity of water may be used in relation to the power required.

Claim.—1. The combination of the major wheel B and the minor wheel F, constructed and operating substantially as and for the purposes specified.

2. The sleeve U, in combination with the wheels B and F, substantially as and for the purposes described.

81,536.—Henry A. V. Post, Cincinnati, Ohio.—*Spring.*—August 25, 1868.—The spring is composed of two plates, of elliptical form, deflected into three-quarter circular bends or loops at their outer ends, and continued across, so that the end of each will bear against the inner loop of the other side.

Claim.—1. The pair of folded and interlapped plates A and B, having the prolonged inner limbs *a''* and *b''*, constructed, arranged, and adapted to operate as set forth.

2. The pair of folded and interlocked plates A B, adapted to both slide upon and mutually support each other in the described combination with one or more pairs of stationary outer plates, G H.

81,537.—Joseph K. Priest and William Earl, Jr., Nashua, N. H.—*Belt Lacer.*—August 25, 1868.—A movable jaw is pivoted to one of the levers, so as to be turned directly against the cutting end of the punch in order to seize the lacing and draw it in place. A hook projects from the end of one of the levers, and a knife is also pivoted to the lever, so as to be turned into, and out of, working position.

Claim.—1. The combination of the movable jaw *k* with the crossed lever punch A.

2. The combination and arrangement of the hook *m* with the crossed lever punch A.

3. The arrangement of the hook so as to extend from the piercer.

4. The combination and arrangement of the rotary knife *n* with the crossed lever punch.

81,538.—W. G. Queal, Otego, N. Y.—*Shield for Carriage-Curtain Button Holes.*—August 25, 1868.—This device fulfills the purpose of a metallic binding, preserving the button hole intact.

Claim. — The above-described combination of shields A and B with flexible or metallic back, attached to the button holes of carriage curtains for their preservation, and for security of fastening, in the manner and for the purpose as substantially set forth and described.

81,539.—James H. Reynerson, Pleasant Plain, Iowa.—*Rotating Fan.* — August 25, 1868. — The spring, when allowed to press with full force against the pinion shaft, arrests the motion of the apparatus, but its pressure may be reduced and regulated by the thumb screw.

Claim.—1. The combination of the spring D and thumb screw running through the piece O, as described.

2. The arrangement of the support B between the mainspring C and driving wheel, and the general construction of the whole machine, for the uses and purposes described.

81,540.—William D. Richardson, Springfield, Ill. — *Wooden Pavement.*—August 25, 1868. — The stringers are laid across the street from curb to curb, and break joints with each other. The form being that of an arch, any superimposed weight tends to press the blocks and stringers closer together.

Claim. —A wooden pavement, constructed of transverse-arching beams, either whole or the parts of which break joints, and which support the shouldered blocks of described shape, the interstices being filled with concrete, which concrete rests upon the transverse beams, all substantially as described and for the purposes set forth.

81,541.—George M. Robinson, New Wilmington, Pa.—*Hay Fork.*—August 25, 1868.—When the center bar is depressed the cutters are vertical, forming a heart-shaped head, adapted to readily penetrate the hay. The center bar being raised, the cutters assume a horizontal position, to support the hay as the fork is elevated.

Claim.—The ring F, formed on the upper end of the slotted center bar B, in combination with the handle E, constructed as described, by the side bar D being extended and bent over, substantially as herein set forth.

81,542.—ROBERT ROSS, Bethlehem, Pa.—*Oil or Suet Cup.*—August 25, 1868.—To the upper portion of the cup is hinged a yoke, provided with a screw rod, arranged to hold a valve spindle in its seat against a pressure of steam. The valve spindle is ground to its seat and to a passage in the upper portion of the cup, so as to prevent the escape of steam between a second spindle and the passage and seat.

Claim.—An oil cup, constructed and operating as herein set forth.

81,543.—J. Q. A. SARGENT, Manchester, N. H.—*Steam Generator.*—August 25, 1868.—Relates to the construction of vertical steam boilers having submerged smoke boxes.

Claim.—A boiler, constructed and arranged substantially as herein set forth.

81,544.—HENRY SHAW, New Orleans, La.—*Mode of Connecting the Draught Lever to Horse-Power Machines.*—August 25, 1868.—Two springs are arranged in a groove in the driving wheel in such relation to the actuating or draught lever as to allow of a yielding movement of the lever in starting, and during the operation of the machine.

Claim.—The springs *d e*, in combination with the lever B, when the latter is pivoted to the driving wheel A, and the several parts are arranged, constructed, and conjointly operated substantially as herein described, for the purpose set forth.

81,545.—JACOB T. SHIMER, Easton, Pa.—*Carriage Wheel.*—August 25, 1868.—The inner ends of the spokes are screwed into a cast-iron hub malleableized, and near their outer ends are washers, which serve as bearings or sockets for the rim of the wheel, which latter is secured to the outer ends of the spokes by screws.

Claim.—The combination of the wrought-iron spokes B B, threaded at each end, with the cast-iron hub A, having screw-thread perforations, and the wooden rim C, angular plates *c*, and screws *d*, all arranged together in the manner set forth.

81,546.—WILLIAM HAMILTON SHOENBERGER, Cincinnati, Ohio.—*Spike Machine.*—August 25, 1868.—Each movement of the machine cuts the bar into blanks and heads up and points the same.

Claim.—1. The herein described series of dies a', cutters *a b*, and headers *k*, all arranged, relatively to the other parts of the machine, substantially as shown, and adapted to make more than one spike at each operation from a single bar or rod.

2. The arrangement, in the cutter head B, of the head block K, headers *k k*, and cutters *b b*, substantially in the manner set forth.

3. The arrangement of the sliding block U, links *w w*, head V, ejecting rods *x x x*, lever W, and cam X, as described.

81,547.—JACOB H. STREINER, Camp Hill, Pa.—*Grain Drill.*—August 25, 1868.—An inverted hollow frustum, open at both ends, is placed near the lower end of the conveying pipe, and forms a contractor, from which the grain falls upon a bell-shaped distributer below.

Claim.—The combination and arrangement of the boot A, with the contractor B and distributer C, when said distributer is sustained in position, substantially as shown and described.

81,548.—T. H. SMITH, Clyde, N. Y.—*Seed Planter.*—August 25, 1868.—The machine is so constructed that the seed planted thereby may be cultivated transversely as well as longitudinally, thus affording better drainage on undulating ground.

Claim.—1. The combination of frame A, wheels B, gear wheels H I, hand wheel K, wheel M^1, shaft M, wheels M^2 M^2, and markers P P, all arranged and operated substantially as and for the purpose set forth.

2. The seed boxes C^1 C^1, in combination with the slides N, rods N', and cams *m*, constructed, arranged, and operating as described.

3. The regulating hand wheel K and wheel M^1, in combination with the shaft M, wheels M^2 M^2, and markers P P, arranged and operating in the manner and for the purpose explained.

81,549.—JOHN P. SPANGLE, Canandaigua, assignor to himself and CHAUNCEY SPEAR, Hopewell, N. Y.—*Snow Shovel.*—August 25, 1868.—The rear portion of the shovel is turned upwardly and the sides and rear edge are provided with a bead for additional strength.

Claim.—A snow shovel, composed of the blade A, provided with the upturned rear end *a*, and marginal beads a^1 a^2, the handle B, bail C, and bracket D, all substantially as described, for the purposes set forth.

81,550.—T. M. STANSBURY and A. F. STANSBURY, Canton, Ill.—*Tire Bender.*—August 25, 1868.—The tin is passed between friction rollers and a drive roller, so arranged as to give the tin the desired diameter. The drive roller is journaled in sliding posts operated by a lever below.

Claim.—The arrangement herein described and shown of the devices, viz, the posts *d d*, rollers *e* and *c*, lever *h*, spring *i*, segment ratchet bar *k*, and frame *a*, for the uses and purposes herein set forth.

81,551.—HARVEY B. STEELE, Winsted, Conn.—*Car Coupling.*—August 25, 1868.—The appendages of the draw head are made to hold the link in a horizontal position to effect its automatic coupling.

Claim.—The construction of the bumper A with its spiral spring G, head block F with its dog D, and the dog E with its spring H, all arranged, combined, and operating the square end link B, as herein described and for the purpose set forth.

81,552.—CHRISTIAN ADOLPH STEINBRUECKE, Louisville, Ill.—*Halter.*—August 25, 1868.—The side bars of the main buckle are joined by a plate, to which an ordinary tongue is hinged and from which a supplemental tongue projects rigidly. On this buckle is also formed one of the metallic joint couplings which connect the different straps, and adapt the halter to conform to the head of the animal. The hitching strap is attached to the metallic brace.

Claim.—1. The buckle, constructed with a plate extending across from one side bar to the other, and forming a portion of the metallic joint, substantially as shown and described.

2. The metallic joints, constructed as described, and as shown in Fig. 2, in combination with the leather straps composing portions of the halter.

3. The metallic brace G, constructed substantially as shown and described.

81,553.—CHARLES H. STEVENS and WILSON GARRISON, Syracuse, N. Y.—*Breast Strap Slide.*—August 25, 1868.—A detachable tongue or pin made with a double point and a flange at the center, engages with the breast strap when the slide is to be held fixedly on the strap, and is removed when desirable that the slide should yield or play on the breast strap.

Claim.—The combination of the form *h*, inclined ribs *a a*, and loops *d*, with the detachable pin C, as herein shown, and for the purpose set forth.

81,554.—CHARLES STHORE, Montana, Iowa, assignor to himself and LEVI HEIGUS.—*Mold for Casting Sleigh Shoes.*—August 25, 1868.—For casting the iron sole of sleigh runners. The hinged lid and the bottom of the mold have corresponding holes to receive steel pins, which are withdrawn after the metal has cooled, thus leaving the bolt holes.

Claim.—The flask or metallic mold for casting sleigh shoes, constructed and arranged as shown and described.

81,555.—ALFRED F. SUMMERS, Peoria, Ill., assignor to himself, CHAUNCEY NYE, and THOMAS A. SLACK.—*Post Hole Borer.*—August 25, 1868.—An adjusting slide and standards which support the boring apparatus, are so arranged that any deviation from a straight line may be readily corrected by moving the slide to the right or left. The auger is turned to bore the hole and is raised from the hole without turning, the dirt which is raised falling upon a concave plate.

Claim.—1. The adjusting slide B B, and the standards *b b b b*, the universal axle C, containing the spherical nut, the screw D, the swivel joint *e*, and the measuring wheel H, as described, arranged, and operated, in combination with a carriage and auger, substantially in the manner and for the purposes as herein set forth.

2. The auger E F, and adjustable concave plate G, in combination with the swivel joint *e* and screw D, as described, and operating substantially in the manner and for the purposes set forth.

3. The carriage A *a a*, as described, in combination with the auger E F and its operating devices, substantially in the manner and for the purpose set forth.

81,556.—J. B. Sweetland and Silas T. Fenn, Pontiac, Mich.—*Wash Boiler.*—August 25, 1868.—From the center of a double bottom extends a pipe upwardly having curved spouts at the upper ends and a pipe projecting from the center at right angles, by which steam and hot suds are forced from the top and from one side upon the clothes.

Claim.—The combination of the double bottom B, pipe C, spouts D D, side pipe E, braces *a a*, and rack F, all constructed as described, and operating substantially as and for the purposes herein set forth.

81,557.—Leonard S. Swett and James Graham, Vassar, Mich.—*Gate for Turbine Water Wheel.*—August 25, 1868.—A series of gates are so connected to a circular slotted plate, that by means of a cog wheel operating a ratchet on the said guide plate, the gates can be opened so as to admit the water directly to the buckets.

Claim.—A combined gate and guide for water wheels, having gate E, guide G, guide plate A, slots C, guide pins D, lugs *c c c c*, ratchet H, cog wheel K, and shafts L and B, constructed, arranged, and operating substantially as specified.

81,558.—Lovel F. Tanner, Milan, Ind.—*Farm Gate.*—August 25, 1868.—A diagonal brace is so arranged that the front portion of the gate can be adjustably elevated so as to take out the "sag." A rod on which the gate turns is provided with holes, in which a pin may be inserted to hold the gate in an elevated position.

Claim.—1. The combination of the removable locking pin H with the thrusting braces or struts E E′, studs G, and gate A B C, substantially as and for the purposes specified.

2. The arrangement, substantially as described, of the eyes I I′, perforated rod J *j*, staples *k k′*, and pin L, for the object explained.

81,559.—A. E. Taylor, New Britain, Conn.—*Letter File.*—August 25, 1868.—The two plates form an extendible file, the catch of one engaging the notches of the other to hold the parts in any desired relative position.

Claim.—The combination of the bent metal plates A B, plate B being provided with a ratchet slot *d*, on each side, and plate A provided with a catch, *c*, for said slot and ratchet, all operating as set forth.

81,560.—Alfred A. Torpey, Chicago, Ill.—*Brick Press.*—August 25, 1868.—The bottoms of the molds form the faces of movable plungers which are moved by means of two cams. Another cam gives a corresponding sliding motion to a slide bar, covering plates and receiving box, so that while the molds are being filled on one side of the machine, the clay is pressed on the other.

Claim.—The employment or use of the cams D, E, and F, pallets 4, slide bar Q, arms O and P, rock shaft N, when combined with plates J, connecting rods L and box K, substantially as and for the purposes set forth.

81,561.—Charles Truesdale, Cincinnati, Ohio, assignor to himself and William Resor & Co., same place.—*Cupola and Blast Furnace.*—August 25, 1868.—The sectional structure of the iron casing and the mode of securing the tuyeres admits of the ready detachment and replacement of the tuyeres. The inward prolongation of the tuyeres protects the throat from the change of effective area, to which the tuyere would otherwise be subjected by the burning off or clogging up of the end.

Claim.—1. A cupola or blast furnace, having its blast formed by a multitudinous number of tuyeres on different levels, and of small individual area, and adapted to deliver a diminished blast upward in the series, substantially as herein described, for the purposes set forth.

2. A cupola or blast furnace, whose tuyeres and fire-brick lining are supported upon an iron back or casing composed of staves or sections, F, substantially as set forth.

3. The mode of fastening the tuyeres upon the inner surface of the air chamber by means of a dovetail or its equivalent.

4. A tuyere, whose inner or discharging end projects beyond the opening which regulates the amount of blast discharged through the same, for the purpose set forth.

5. A tuyere, whose regulating throat or more contracted portion is protected by a prolongation, which inclines more or less downward to the interior of the cupola or furnace, substantially as and for the purpose stated.

6. The slotted tuyere K, so arranged as to discharge a greater volume below than above, for the purpose set forth.

81,562.—James C. Underwood, Surrey Court House, Va.—*Machine for Picking and Cleaning Pea Nuts.*—The vines are held by the root end until the nuts are separated by the cylinder teeth; the nuts then pass from the upper to the lower apron, by which, after being separated from the stems and unsound nuts, they are conducted to the front of the machine to be deposited in sacks.

Claim.—A machine having a cylinder, D, provided with rows of teeth, *c c c c*, in combination with the fan C, aprons L and M, and cap N, substantially in the manner and for the purpose as herein described.

81,563.—C. C. E. Van Alstine, New Haven, Conn.—*Casting Chains.*—August 25, 1868.—The flask is divided longitudinally in quarters and arranged so as to receive a mold-board between each of the four quarters, and allow the links to be molded one within the other to form a succession of links.

Claim.—The herein-described process for casting metallic chains, by the employment of a four-part flask A B C D, with mold-boards E F G H, upon which the pattern is arranged in the manner specified.

81,564.—Edouard Wenger, Richmond, Ind., assignor to himself and Joseph Martischang.—*Composition for Pavement.*—August 25, 1868.—Composed of prepared coal tar, sifted sand, and burnt clay applied to a foundation of gravel and lime.

Claim.—1. Compounding an asphaltic composition with the materials above described, in the manner and with the proportions set forth.

2. Laying the same on a foundation of gravel and lime.

81,565.—J. D. Westcott, Waterford, Pa.—*Pump Piston.*—August 25, 1868.—A hollow piston head is made to play between two cup-shaped shoulders secured to a hollow piston rod, so as to admit water alternately on opposite sides. The hollow piston head incloses an induction opening of the pipe at all times and in all positions.

Claim.—The hollow piston head C, inclosing the induction opening *b* in all positions, and the cup-shaped stops B B, acting in connection therewith, the whole arranged as described, and operating in the manner and for the purpose specified.

81,566.—S. Lloyd Wiegand, Philadelphia, Pa., assignor to Walter J. Budd, same place.—*Steam Generator.*—August 25, 1868; antedated August 13, 1868.—Relates to a mode of constructing, and to certain modifications of engines constructed upon the general plan described in patent No. 67,621, heretofore granted to same party; it being designed to make the same conveniently portable, to more effectually burn the fuel and utilize the heat.

Claim.—1. A steam generator, constructed with double tubes in several sections, when the steam and water connections thereof are both applied to the upper vessel or tank C.

2. The arrangement of the sections, so constructed that the tubes will repeatedly intercept and break the currents of flame and gas passing to the flue, in combination with the furnace A and a chamber below the lower ends of the tubes.

3. The furnace, either entirely or partially projecting beyond the steam generator, in combination with the chamber below the tubes B.

4. The perforated plates, with conical depressions around the tubes, in combination with the tubes and tanks C.

5. A steam generator, constructed substantially as shown and described, in combination with a furnace, having the regulatable apparatus for admitting and heating air above the fuel, and with the chamber below the tubes, substantially as shown and described,

6. The hand-hole plate, constructed substantially as described,

81,567.—J. H. H. WISEHEART, Shawneetown, Ill.—*Grain Screen.*—August 25, 1868.

Claim.—1. The arrangement of the sieve I, with the hopper C, conveyer D, and screen B, substantially as described.

2. The arrangement of the hopper C, sieve I, screw conveyer D, screen B, incline J, and spouts E and F, substantially as described.

81,568.—THOMAS C. WOODS, Marion County, Ky.—*Car Brake.*—August 25, 1868.—The brakes or rubbers may be dropped upon the rails, in front of the wheels, so as to pass under the wheels, and operate as a sliding stop, preventing the wheels from turning, and stopping the train.

Claim.—The brakes D, constructed as described, when connected by the bar L, and held in place by the bolts T and spring W, and when operated and applied by the arrangement of catches and disengaging apparatus, all substantially as and for the purpose set forth.

81,569.—GEORGE W. N. YOST, Corry, Pa., assignor to CORRY MACHINE CO., same place.—*Harvester.*—August 25, 1868.—The cases which compose the body of the machine are held together by a bolt, which is depressed in the middle so as to receive and support a box for the gudgeon of the bevel pinion.

Claim.—The support bolt I, when used to fasten together the cases A and A′, forming the body, and also to support the gudgeon box of the bevel-pinion shaft N within the body, as described, for grass and grain cutting machines.

81,570.—CHARLES B. KING, Gallatin, Tenn.—*Potato Slicer.*—August 25, 1868.—The knife and gauge plate are so arranged in the frame that the distance between the two can be adjusted to the desired width of the slices to be cut.

Claim.—The gate frame E, when the same is provided with a knife, F, and gauge plate G, and is used in combination with the table H, and the whole is so constructed and arranged as to operate substantially as described.

81,571.—ALEXANDER VAIL, Henry, Ill.—*Plow.*—August 25, 1868.—The beam which supports the plow is made literally adjustable so as to enable the plow to take more or less land. A slide is so arranged as to enable the plow to be lifted out of the ground at any moment. Two hounds hinged to the axletree support upright arms on which is a lever for operating the plow beam.

Claim.—1. The beam C, supporting the plow D, and rigidly secured to the axle A, in combination with the driver's seat S, the hinged hounds E E′, and tongue F, substantially as and for the purpose herein set forth.

2. The slide K, arranged to operate in connection with the beam, hounds, and tongue, substantially as and for the purpose described.

3. The hinged hounds E E′, in combination with a plow suspended from a beam, rigidly secured to the axle, substantially as described.

4. The combination of the beam C, plow D, hinged hounds E E′, tongue F, lever I, axle A, and driver's seat S, substantially as and for the purpose described.

81,572.—SQUIRE AINSWORTH, Pittsburg, Pa.—*Flexible Pipe Joint Coupling.*—September 1, 1868.—A chain is so attached to a spring-hinged coupling that when the cars are too far apart it uncouples the pipes.

Claim.—1. A pipe connection, consisting of a conical recess in the end of one pipe, and a frustum of a cone at the termination of the end of the other, said pipes being so held together by a clamp or other adequate means of support as to permit the rotary movement of one or both of the said pipes without variation from the plane of said movement, all as and for the purpose heretofore described.

2. In combination with the foregoing, the spring-hinged coupling nut C′, constructed substantially in the manner described, for the purpose specified.

3. The chain G, in combination with the spring-coupling C′, substantially as and for the purpose set forth.

81,573.—SAMUEL T. ALEXANDER, Pittsburg, Pa.—*Railway Chair.*—September 1, 1868.—Clamping pieces are so constructed as to act as levers to hold the rails when pressure is applied.

Claim.—A railroad chair, composed of a bed plate A, and movable clamping pieces, substantially as and for the purpose described.

81,574.—EDWIN ALSOP, New York, N. Y.—*Hand Mill.*—September 1, 1868.—Simply an arrangement of devices the combination of which and the several features are disclaimed.

Claim.—The arrangement herein described, of the vertical shaft F, removable grinding cone H, tapering cylinder I, corrugated vertically on its inside, hopper J, scraper L, chamber K, with discharge orifice *k*′, wrought-iron frame A, screw plug G, shaft C, fly wheel B, and bevel gearing D E, for the purpose set forth.

81,575.—SAXTON J. ARNOLD and AMOS F. CLARK, Raymondsville, N. Y., assignors to SAXTON J. ARNOLD, same place.—*Machine for Making Barrels.*—September 1, 1868.—Hollow cone-shaped hubs are secured to a shaft having a right and left hand screw chased on it. Pins held down by springs play in slots in flanges on the outer ends of the hubs. The inner ends of the pins bear against cone-shaped nuts which force the pins outward against the barrel.

Claim.—The adjustable flanged cone-shaped hubs C, when provided with the sliding pins F and springs *f* in the flange E, in combination with the cone-shaped nuts G, and screw shaft A, as herein shown and described.

81,576.—E. H. ASHCROFT, Boston, Mass.—*Non-Corrosive Valve Seat.*—September 1, 1868.—Metals that will not corrode by the action of water.

Claim.—1. An alloy of nickel and copper, in any proportions, as set forth, for the construction of valves or valve seats for steam, &c.

2. An alloy of gold or silver, in any desired proportions, for the construction of valves or valve seats for steam, for the purpose set forth.

3. An alloy of aluminum, or aluminum alone, for the construction of valves or valve seats for steam, for the purpose set forth.

81,577.—JOHN BACHELDER, Norwich, Conn.—*Machine for Covering Cord.*—September 1, 1868.

Claim.—1. The miter gears *a*′ *a* *c*, central shaft C, supports A^1 A^2, bobbin gears *d*^{1}, covering cord carriers F, guide J, and gears *l* L, in combination, and operating so that each thread of a strand is covered with finishing material, and the several strands thus covered, twisted, the finishing material being laid in a converse direction to the twist imparted to the respective strands, all substantially as set forth.

2. The shaft *b*, gears *a*′ *a*, shaft C, sleeve *c*′, and pinions *c* *d*, stationary support A^1, geared spool-carrying plates *d*^{1}, support A^2, gear D, covering-cord carriers F and guide J, combined and operating substantially as and for the purpose set forth.

3. In combination with the above, the winding

and twisting flier, constructed and operating as described.

81,578.—Edward Baggett, Fall River, Mass. —*Shuttle for Loom.*—September 1, 1868.—Designed to lessen the wearing action of the spring upon the shoulder of the spindle.

Claim.—The combination, with the spring A and shoulder C, of the spindle of the secondary spring B, notched, slotted, and sliding, substantially as and for the purpose described.

88,579.—Joseph W. Bailey, New Orleans, La. —*Marking Weather Boarding.*—September 1, 1868. —The boards are marked to show the required lap of each board in putting on weather boarding.

Claim.—The marking of weather boards, in the manner herein described, during the operation of manufacturing them in the saw mill, or afterward, during the process of dressing them in the planing machine, as and for the purpose set forth.

81,580.—David Baker, Boston, Mass.—*Well Tube.*—September 1, 1868.—The countersinks around the holes in the bottom of a well tube are provided with double strainers and filterers, to prevent the sand from entering the tube.

Claim.—1. The double strainer D, with intervening filtering material, arranged and operating in combination with or in continuation of a well tube, substantially as and for the purposes set forth.

2. The point B, coupling C, tube A, and strainer D, all constructed, arranged, and operating, substantially as and for the purposes above set forth.

81,581.—David Baker, Boston, Mass.—*Well Tube.*—September 1, 1868.

Claim.—1. A conical point F, formed with perpendicular sides, and with shoulders between, the apex being formed with one or more drill edges, the sides *a* being elongated more or less, whereby the earth may be forced at right angles from said point in penetrating the ground, all substantially as shown and described.

2. The combination of the interior perforated tube A, and the exterior screen H, when a chamber is formed between said tube and strainer, substantially as and for the purposes set forth.

3. The arrangement of the point F, in combination with the tube E and holes therein, strainer or screen H, and the chamber or space formed between the strainer and tube, arranged and operating substantially as and for the purposes herein set forth.

81,582.—David Baker, Boston, Mass.—*Well Tube.*—September 1, 1868.—The slide forms a part of the well tube and covers a strainer while the tube is driven. On raising the tube the slide uncovers the wire strainer, which is secured to the point.

Claim.—1. The slide J, whether placed on the inside or outside of a strainer, in a well tube, so arranged and secured to the point, and operating as to leave the woven wire as the only tube near the lower part of the well, substantially as and for the purposes herein set forth.

2. The combination of slide J with strainer K, well tube I, and coupling L, with screw point M, made, arranged, and operating substantially as and or the purposes herein set forth.

81,583.—Myron J. Barcalo, Mount Morris, N. Y.—*Mop Wringer.*—September 1.1868.—The bearing of the skeleton all around the interior of the pail gives steadiness to the wringer, which it retains in place. The pivoted arms allow the pressing rollers to assume the most effective positions upon the larger rollers.

Claim.—1. The skeleton frame B, made up of the hoops *b b* and standards $c\ c^1\ c^2$, and having combined therewith the rollers C D D′, and bail or treadle E, the whole being so arranged as to be applied to the inside of an ordinary pail, as herein set forth.

2. The combination with the stationary roller C, of the pressing rollers D D′, mounted upon the arms *f f*, arranged as described, and operating in the manner and for the purpose specified.

81,584.—Lewis F. Betts, Chicago, Ill.—*Lantern.*—September 1, 1868; antedated August 20, 1868.—The upper end of the globe is secured in the cap by a series of springs or a spring band. The main portion of the base is constructed in sections provided with flanges which are secured by eyelets. The guard is supported by ledges at its base so as to leave an open space between the guard ring and base of the lantern. The lamp pot is secured to the base by means of inclined edges or cams.

Claim.—1. The spring band C, for securing the upper end of the globe, substantially as specified.

2. Constructing a lantern base of two or more sections D, provided with flanches F, substantially as and for the purposes set forth.

3. Securing the flanches and forming the carrying holes for the guard by means of eyelets at *d*, substantially as described.

4. The brackets or ledges F, for supporting and carrying the guard at a distance from the main portions of the base, substantially as specified.

5. The rod or ring J, for strengthening the base and supporting the brackets or ledges without materially obstructing the light, substantially as specified.

6. The extended guard rods N, when such extended portion *e* is used for a hook or catch, substantially as described.

7. The combination and arrangement of the guard, provided with hooks *e* with the brackets F, substantially as and for the purposes specified.

8. The spring stop K, in combination with the hooks *e* and bracket F, for preventing the detachment of the guard, substantially as specified.

9. The inclines or cams *b*, for securing and tightening the lamp, in combination with the pins *c*, substantially as specified.

81,585.—Lewis F. Betts, Chicago, Ill.—*Can Top.*—September 1, 1868.

Claim.—1. The inclines or cams *a*, when burred or turned down so as to form the cam on the edge of the metal of which the breast or permanent portion of the top is constructed, and operating substantially as specified.

2. The handle *f*, when projecting through the reremovable top or cover B, so that its ends will form the lugs or pins *d*, substantially as described.

3. The permanent portion of the top or breast A, provided with the cams or inclines *a*, in combination with the removable portion or cover B, and lugs or pins *d*, substantially as and for the purposes specified.

81,586.—A. T. Bleyley, Conception, Mo.—*Churn Dasher.*—September 1, 1868.—The funnel-shaped body carries air down into the milk where it is forced out, producing agitation as it rises. The flange is an adjunct of the funnel in forming the butter. The wings gather the butter when the dasher is rotated.

Claim.—As a new article of manufacture, the churn dasher, consisting of the inverted funnel-shaped tube A B, dish-shaped perforated flange C, and radial wings D, all constructed and arranged to operate as herein shown and described, for the purpose specified.

81,587.—Georges Bossiere, Paris, France.—*Decolorizing Tannin Liquid.*—September 1, 1868.—Scraps or clippings cut from the skin during its treatment are freed from lime and dissolved by heat in such a quantity of water that the solution, after cooling, will remain liquid and limpid. The mucilage thus obtained, or other suitable gelatine glue, is mixed with the tannin liquid for the purpose of decolorizing the same.

Claim.—1. The use of the herein-named substance, for decolorizing tannin juices, substantially in the manner described.

2. The method of decolorizing tannin, by mixing with it the ingredients herein named, or either of them, in the proportions substantially as specified.

81,588.—Edwin D. Brainard, Albany, N. Y.—*Refrigerator.*—September 1, 1868.—"Dead air" chambers constitute the walls of the refrigerator, the object being to secure a spacious and readily portable structure.

Claim.—The employment of independent metallic chambers, closely sealed and secured together by clamps, in the construction of refrigerators, substantially in the manner and for the purposes above described.

81,589.—Victor M. R. Branch, Richmond, Va.—*Churn.*—September 1, 1868.

Claim.—1. The combination of the external dasher B with the internal dasher B′, when constructed as shown and described, and revolving in opposite directions, as specified, and for the purpose set forth.

2. The combination of the dasher B, hollow spindle D, and pinion F, with the dasher B′, spindle C, and pinion G, all as and for the purpose specified.

81,590.—Arthur Brin, Paris, France—*Apparatus for Carbureting Air and Applying the Same.*—September 1, 1868.—The principal feature consists in the means for effecting the continuous and graduated feed or supply of the carbureting fluid to the chamber wherein the gas is formed.

Claim.—1. In apparatus, such as described, the combination, with the fluid reservoir and carbureting chamber, of an interposed feeding vessel, connected with both the reservoir and the carbureting chamber, in the manner described, and communicating with the latter by means of wicking, which supplies the quantity of fluid required to charge the air in said chamber, as set forth.

2. The combination, with the feeding vessel, and trough formed therein for receiving the liquid from the reservoir, of a series of siphons, of graduated length, and racks, and pinions, and shaft for elevating or lowering said siphons, and thus regulating the flow of the liquid to the carbureter, in the manner shown and specified.

3. The employment, in connection with an apparatus such as described, of a blowpipe, to which air from the blower, and carbureted air from the gas, generating chamber, are supplied, substantially in the manner described, and illustrated in Fig. 5.

4. The combination, with a tubular boiler, of two series of nozzles, arranged with relation to each other and the boiler flues, as represented in Fig. 6, the one series communicating with a blower or air-supply apparatus, and the other with the gas-generating chamber of the carbureting apparatus, substantially as and for the purposes herein set forth.

81,591.—George H. Brock, Huntington, N. Y.—*Organ Pipe.*—September 1, 1868.—A series of the curved plates and intermediate disks make up the organ pipe. Air forced through the perforations in the bottom of the wind-blast is directed against the sounding edge of the pipe by the plate, whose pendent portion precludes the movement of the air backward toward the sounding edge.

Claim.—1. Constructing an organ pipe of a curved plate, A, held between the disks B, as set forth.

2. The plate D, for guiding the wind from the wind chest against the mouth of a curved organ pipe, as specified.

3. The pendent arrester *d*, arranged in the curved organ pipe, substantially as and for the purpose herein shown and described.

81,592.—William P. Brown, Watertown, N. Y.—*Advertising Show Frame.*—September 1, 1868.—The several appliances of the frame admit of the convenient insertion or removal of a number of advertising cards. The shutters protect the glass from breakage during the night.

Claim.—The bulletin frame, as constructed of the outer frame A and inner frame *d*, the latter divided by sash strips *a*, and provided with panes of glass and removable backs B, the frame A having moldings and fastening devices, adapted to secure the shutters *n*, all arranged substantially as herein shown and described, for the purposes specified.

81,593.—Abner H. Bryant, Wilmington, Del.—*Safety Attachment for Egg Carrier.*—September 1, 1868.—The interposition of these frames, with their cloth bottoms, prevents the eggs from being jostled out of the pockets of the trays.

Claim.—The frame, with its cloth bottom arranged and constructed, as shown, as a safety attachment for the suspension egg-carrier hereinbefore mentioned.

81,594.—J. W. Burkhart, Cameron, Mo.—*Hand Spinning Machine.*—September 1, 1868.—An arrangement for tightening the belts.

Claim.—The combination of the pulley B, tightening pulley *f*, provided with its adjustable support *e*, pulley *b*, and multiplying wheel C, spindle arm D, and adjustable support E of the same, when constructed and arranged substantially as and for the purpose described.

81,595.—A. Harvey Calhoun and George W. Collins, West Lebanon, Pa.—*Spoke Tenoning Machine.*—September 1, 1868.—The cutters are arranged so as to form the sides and shoulders of the tenon simultaneously.

Claim.—The cutters *l n*, attached to the adjustable straight bars *m* and the curved braces O, all suspended from the upper cross bar *a* of the sash frame, and constructed, arranged, and operating as herein shown and described.

81,596.—Alexander Campbell, Oxford, Ind.—*Animal Trap.*—September 1, 1868.—When either of the hinged plates is depressed by the weight of the animal, the latch is raised from the notch in the catch, and the platform tilts.

Claim.—The latch E and hinged plates F, having tongues *a*, adapted to swing with the centrally-pivoted platform A, and arranged with relation to the notched plate fixed to frame D, as herein shown and described.

81,597.—S. O. Campbell, Leavenworth, Kansas.—*Corn Planter.*—September 1, 1868.—Projections on the ground wheels actuate a frame and thereby retract the seed slide, bringing the cell in line with the discharge orifice in the shoe. The spring gives the slide its return movement. A clutch compels the two parts of the axle to rotate together when desired.

Claim.—1. The seed boxes F F, arranged in combination with the shoes I I, slides K K, frames L, and springs M, with the projections *m* on the wheels, substantially in the manner as and for the purpose set forth.

2. The clutch, composed of the two notched plates D D′, on the axles C C′, and the sliding or adjustable plate E, provided with the arms *e*, and placed on the axle C′, all arranged substantially as and for the purpose specified.

81,598.—Thomas L. Canary, Brownsburg, Ind.—*Base Ball Tally Board.*—September 1, 1868.—Blue and black balls opposite the players' names indicate, respectively, "runs" and "outs." Green and black balls placed on the extra rows of pins at the right and left are used to keep an account of the "fly" balls caught.

Claim.—1. The use of the wire pins and variously-colored balls, as represented at D D and C, for keeping game in base-ball playing, substantially as described.

2. The use of movable or adjustable pins for keeping a game, and the method of clearing the balls from the pins, substantially as described.

3. The arrangement of the pins on the board, substantially as and for the purposes set forth.

4. The slate or other marking surface, in combination with the pins and ball, substantially as and for the purposes set forth and described.

81,599.—N. P. Chaney, Potsdam, N. Y.—*Churn.*—September 1, 1868.—A downward flow of air through the tubular beaters, to agitate the cream, is induced by the peculiar form of the lower cross-bar. The scrapers remove the cream that adheres to the under side of the lid.

Claim.—The combination, with the tubular beaters D, of the arm B, provided with the scrapers *b b*, substantially as and for the purpose described.

81,600.—Joseph L. Chapman, Philadelphia, Pa.—*Rolling Mill.*—September 1, 1868.—The pile to be compressed into a rod is advanced through the longitudinal space between the rollers, the latter being so formed and arranged as to feed the pile and compress it at the same time.

Claim.—1. The arrangement of three smooth conical rollers, rotating in different planes, and operating in the manner described, to form and feed the rod simultaneously, as above specified.

2. The adjustment of the rollers C′ C′, to form rods of different sizes, by means of ball and socket joints at one end, and set screws and journal boxes at the other end, substantially in the manner shown and set forth.

81,601.—EDWIN CHESTERMAN, Boston, Mass.—*Interfering Strap for Horses.*—September 1, 1868.—The rubber guards are attached to the padded strap which is buckled upon the horse's leg, the object being to rectify "interfering."

Claim.—Leather interfering straps, in combination with rubber guards or projections, as herein shown, for the purpose specified.

81,602.—IRA CHOATE, Exeter, N. H., assignor to himself and DANIEL LEE, Boston, Mass.—*Locomotive Spark Arrester.*—September 1, 1868.—The tube and its adjuncts are employed to convey the smoke, steam, and sparks from the smoke-stacks of locomotive engines to the rear of the trains. Novel appliances facilitate the making up of the train. A cover is removed to enable the draught to be maintained in the ordinary manner when the engine is standing.

Claim.—1. The construction and arrangement of the tube A, smoke stack E, cover D, and air apertures *a a a a a a*, substantially as shown and described.

2. The coupling C B, cord or band *d*, and guides *c c*, substantially as shown and described.

3. The coupling C B, constructed as described.

4. The arrangement of the cord *d* and guides *c c*, substantially as described.

81,603.—ANDREW CHRISTIAN, New York, N.Y.—*Velocipede.*—September 1, 1868.—The two operating levers are connected with the connecting rod of the crank in such a manner that the dead point of the one will be overcome by the movement of the other.

Claim.—The operating device of a velocipede, consisting of the bell crank levers G H, one having a vertical and the other a horizontal lower end, and of the rods *m i*, and crank *b*, all made and operating substantially as herein shown and described.

81,604.—JAMES CLINE, Easton, Ohio, assignor to JOHN WALLS, same place.—*Cloth Guiding Attachment for Sewing Machines.*—September 1, 1868.—To be used in sewing circular and ornamental work. The cloth being adjusted upon the machine, the pin is set at the center of the circle to be sewed, and the points of the holder settle into the cloth and prevent it from puckering or drawing.

Claim.—The revolving holder D, constructed as described, in combination with pin B, standard A, and spring C, as and for the purpose described.

81,605.—JOHN C. COOKSON, Lancaster, Pa.—*Distilling Apparatus for Spirits.*—September 1, 1868.—An extra vessel is divided into three chambers; the vapor expands and parts with the heavier particles of oil in the lower chamber; it is then conducted through a perforated bottom into a chamber supplied with charcoal which purifies it, thence into a funnel-shaped chamber, from which it escapes through the apex into a condenser.

Claim.—1. An extra vessel, III, with its chamber A, in combination with the chamber B and its perforated bottom, and an upper chamber, C, with its conic head and central pipe 9, pipes 7 and 6, issuing from their respective departments, in the manner shown and specified, for the purpose set forth.

2. In combination with said extra vessel III, with its chambers A, B, and C, the still D, with its pipe 10, sleeve 8, faucet funnel *d*, mounted and arranged substantially as shown and described.

3. The chamber F, when combined with the worm of the condensing vessel and the extra vessel III, by means of the several pipes 6, 7, 8, and 9, substantially arranged in the manner and for the purpose specified.

81,606.—CORDIAL CRANE, Boston, Mass.—*Drier.*—September 1, 1868.—Designed as an article of furniture, which shall conceal the clothes while drying, and which, when not so used, may serve as a wardrobe, stand, table, or cupboard.

Claim.—As a new article of manufacture, a clothes-drying closet, constructed with doors and pivoted racks, and provided with inlet passages to receive heated air from register pipes, and with outlets for the escape of heated air saturated with moisture, all substantially as and for the purpose described.

81,607.—PETER CUNNINGHAM, Eckley, Pa.—*Slotting Auger.*—September 1, 1868.—The wood is fed laterally to the auger while the latter is revolving in a mortising or slotting machine.

Claim.—A mortising or slotting auger, having rows of gouge or chisel lips formed on the edge of the twist, substantially as described, for the purpose set forth.

81,608.—JONAS P. CURTISS, New Britain, Conn.—*Machine for Grinding Metal Articles.*—September 1, 1868.—A series of clamping jaws hold the articles to be ground. A quick automatic motion is imparted to the holder transversely to the grinding surface of the stone. An intermittent forward motion is given to the holder by means of an arm on the latter placing in and out of gear a bevel wheel actuating a screw which works in a nut in the holder.

Claim.—1. The arrangement of a series of clamping jaws, *a*, in the holder A, substantially as and for the purpose set forth.

2. The holder A, made in two parts, one part being fitted into the carriage C, and retained by the screw spindle *k*, while the second part is connected to the first part, so that it can be readily removed, all as and for the purpose described.

3. The combination, with the holder A, of the pitman *e*, crank motion *d e*, and screw spindle *k*, operating substantially as described.

4. The sliding wheel *i*, the wheel *j*, forked arm *l*, and screw spindle *k*, in combination with the reciprocating holder A, substantially as described.

81,609.—HENRY S. DECKER, New York, N. Y.—*Chimney Cowl.*—September 1, 1868.—The wind or current of air which enters the flaring mouth becomes a vigorous blast in escaping through the narrow orifice between the cone and the adjacent pipe, and thus induces a very active flow of air out of the parts communicating with the flue.

Claim.—The ventilator herein described, having an interior cone inclosed within the exterior walls of the ventilator, so as to provide an annular space between its exterior and the interior of the inclosing shell, which may be extended by a cylindrical attachment to the inner cone, as represented, the several parts being combined and arranged relatively to each other, and to the passage or pipe for distributing fresh air by the force of the wind upon the cone, substantially as shown and described, for the purposes set forth.

81,610.—HENRY E. DOSTER, Bethlehem, Pa.—*Cigar Pipe.*—September 1, 1868.—The pipe is formed of an inner metallic tube, which is covered with a wooden tube, the latter being covered with paper, in imitation of the wrapper of a cigar. A perforated mouth piece is inserted in one end and a piece of porcelain, in imitation of the ashes of a cigar, in the other.

Claim.—A cigar pipe, formed of the parts A, B, C, D, and E, arranged substantially as shown and described, and for the purposes set forth.

81,611.—JOSEPH W. DOUGLAS, Middletown, Conn., assignor to W. DOUGLAS and B. DOUGLAS, same place.—*Grindstone Frame.*—September 1, 1868.—A standard, to which the tool rest is secured, can be adjusted longitudinally on guides, and is secured in position by a set screw. The shaft has a screw thread on it where it passes through the stone, and is provided with a slot in which projections on the washers which hold the stone fit, said washers being held by nuts.

Claim.—1. The adjustable support or standard H, with tool rest J applied to it, substantially as and for the purpose specified.

2. The providing the shaft E with a screw thread, *g*, having a slot or groove, *h*, made longitudinally in it, in connection with the washers Q Q, furnished with lips or projections *i*, to fit in the slot or groove *h*, and the nuts R R on the screw thread *g*, all arranged substantially as and for the purpose set forth.

81,612.—Dangerfield Dunn, Lewisport, Ky., assignor to himself and William B. Miller, same place.—*Baling Press.*—September 1, 1868.—The platen rod is attached to the slide by a pin, upon withdrawing which the platen may be used as a beater.

Claim.—The detachable platen G, in combination with the toggles C C′ and slide D, all arranged substantially as and for the purpose specified

81,613.—Lewis B. Ecker, Union Bridge, Md.—*Machine for Jointing Staves.*—September 1, 1868.—A plane, provided with bits facing both ways, is arranged upon jointed adjustable guide rods, which give the plane any desired obliquity. The plane and rods are arranged on a gate which can be raised or lowered. The stave is secured to a swinging bed moved by hand and having stops behind the bed to regulate the width of the staves.

Claim.—The combination of the plane B, arranged in the adjustable gate or frame L as described, with the swinging carriage bed I and the stops O, substantially as set forth.

81,614.—Jacob Erdle, South Bristol, N. Y.—*Cheese Press.*—September 1, 1868.—A screw works in the upper bar of a sliding frame. A weighted lever has its fulcrum on a standard secured to the main frame of the machine, so that when the screw is turned down the lever with the weight is raised, thus creating an even pressure.

Claim.—The arrangement and combination of the screw D, cross-bars E F, rods *a a*, crank shaft G, and weighted lever H, operating substantially as and for the purpose set forth.

81,615.—John Fassauer, Wheeling, Iowa.—*Churn.*—September 1, 1868.

Claim.—The dasher, constructed as described, and consisting of the radial arms H H′, *c d*, *c′ d′*, and vertical connecting slats *e*, perforated at *f*, all arranged upon the vertical shaft B, to operate as herein set forth.

81,616.—H. T. Fogg, San Paulo, Brazil.—*Handle for Dental and Surgical Instruments.*—September 1, 1868.—The instruments are made with short handles, provided with wedge-shaped dovetails on their ends, which fit in a recess in a handle, thus adapting one handle to a set of instruments.

Claim.—Adjustable handles for dental and other surgical instruments, constructed substantially in the manner and for the purpose herein shown and described.

81,617.—Elias T. Ford, Stillwater, N. Y.—*Friction Clutch.*—September 1, 1868.—A sleeve, secured to the axle, has a conical recess into which a conically-shaped collar fits, the latter being provided with cams which engage with cams on the hub of the wheel, when a forward motion is given, thus rotating the axle, but on backing, the cone is relieved from the recess and the axle remains stationary.

Claim.—The friction clutch, constructed and arranged with the drive wheels A A, and being composed of the cone D, with its corresponding hollow sleeve, E, the cam 2 D on its end, and the corresponding cam 3 D on the drive hub C, arresting and relieving the motion or movement of the main axle B in its forward and backward motions, in the manner and for the purpose described.

81,618.—Thomas H. Fox, Hanover, Va.—*Water Wheel.*—September 1, 1868.—The upper wheel revolves around the penstock, and a wheel rotating beneath the penstock has its circumferential rim connected to the upper wheel by means of brackets, which admit of a ready disconnection when it is desired to run the lower wheel alone.

Claim.—1. A vertical penstock, which is provided with lateral passages through its side, and vertical passages through its bottom, adapted for supplying two water wheels, arranged and supported substantially as described.

2. The arrangement, consisting of the cylindric penstock B′ *d*, frame A A, stay or suspension rods N N, shaft F, gate C, wheel D D *e*, the said parts being constructed as described, and so combined that the wheel D D *e* is suspended on its shaft by the top of the penstock, as shown and described.

3. The regulator J, constructed as described, and arranged upon the bottom C′ of the penstock, in combination with passages *g′*, a wheel, L L′ *g*, and a wheel. D D *e*, substantially as described.

4. A cylindrical penstock, which is constructed with lateral and vertical passages through it, and a chute, G, leading into its upper end, in combination with two water wheels and their regulators, arranged to operate substantially as described.

5. The upper revolving water wheel, connected to and supported by the lower water wheel and vertical shaft F, said upper wheel being detachable from the lower wheel, substantially as described.

81,619.—Frank Fuller, New York, N. Y.—*Garden Implement.*—September 1, 1868; antedated May 5, 1868.

Claim.—1. A universal garden implement, having one extremity provided with a chisel-shaped, bifurcated, or other pruning edge or edges, and the other extremity provided with a forked, spoon-shaped, or other digger, dibble, drill, spade, and flower and fruit gatherer, the whole constructed substantially as described.

2. Providing said universal garden implement, or any implement of similar construction, or designed for similar uses, with one or more pruning loops, *b*, arranged between the two extremities of said implement, substantially as described.

3. Providing a garden implement with a shield or protector for such portion of the hand as may be most liable to be soiled or injured, said shield being constructed of India rubber, leather, cloth, metal, or any other suitable material.

81,620.—Joseph Galli, San Francisco, Cal.—*Machine for Manufacture of Screwed Boots.*—September 1, 1868.—The screw is formed on the wire as it comes from the reel and immediately before it enters the sole, the knife completing the operation by severing the wire. The jaws admit of changing the tap to suit wires of different sizes.

Claim.—1. The rigid jaw B, and movable jaw C, operated from below, attached perpendicularly to the plate A, and carrying the screw plate *a b* at their outer end, the whole constructed and operated substantially as and for the purpose herein described.

2. The cutter F, working close to the sole, together with its operating lever G, link *d*, and arm H, constructed and operating substantially as described.

81,621.—G. S. Garth, Mill Hall, Pa.—*Wagon Axle.*—September 1, 1868.—The object is to lessen the friction of the hub on the axle-arm, and to strengthen the latter at the shoulder.

Claim.—1. An axle, provided with collars *a b*, of anti-friction metal, the latter (*b*) being cast onto a dovetailed collar, *e*, which is formed on or fitted to the axle, as herein shown and described, when the raised portions of the band *b* and shoulder *f* are encircled by a strengthening band, *d*, as set forth, for the purpose specified.

2. The strengthening band *d*, encircling the raised portions of the band *b* and shoulder *f*, substantially as herein shown and described, and for the purpose specified.

81,622.—Samuel H. Gilman, Galveston, Texas.—*Cotton Picker and Cleaner.*—September 1, 1868.—The rotary fan blades impel the locks of cotton from one point to another, and their teeth beat and tear the fibers asunder. Extraneous matter thus separated from the cotton is blown through the slats, which are arranged with a view to prevent the lodgment of refuse upon their tops. As the cotton proceeds through the machine the blows of the fan beaters increase in vigor.

Claim.—1. The combination of the tapering trunk, having a flat slatted bottom, and segmental caps J J, and the combing fan blades, the extremities of which run at different speeds, substantially as and for the purpose described.

2. The pivoted, oscillating, tapering, and obliquely set slats, constructed as described, of bottom *k*, applied so as to present a flat surfaced grated bottom and inclined chutes, when the slats are in one position, and to present an irregular bottom when the slats are in another position, as shown in red in Fig. 5, the said slats being connected to reciprocating bars, all substantially as and for the purpose described.

3. The combing fan blades *s s*, the extremities of which run with differential speeds, in combination with a trunk or tunnel, which is tapering in form, and has its bottom formed of vibrating slats, constructed substantially as and for the purpose described

81,623.—John R. Grace, Brooklyn, N. Y.—*Life Boat.*—September 1, 1868.—Designed as an improvement on his patent of March 6, 1860. Two cylindrical partitioned air chambers extend along the sides of the bottom of the boat and form keels. Air chambers also extend along the upper part of the sides of the boat.

Claim.—1. The partitioned cylindrical air chambers B B, arranged as described, forming fixed parts of the bottom C, and extending below the same, to form one or more keels, as herein described, for the purpose specified.

2. The described arrangement of the air chambers E E and cylinders B B, with relation to each other, the walls of the boat, and the bottom, C, as herein described, for the purpose specified.

81,624.—Duby Green, New York, N. Y.—*Distilling Apparatus for Spirits.*—September 1, 1868.—The communicating chambers of the boiling apparatus all produce vapors from the mash contained in them; the lowest chambers, which hold the weakest mash, receiving the greatest amount of heat, and the highest the least. The stirring chamber is heated by vapor from the boiling apparatus, instead of by direct steam. The concentrating vessel is divided into several chambers, so as to bring the vapors in contact with a large cooling surface.

Claim.—1. The boiler A of a still, when subdivided into a series of chambers, one above the other, these chambers being respectively connected with each other by means of the pipes B and C, and provided with slides *e*, as set forth.

2. Connecting the valves *g*, that are in the discharge pipes *f* of the boiler A, all by one rod, E, as described, for the purpose specified.

3. Providing the stirrer with two revolving disks, H H, made as described.

4. The arrangement and combination of the vessels G, T, V, which contain the stirrers H, all made and operating substantially as herein shown and described.

5. Conveying the vapors from the boiler A to the stirring apparatus, so that no steam is required in the latter, as specified.

6. The dephlegmator O, when composed of a series of separate parts or vessels, *p*, *q*, *r*, each having two compartments, *w* and *x*, and all connected with each other by means of pipes P, all made and operating substantially as herein shown and described.

7. The arrangement and combination, in one distilling apparatus, of the boiler A, stirring vessel G T, stirrers H, rectificators J, L, N, dephlegmator O, and cooler S, all made and operating substantially as herein shown and described.

81,625.—S. A. Green, Lexington, Ind.—*Combined Latch and Lock.*—September 1, 1868.—To liberate the bolts the tumbler bar is raised from the outside by a key and from the inside by a knob, after which the rack bolt is thrown back by its key or knob, and the latch bolt by one of its knobs. The pivoted spring-actuated bar causes the tumbler to engage both bolts when the lower is thrown outward, but if the lower bolt be allowed to remain in its retracted position the latch bolt becomes operative alone.

Claim.—The two bolts C and D, the V-shaped tumbler bar, with its projections *b* and *d*, the pivot bar D, springs E and H, and the arm F, all constructed and operating substantially as shown and described, in combination with the rack *m* and pinion *k*, branches *f f* and *g g*, all as set forth.

81,626.—Henry P. Gregg, Cincinnati, Ohio.—*Brush Holder and Mop Head.*—September 1, 1868.—The brush is held by the hook bolt and spur alone, but the bent wire and casting and hook bolt cooperate in holding the mop.

Claim.—1. The hook bolt E, operated by the thumb nut F, with the head A, and spur G, for the purpose of holding a brush, substantially as described.

2. The hook bolt E, in combination with the bent wire D and head A, for the purpose of holding a mop, as set forth.

3. Combining a brush holder and mop head of the hook bolt E, thumb nut F, wire D, spur G, and head A, substantially as and for the purpose set forth.

81,627.—Joseph Haas, El Paso, Ill.—*Seeding Machine.*—September 1, 1868.—The caster wheel serves as a rear support to obviate a tendency of the machine to tilt upward at front. The driving rod of the seed slide is unshipped by the lever. The spring maintains the engagement of the rod with the crank wheel during operation.

Claim.—1. The placing of the seed box E upon the frame A, behind the wheels B, when the lower part of said frame is supported by a caster wheel, C, applied to a bar, D, secured to the under side of the frame A, and all arranged substantially in the manner as and for the purpose set forth.

2. The arrangement of the lever J and spring K, and the connecting rod H, substantially as shown and described, for the purpose of disconnecting the rod H from the crank pulley, when necessary or desired.

81,628.—John C. Hall, Monroe, Wis.—*Harvester Rake.*—September 1, 1868.—The lower part of the reel staff may rotate, and as the reel revolves, the connections between the reel shaft and rake staff, together with the cam guide, cause the rake head to sweep over the platform and afterward assume a position to constitute one of the beaters of the reel.

Claim.—1. The rake staff, constructed in two parts, G and H, carrying the rake M, and pivoted directly to the reel shaft K, substantially in the manner and for the purposes set forth.

2. The jointed arm N, when its outer end is rigidly fixed to the rake staff H, for the purpose set forth.

81,629.—John S. Hall, Pittsburg, Pa.—*Safety Harness Saddle Tree.*—September 1, 1868.—The keeper prevents the check rein from being casually detached from the bearing hook.

Claim.—The keeper C, when arranged and operated substantially in the manner and for the purpose described.

81,630.—Joseph L. Hall, Cincinnati, Ohio.—*Combination Padlock.*—September 1, 1868.—In closing the hasp its shank acts against the lock bolt and interlocks with the latter while withdrawing its dog from the gateways of the tumblers; hence, in order to lock the hasp it is only necessary to break up the combination by turning a thumb screw.

Claim.—1. The combination of a series of rotating tumblers with a rocking lock bolt, operated by the hasp only, and inclosed in a case having no key-hole, substantially as described.

2. The combination of a series of rotating tumblers, C′, the rocking lock bolt D, and the tripping lever E, or its equivalent, all constructed and arranged to operate substantially as described.

81,631.—John M. Hartnett, Waukegan, assignor to Robert L. Fabian, Lake Forest, Ill.—*Corn Husker.*—September 1, 1868.—The ear, dropping from the stalk-stripping rolls, is directed by the chute beneath the hinged top and upon the inclined rotating husking rolls, the members of each pair of which revolve toward each other, grasp and detach the husk and silk, and discharge them underneath the machine, the ear being delivered at the end. The spurred peripheral rings of the rolls act as cutting guards to prevent the end of ear from getting between the rolls.

Claim.—1. The hopper or chute *h h*, with the metal extension *m m*, as and for the purposes herein specified.

2. The hinged door *i i*, with the pendant or fastening *q*, as and for the purposes herein specified.

3. The rolls *j j* and *n n*, varying in size, working together, the combination of iron and wood, and the covering with alternate rings of metal and rubber, and of spurred and plain metal, as herein fully specified, and for the purposes set forth.

81,632.—Joseph Hathaway, Woodstock, Vt. *Water Wheel.*—September 1, 1868.—The annular gate, when in one position, holds the gates open against the pressure of the water; in another position it leaves the gates free to be closed by the water. The spindle relieves the lower step of the wheel, and the bridge-tree is connected to a shaft whereby the wheel may be raised or lowered.

Claim.—1. The chutes C, in combination with the gates D, pivoted, as shown, and connected to the annular plate E, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The arrangement of the spindle H, resting on the bridge-tree I, in connection with the tubular part G of the wheel shaft, which turns on H, and rests upon a fixed cone a^x, and the part G' of the wheel shaft, which rests on the fixed spindle H, all arranged to operate in the manner substantially as and for the purpose set forth.

81,633.—P. P. Hemstreet, Galesburg, Ill., assignor to himself and David Gudtner, same place.—*Tire Heater.*—September 1, 1868.—Doors are raised by means of a pivoted lever to permit the tire to be dropped between the stationary rims and upon the cross rods connecting said rims. The heat is regulated by a chimney damper and by dampers operated by pivoted levers passing out from beneath the bottom plate.

Claim.—1. The outer rim A, bottom B, lids Q, chimney Z, lever U, rods S, band X, bars N *o*, and inner rim B, all constructed, arranged, and combined as described and for the purpose set forth,

2. The dampers D, rods T and S'', and lever F, with rods L and H, and rim C, constructed and arranged as described, and combined with rim B and A and bottom B, substantially as described, and for the purpose set forth.

81,634.—John A. Heyl, Boston, Mass., assignor to himself, Joseph G. Loring, and John H. Wiggin, same place.—*Railway Switch.*—September 1, 1868.—An arm is fastened at one end to one of the rails, at the other to a crank on a shaft provided with a pinion which is actuated by a segmental rack receiving motion through rods in the same manner as his patent of April 16, 1867. The crank is on center when the switch is in position, thus holding the switch firmly while the train passes over. Arms on the segmental rack are provided with studs which fit in slots in a plate so as to stop the rack when the crank is on center.

Claim.—1. The arrangement and combination of the arm *h*, the crank *g*, its shaft *f*, pinion *e*, and the toothed sector *d*, with the lever K, the switch and either or both pairs of connecting rods A B, C D, applied to such lever.

2. The combination and arrangement of the studs *c c* and the slotted plate L, with either or both sets of connecting rods A B, C D, the lever K, the toothed sector *d*, the pinion *e*, the shaft *f*, the crank *g*, and the arm *h*, the whole being applied to the switch and the road-bed, substantially as specified.

81,635.—J. W. Hilton and R. W. Green, Bradford, Pa.—*Ax.*—September 1, 1868.—The cleaving edge of the ax is formed upon a separate piece, attached to the poll by dowels, so as to be readily replaced.

Claim.—As a new article of manufacture, a chopping axe, having a removable edge, when the two parts A and B, composing said ax, are constructed substantially as and for the purpose shown and described, and secured together by removable dowels *d d*, all as set forth.

81,636.—Henry P. Hinz, Dunton, Ill.—*Potato Digger.*—September 1, 1868.—The potatoes are unearthed by the forward shovel and are carried through the machine upon aprons, whereby the soil and vines are separated from them. The cleaning of the potatoes is completed by a screen, whence they pass into a chute, and thence to an elevator, which deposits them in bags.

Claim—1. The combination of the shovel H, the conveyers N and P, and the screen Q, arranged to operate substantially as and for the purposes set forth.

2. The combination of the shovel H and the frames F F, supporting the conveyer N, when constructed and arranged in such a manner as to be adjustable vertically, so as to make the shovel run at different depths, as herein specified.

3. In combination with the said shovel, the arrangement of the arms G G, cross-bar J, arm K, and lever L, to operate in the manner specified.

4. The arrangement of the apron *t* below the conveyer and over the chute R, for the purposes specified.

5. The arrangement of the chute R with the screen Q, when used in combination with a conveyer, P, above the same, substantially as specified.

6. In combination with the conveyers N P and screen Q and its side chute, the arrangement of an elevator, U, so as to operate in the manner set forth.

7. The arrangement of a tipping platform, Z, below and to the rear of the discharge of the elevator, to sustain the sack, in the manner described.

8. Providing the said platform with one or more rollers, to facilitate the removal of the sacks when full, substantially as herein set forth.

81,637.—S. R. Holt, Worthington, Ohio.—*Process of Making Vinegar.*—September 1, 1868.—Apple pomace is employed as the acetifying agent, the same being contained in a vessel whose lower part holds a filtering medium, through which the vinegar is drawn off from the pomace.

Claim.—Making vinegar from cider, beer, sorgho-juice, alcoholic and saccharine mixtures, by the herein-described process for acetifying and clarifying the same, by allowing the fluid or wash to stand upon the pomace, and then filtering or drawing off the same, substantially as set forth.

81,638.—James Howard and Edward Tenney Bousfield, Bedford, England.—*Steam Generator.*—September 1, 1868.—Access is afforded to the main horizontal flues at their front ends when the boiler can be approached only at that point. Currents in the inner circulating tubes are prevented from interfering with each other, said tubes being adapted to admit of the passage of a scraper along the bottoms of the main tubes below.

Claim.—1. The construction and arrangement of the vertical tubes B and their inner tubes with the horizontal tubes or pipes C and A, whereby access is gained to the pipes A through the feed pipe, as above explained, for cleaning the boiler.

2. The construction of the horizontal pipes A, arranged with the feed pipe, having covered openings, whereby to gain access to the interior of the boiler, for cleaning out the same.

3. The internal tubes, constructed with lateral openings at bottom, as described, whereby to keep up the circulation of the water in the boiler, and the arrangement of the tubes, as described.

4. The heating sections G, for heating the feed water, arranged in combination with the larger boiler sections, substantially as and for the purpose described.

81,639.—John C. Hunt and Joseph Temple, Terre Haute, Ind.—*Tool for Laying off Furrows for Millstone Dressing.*—September 1, 1868.—By means of an adjustable clamp the instrument may be centered upon spindles of different sizes, or secured to a support resting in a centering step, to be arranged in the eye of the stone. The arm of the sliding scale indicates the position for the furrow, which, being marked out upon the face of the stone, the instrument is rotated so as to bring the gauge arm to the place where the next furrow is to be laid off. The gauge arm is expansible laterally, to lay off furrows of different widths.

Claim.—1. The combination of the graduated slide D and furrow-marking arm E with a suitable holder, C, which may be secured to the stone centrally, so as to revolve freely as desired, substantially in the manner and for the purposes set forth.

2. The combination of the adjustable bar F with the arm E, slide D, and holder C, substantially in the manner and for the purposes described.

3. In combination with the arm E, slide D, and holder C, the annular plate A and cam plate B, with the arms *a* and nibs *c*, all arranged to operate substantially as and for the purposes set forth.

4. The combination of the plate A, the plate B provided with eccentric recesses *d*, the arms *a*, nibs *c*, and springs *s*, arranged in the manner and operating as specified.

81,640.—Jasper S. Jewett, Ottawa, Ill.—*Fence Gate.*—September 1, 1868.—The gate is balanced by the two weights, so that when released from the spring catch it opens automatically by turning upward endwise.

Claim.—The oblique rails *f f*, the top rail *g*, the horizontal rails *i i i*, the rope or chain L, the staple *l*, and the weight M, in combination with the post A, the pulley K, the casing N, the spring O, and the rock shaft Q, substantially as and for the purpose described in the foregoing specification.

81,641.—Henry W. Johns, New York, N. Y.—*Fabric for Roofing and Other Purposes.*—September 1, 1868.—Designed as a fire-proof sheathing, and formed by combining asbestos with the pulp used for the manufacture of coarse felt goods, or other pulps, such as paper pulp, and pressing this pulp into a sheet or web in a manner well known to felt manufacturers.

Claim.—The combination of asbestos with felted or pulped matter, to form roofing and sheathing sheets, all substantially as described.

81,642.—Alfred S. Johnson, Waupun, Wis., assignor to himself and Enoch Van Wie, same place.—*Carriage Coupling.*—September 1, 1868.—That part of the thill coupling rigidly connected with the axle turns on a pivot, while the part attached to the thills fits into a space with ribs or curved threads, gains and recesses, and as the ribs engage with each other the thills work up and down from the pivot, as a center of motion.

Claim.—A thill coupling, formed of the parts A and B, constructed, arranged, and operating substantially as shown and described, for the purpose set forth.

81,643.—Thomas W. Johnson, New York, N.Y.—*Apparatus for Concentrating Extracts.*—September 1, 1868.—The liquid extract heated to 170° or 180° is kept uniformly mixed and free from sediment by an agitator, and the disengaged vapors rise and strike the convex top of the receiver, cooled by a jet of water, and are condensed and collected in a gutter in which the top terminates.

Claim.—The receiver A, provided with a convex top, B, gutter C, and cold water pipe *d*, in combination with the agitator F and heating chamber E, substantially as and for the purpose set forth.

81,644.—Charles W. Johnston, Neponset, Ill.—*Tinners' Fire Pot.*—September 1, 1868.—The draught from the tool-holding tubes, inserted just above the perforated grate in front of the fire pot, acting on the fuel, all concentrates at the lower end of the chimney, producing there an intense heat.

Claim.—The arrangement of the draught tube B, and the tool-holding-tubes D, in a fire pot A, constructed and operating substantially in the manner and for the purposes herein set forth.

81,645.—Anson Judson, Brooklyn, N. Y.—*Lamp.*—September 1, 1868.—Upon the wick tube, cast with the burner, on which the chimney is centralized by two bearings, are secured wheels or ratchets, a shaft being driven into the tube and the cone or deflector fixed on the burner; all communication between the wick tube and the air chamber being cut off except at the upper end of the wick tube.

Claim.—1. The combination of the shell B of the burner, the ribs F F, and the screw G or its equivalent, substantially as and for the purpose hereinbefore set forth.

2. The combination of the ratchet shaft C, wheels *d*, and tube *e*, substantially as and to the effect hereinbefore set forth.

3. The combination of the cone H, shell B, and adjusting screws D D, substantially as and to the effect hereinbefore set forth.

4. The combination of the burner B, projections *c c*, flange *a*, notches *b b*, and right and left inclines *f* and *g*, in such a manner that by inserting the projections *c c* through the notches *b b*, and turning the burner in either direction, said burner may be secured to the lamp cap, substantially as set forth.

5. The cone or deflector, made of cast iron, with an enameled surface, as hereinbefore set forth.

6. The formation of the burner B in one piece with the wick tube, and in the manner hereinbefore described, by which the wheels for elevating the wick are received into the lower end of the wick tube, and all connection between the fountain and the interior of the burner, except through the length of the wick tube, is cut off, substantially as hereinabove set forth.

81,646.—Frederick Judson, Castleton, N. Y.—*Machine for Grinding Reaper Knives.*—September 1, 1868.—An adjustable carriage is so arranged and combined with guide rods, springs, and plates, that when the sickle bar with its knives is secured upon it diagonally to one of the plates, and brought under the grindstone, the blade of the knife will be effectively and properly ground.

Claim.—1. The sliding carriage U, so arranged as to have the side brought to the grindstone adjustable vertically, substantially as herein set forth and specified.

2. The stop P, arranged and connected with plate O, substantially as above described, and for the purpose specified.

3. In combination with the above, the bar Q, guide rods K K′, standard B, arm C, screw H, and set screw I, the whole arranged and operating substantially as set forth.

4. A yielding support for the knives, so constructed as to compensate for irregularities in the surface of the knives when passing under the stone, substantially as described.

81,647.—Daniel Kane, Tivoli, Iowa.—*Thrashing Machine.*—September 1, 1868.—Two blasts of air are directed upward, one of which goes through a space between the upper end of a grain and straw elevating belt and the lower end of a straw carrier; proper means for extending or shortening them being provided, so that as the grain and trash fall from the belt through the space, nearly all the trash lighter than the grain is blown on the straw carrier; the other blast passes through the separating shoe, so that the screens may not clog, and the light chaff and impurities are wholly separated from the good grain, the driving shaft and gearing by which the thrashing drum is moved being beneath the feeding board and thus protected from injury, or being in the way of the operator.

Claim.—1. The combination of two fanning devices with a screening shoe, F, a grain-elevating belt, and a straw carrier, said fanning devices being arranged in the manner described, so as to operate substantially as and for the purposes specified.

2. In combination with a thrashing drum, an elevating grain belt and a straw carrier, arranged as described, the revolving beater I and the tossing and shaking blades E, all being arranged over fanning devices and a screening shoe, substantially as described.

3. The reversible or tilting bottom N to the laterally discharging clean grain trough M, substantially as and for the purposes described.

4. The arrangement of the pulley *j* with shaft *k*

and gearing *l m*, beneath the feeding board H^2, so that the cylinder is driven by a belt or other device, which runs parallel, or nearly so, with the cylinder, substantially as herein described.

5. The rolling drums a^1 a^1, for the upper part of the straw carrier, applied to studs upon adjustable slides, *a a*, in combination with retaining racks S' and pawls Y, substantially as and for the purposes described.

6. Providing for regulating the tension of the grain belt G by means of adjustable bearing blocks *i*, of drum shaft *h* and bolts *p'*, said blocks being constructed and applied to bars A^3 substantially as described.

81,648.—WILLIAM H. KEMP, Stockton, Cal.—*Pump.*—September 1, 1868.—The lower or suction valve seat rests on a flange forming a water-tight joint, and having around its upper edge a shoulder into which is received a ring connected by a skeleton frame or bars to the upper valve seat, while around on its outside is a flange forming a water-tight joint, on the shoulder of the valve chamber, thus compelling the water, when passing from the cylinder, to raise the discharge or upper valve before it can pass thereto.

Claim.—The bail J, in combination with the ring I, the valve seat H, the frame P, the ring G, and the valve seat F, as and for the purpose set forth.

81,649.—ABRAHAM KIPP, Jr., Sing Sing, N. Y. —*Steam and Fire Regulator.*—September 1, 1868.—The pressure of steam in boilers is regulated by means of a device for automatically controlling the fires, a slide valve in connection with an elastic disk, a pendant, lever arm, beam, and weight forming a mechanism that resists the pressure of the steam and opens or closes the damper, as may be required.

Claim.—The slide valve F, in connection with the elastic disks D D K, compartments C C' in chamber A, arm E, and beam M, and the lever O, or its equivalent, all arranged to operate in connection with a fire damper, substantially in the manner as and for the purpose set forth.

81,650.—JOHN KOCH and DAVID SEACHRIST, Columbiana, Ohio.—*Hames Fastener.*—September 1, 1868.—A spiral spring hid in a recess in a pawl containing a pivot, on which it vibrates with its tooth, acts upon the teeth of a ratchet rack joined with a plate, an end of both of which is hook-shaped and catches into the eyes of the lower end of the hames.

Claim.—The pawl D, when its tooth *a* is held against the ratchet bar C by means of the coiled spring *b*, which is protected from injury by being concealed in a recess in the pawl around the pivot *d*, as herein shown and described.

81,651.—LUIS KRUSE, Sabula, Iowa.—*Hold Back.*—September 1, 1868.—On the front end of the tongue is a spring latch which prevents the neck yoke from coming off and the tongue dropping down, in case a tug or trace gets loose or becomes detached from the vehicle.

Claim.—The application, to the tongues of wagons and other vehicles, of the spring latch, arranged as hereinbefore set forth, which will secure the neck yoke in its place, and which may yet be removed when desired.

81,652.—JOHN LANGHAM, Jr., Philadelphia, Pa. —*Tool for Slitting Boards.*—September 1, 1868.—The board is cut into thin slices by being passed under a cutter arranged vertically to a hinge holder on a sliding stock moving on ways at each end and having a retracting spring.

Claim.—The combination of the sliding stock C, provided with a cutter, with the ways A and supporting pieces B, substantially as and for the purpose described.

81,653.—RUFUS LAPHAM, Boston, Mass.—*Apparatus for Extinguishing Fires.*—September 1, 1868; antedated August 20, 1868.—A reservoir stationary or portable, and which may be made to rotate, for chemical fire extinguishers, is connected with supply retorts and conducting pipes, the latter having branches leading to different compartments.

Claim.—1. A placed reservoir, containing and holding a chemical fire-extinguishing agent, or materials for readily generating such, when provided with pipes leading to one or more buildings, for the purposes specified.

2. The application of pipes to connect said reservoir with one or more buildings and the various rooms of buildings, for the purposes set forth.

3. The auxiliary gas-generating retorts S, one or more, used in connection with the placed reservoir B, for the purposes specified.

81,654.—ROBERT G. LOFTUS, Chelsea, assignor to himself and ALONZO FARRAR AND COMPANY, Boston, Mass.—*Process of Treating Petroleum to Remove the more Volatile Portions.*—September 1, 1868. —The petroleum discharged by a pump into an upper tank with a foraminous bottom falls through the air into the reservoir below, and thus the dangerous element is separated from it.

Claim.—The separation of the petroleum into fine streams, and causing the same to pass through the atmosphere, so as to enable the latter to vaporise and dissipate the inflammable elements thereof.

81,655.—CHARLES R. LONG, Louisville, Ky.—*Boring Machine.*—September 1, 1868.—Sliding beds, on which rest the auger shafts, are regulated by screws in the frame, so that several holes may be bored at once with precision in chair stuff which is held in an apron moved up to the bits by guides and set at the required angle by a pivoted staff.

Claim.—1. The arrangement of the sliding beds B B, adjusted with relation to the fixed central shaft *b'* and its pulley, from opposite ends of the frame A, by means of the screws *m*, constructed to operate as herein described, for the purpose specified.

2. The staff *p*, constructed and operating substantially as shown and described, in combination with the apron M of a boring machine, all as and for the purpose set forth.

81,656.—EDWIN LOWE, Burrows, Ind.—*Hand Loom.*—September 1, 1868.—Intermittent rotary motion is given to a tappet shaft, which operates the treadles and picker staffs by means of pawls and rods connected to the lay, and which is also provided with tappets for actuating levers pivoted to the loom frame and having belts at opposite ends working over a pulley.

Claim.—The arrangement, with relation to the treadles D and levers H, of the tappet shafts B E, connected by gearing, the pawls *a a'* and rods C C', connected to the lay A, all constructed to operate as herein shown and described, for the purpose set forth.

81,657.—JOHN LYNCH, Columbia, S. C.—*Adhesive Plaster.*—September 1, 1868.—Springs or flexible bars are attached to the backs of plasters to prevent wrinkling and give better support to the muscles.

Claim.—1. The springs or stays C, or their equivalents, in combination with an adhesive plaster, substantially as and for the purposes herein shown and described.

2. Attaching one or more springs or flexible stays, rods, or bars to adhesive plasters, for the purposes described.

81,658.—A. F. MARSTON, Clinton, La.—*Culinary Vessel.*—September 1, 1868.—Separate vessels with tubes in their covers are placed on the perforated bottom of a large vessel, by means of which different kinds of food may be cooked separately in one general boiler.

Claim.—The arrangement, within the vessel A, upon the perforated bottom B thereof, of the vessels C, whose covers D are formed with tubes E, having perforated upper ends, whereby a communication is formed between the said vessels and the removable steamers G, supported upon internal lugs *h*, said steamers having partitions and a perforated bottom, all as herein shown and described for the purpose set forth.

81,659.—M. K. MAXIMILIAN, New York, N. Y. —*Sofa Bedstead.*—September 1, 1868.

Claim.—A sofa bedstead, composed of the two parts A B, having their upholstered parts, *a c*, connected together by webbing *d*, and having arms C C, constructed as shown, attached to A, and connected to B, when desired, in the manner set forth.

81,660.—Alexander McCreight, Tranquility, Ohio.—*Corn Plow.*—September 1, 1868.—The drag bars, in pairs with their shovels, are connected in front, and, being bent at right angles, and fixed to the beam, swing freely, or are raised by levers having their fulcrum on a cross beam pivoted on the pole, so as in turning to throw one of the elbows of the bars forward and the other backward, the plows being thus swung out of line or kept stationary at will.

Claim.—1. The drag bars B B^1, arranged as described, when operated by means of a fixed and movable attachment, substantially in the manner set forth.

2. Operating drag bars by means of levers having movable fulcrum, substantially as described.

3. The drag bars B B^1, as described, as in combination with levers D and cross bar C, substantially as and for the purpose set forth.

81,661.—William McDonald, Calais, Me.—*Hanging Circular Saw.*—September 1, 1868.—The combination of the screw pins with the saw and with a fixed and a movable collar fitted on the saw shaft holds the saw firmly upon it.

Claim.—The fixed collar B, provided with the series of pins *a*, adapted to pass through the saw C and into the loose collar D, said saw and collar D being clamped firmly to the fixed collar by the screw nut E, as herein shown and described.

81,662.—J. H. McKnight, Oakwood, Mich.—*Gate.*—September 1, 1868.—Horizontal bars are connected at their forward ends by two short bars pivoted to each other, the center bar extending beyond the rear post and supporting a weight with levers, rope, and chain. A diagonal bar is pivoted to the front and rear ends of the horizontal bars, and thus, when the gate is raised, the horizontal bars fold in toward the center bar and allow small stock to pass under it.

Claim.—1. The gate C, formed by the combination of the horizontal bars c^1, pivoted connecting bars c^2 and c^3, pivoted diagonal bar c^4, and weight box D, with each other and with the gate post B, said gate C being constructed and operating substantially as herein shown and described.

2. The combination of the levers F and cord or chain G with the weighted pivoted gate C, substantially as herein shown and described, and for the purpose set forth.

3. The weighted catch J, in combination with the gate C, post B, and levers F, substantially as herein shown and described, and for the purpose set forth.

81,663.—George S. Meikle, Sterling, Ill.—*Shellac Varnish.*—September 1, 1868.—Carbonate of ammonia boiled in water is used as a solvent for the shellac.

Claim.—A varnish formed of gum shellac, combined with the ingredient herein named, and substantially as described.

81,664.—James C. Millerd, River Point, R. I.—*Expanding Mandrel or Boring Tool.*—September 1, 1868.—Two stud cutters or boring plates mortised in the end of a metal shank are fixed at right angles to the axis of the latter so that, when set out or in by a screw, the plates will pass in contact with each other.

Claim.—1. The combination, in a boring tool, of the boring plates B B, right and left-handed screw *a*, and block *b*, when operating together within a mortise or eye in the shank A, all substantially as shown and described, and for the purpose set forth.

2. The set screw D, arranged to operate in combination with the above claimed parts, substantially as herein described.

81,665.—Thomas Mills and George M. Mills, Philadelphia, Pa.—*Machine for Making Candy Toys, &c.*—September 1, 1868.—The candy passes between geared rolls in which are dies or molds and having a slight space between their outer faces; side rolls are also employed for giving uniform speed, and the molded figures pass out on endless bands driven in opposite directions, both sides of the figures being thus set or chilled.

Claim.—1. The die rolls A A, with the molds disposed thereon, as described, and operating in combination with the side rolls C C, substantially as and for the purpose specified.

2. In combination with a pair of die rolls, the described system of endless bands I and N, when arranged and operating in the manner and for the purpose set forth.

81,666.—Richard Montgomery and Mary J. Montgomery, New York, N. Y.—*Bridge.*—September 1, 1868.—A plain longitudinal binding is inserted between the faces of double longitudinally-corrugated plates, thus forming beams and columns. Diagonal stays and braces also pass through them, the folds of the plates being increased where the greatest strength needs it.

Claim.—1. The combination, substantially as and for the purpose herein set forth, of an intermediate binding plate, D, with the doubly corrugated plates A A, forming the double corrugated beams and columns herein described.

2. In the construction of bridges, roofs, and similar structures, with double corrugated beams and columns, the combination of diagonal stays and braces with said beams and columns, by passing the stays or braces between the opposite plates of the beams and columns, substantially in the manner and for the purpose herein set forth.

81,667.—Ferdinand Moore and George Hastie, Florence, Ind.—*Apparatus for Handling Steamboat Stages.*—September 1, 1868.—The stage ,on being launched, is hooked to the falls and hoisted free of the deck by the operation of the windlass, wheel, and hand-rope. A pressure then causes the carrier beam to roll in its guides till stopped by check-pins when it is lowered. A reverse operation hauls it in.

Claim.—The rolling carrier beam D, provided with the rollers *s s*, fall and tackle F, wheel E, windlass H, hand-rope *p*, journal *m*, pins *a a*, and guides *n n*, or their equivalents, when used in connection with the guides C C, in the manner substantially as described, and for the purposes set forth.

81,668.—William Moses, Buffalo, N. Y.—*Steam Generator.*—September 1,1868.—An induction pipe and eduction orifice pass through the shank of auxiliary generating vessels, and, being attached to the crown sheet or boiler sides of a furnace, communicate with the water space, whereby the effective heating surface is greatly increased, steam being most rapidly generated by means of the large surface exposed to the fire and the small volume of water.

Claim.—The auxiliary steam generating vessels, when constructed with contracted shanks, and induction and eduction orifices, and applied to the crown sheet and sides of a boiler, substantially as herein set forth.

81,669.—George A. Mosher, Champlain, N. Y.—*Draft Equalizer.*—September 1, 1868.—The singletrees are attached to clevises pivoted at different points by pins to the cross heads, which are braced at right angles to the doubletree and form its elongated heads.

Claim.—The clevises D, constructed as described, and provided with a series of holes, *b*, adapted for the passage of a pin, *a*, whereby said clevises are pivoted to the cross pieces C of the centrally-pivoted doubletree A, so as to be longitudinally adjustable thereon, as set forth.

81,670.—Gustav Adolph Neumeyer, Altenburg, Saxe-Altenburg, assignor to August Klein, Leipzig, Germany.—*Manufacture of Gunpowder and Blasting Powder.*—September 1, 1868; antedated August 25, 1868.—Flowers of sulphur, instead of in sticks, and brown coal, or together with charcoal, are used. These being mixed and dried, are placed on an iron dish, on which two cast-iron cylinders revolve. Water is then duly mixed in when it is grained and dried.

Claim.—An explosive powder, for blasting and for fire-arms, when made of the ingredients and in the manner and proportions herein set forth.

81,671.—EUGENE W. NOHL, Chicago, Ill., assignor to CHARLES M. GRAY, same place.—*Furnace for Smelting Ores of Gold, Silver, &c.*—September 1, 1868.—The fire chamber heats the smelting chamber, and the hearth on which rests an inclined ore table, with a cupel at its lowest end, is kept intensely hot by the flues at its ends and underneath, air being also admitted by an inclined opening at the top of the furnace to mix and direct the burning products in a stream upon the ore.

Claim.—1. The construction and arrangement of the smelting chamber, with the cupel and diving flue, for heating the same, substantially as specified.

2. The opening K through the top of the furnace, and above the gas flue or passage, for the purpose of admitting, and mixing with the burning products, atmospheric air to intensify the combustion, and direct the flame on the ore bed or table, and into the cupel, substantially as and for the purposes described.

3. The flues underneath the ore bed or table and the cupel, as and for the purpose described.

81,672.—OLIVER B. OAKLEY and HIRAM ROSEKRANS, San Francisco, Cal—*Door Bell.*—September 1, 1868.—The end of the lever, attached by a wire to the bell pull, strikes a spur on the cam, one end of which, as it turns, forces down a bar attached by a bent wire to the hammer till the spur being released, the rebound causes the gong to be struck.

Claim.—The hammer bar G, the cam F, and the two arms *a* and *b*, together with the knob I, operating by horizontal or straight pull, either near the bell gong or at a distance, substantially as and for the purpose herein described.

81,673.—JOHN ORM, Paducah, Ky.—*Circular-Saw Mill.*—September 1, 1868.—One of the truck frames is bolted and the other adjustably secured to the rack by which the carriage is moved, and as it is fed toward the saw or back, the flanges of the wheels press against the side of the inner or outer rail, adjusting it to the length of the log.

Claim.—Adjustably connecting one or more of the truck frames D to the toothed rack F, by means of the coupling G, as herein shown and described, and for the purpose set forth.

81,674.—JOSEPH OSTERHOUT, Rock Island, Ill. —*Washing Machine.*—September 1, 1868.—The apron passing between and around the rollers is kept stretched by holders or lips secured to each side by a cord, the lower rollers fitted between bars with grooves and pins, yielding to the varying thickness of the clothes acted on by the rollers in alternately different directions.

Claim.—The holders J J, secured to the inner side of the suds box, and applied to the band or apron I, substantially as and for the purpose specified.

81,675—LOUIS J. PARSONS, New Bedford, Mass., assignor to himself, JOHN R. LINTON, and O. E. LINTON, same place.—*Whip Socket.*—September 1, 1868. A strip of sheet metal, inserted between the points of the inside of the metal fastening, is clamped over the seam of the leather tube outside by the points being turned down. The leather lip at the bottom of the metal socket is secured by an eyelet in its center.

Claim.—1. Uniting the edges of a leather whip socket by means of a metal fastening, substantially as and for the purpose described.

2. The bottom of the whip socket, constructed and united to the tubular portion of the same, substantially as and for the purpose described.

81,676.—JAMES DILLON PATRICK, San Francisco, Cal.—*Ball Alley.*—September 1, 1868; antedated August 25, 1868.—The pins are set up by means of cords with weights, reaching to and over a bar at the playing end, and when the cords are drawn the pins are free to fall, springs beneath serving to lessen the tension; the balls roll back in inclined ways on the sides of the alley.

Claim.—1. The springs I I, attached to the spring board I', the holes E in the pins, through which the cords pass, and the weights J J, in combination with the cords, substantially as described.

2. Constructing the ways C C, so that the balls that roll from the sides of the alley will not come in contact with those that are thrown against the bank or end of the alley, substantially as herein set forth.

81,677.—JOHN W. PEARCE, Suisun, Cal.—*Car and Track for Elevating on Inclined Planes.*—September 1, 1868.—The inclined frame and tracks are so made as to assume a horizontal position at the upper end, while the car with a shortened forward axle and having the rear wheels flanged also maintains such position in ascending or descending the incline.

Claim.—In combination with the double-inclined track, of the described construction, a store or freight truck, having one axle shorter than the other, to adapt it to run on said track, and keep a horizontal position while passing up or down the same, substantially as described.

81,678. — GEORGE R. PECKHAM, Worcester, Mass.—*Wheel for Animal Cage.*—September 1, 1868.

Claim.—A wheel for animal traps or cages, with the bars *y*, formed by cutting slots *x* in a sheet of metal, as described and for the purposes set forth.

81,679.—WILLIAM CRELLIN PICKERSGILL, Providence, R. I.—*Boiler Feeder.*—September 1, 1868.—The float presses upon a rod carrying down a lever, and thus admits the steam by the valve into the cylinder and the piston-moving levers. The cocks connecting the water chamber, supply tank and boiler at water level, are alternately opened and closed.

Claim.—The combination of the float B, rod C, lever D, with the steam valve F, steam cylinder G and cocks H and I, substantially as and for the purposes set forth.

81,680.—ROSWELL PLUMMER, Brooklyn, N. Y. —*Quartz Mill.*—September 1, 1868.—The material passes all around the shaft of two upper disks, the surfaces of which conform to the partially-conical surfaces of two reversible disks below, there being a small cavity, where it comes in contact with the working surface, by which the material is gradually reduced, and then passing outward is ground into a fine powder.

Claim.—The within-described mill for grinding quartz, consisting of the reversible metallic disks C D and E F, constructed, arranged, and operating as and for the purpose set forth.

81,681.—JOHN POPPE, Green Point, N. Y.—*Pump.*—September 1, 1868.—An improvement on his patent of Dec. 5, 1867.—The valve is carried round to the valve plate, the stem of which passes up through the discharge chamber working at its upper end in a water socket, and the valve plate being raised by an inclined arm attached to the valve and wheel, allows the valve to pass the plate.

Claim.—The combination of the inclined arm C, with the valve H, wheel B, and valve plate L, substantially as herein shown and described and for the purpose set forth.

81,682.—WILLIAM B. PORTER, Plattsmouth, Nebraska.—*Iron Pier.*—September 1, 1868.—The pier is composed of a shell of iron made in sections, the lower one being bell-shaped for the base, and the upper one of inverted bell-shape, which, with the central section of uniform diameter, are held tightly together by rods in tubes fastened to bars underneath, and also by recesses into which fit the edges of the central section. The piers are filled in with concrete.

Claim.—An iron pier, composed of a series of tubes encompassed or inclosed by a shell filled in with concrete, and all secured together in the manner substantially as herein shown and described.

81,683. — E. K. PRAY, Holderness, N. H.—*Knitting Machine.*—September 1, 1868.—A segment of a ring holds the needles in place, while the detachable part of the ring to which the cams are secured is removed.

Claim.—1. The ring A, constructed with that part to which the cams are secured, detachable, substantially as and for the purpose set forth.

2. The combination with the ring A, having the detachable part B, of the segment C, substantially as and for the purpose described.

81,684.—George W. Prentice, Providence, R. I.—*Eyelet.*—September 1, 1868; antedated August 15, 1868.—The eyelet is made of a composition of tin, antimony, and arsenic, in various proportions.

Claim.—The article of an eyelet, of the composition of material herein set forth, as a new manufacture.

81,685.—K. H. C. Preston, Manlius, N. Y., assignor to himself, Stephen Cheney, and M. B. Snook.—*Harvester Rake.*—September 1, 1868.—The cranks of the rakes and beaters coming in contact, while the wheel rotates, with the conical friction roller on the outer end of the arm which is secured on the upper part of the standard, will be turned down, and the rake teeth will descend in front of the sickle, so that the grain will be presented to it; the teeth being turned upward by springs as the cranks pass the roller.

Claim.—1. The combination of the crank arms *d* of the beaters F, the spiral springs *e*, revolving wheel D, conical roller G, and arm *g'*, all constructed, arranged, and operating as described for the purpose specified.

2. The arm *g'*, attached to the inner end of the rake E, in combination with the projection *h* attached to the arm *g*, all arranged substantially as described, for the purpose of keeping said rake down or near the platform, while traveling over the same.

81,686.—K. H. C. Preston, Manlius, N. Y., assignor to himself, Stephen Cheney, and M. B. Snook.—*Harvester.*—September 1, 1868.—The beveled sliding collars on an axle near the ratchets fit into forked levers connected to a cross-head at the lower end of a vertical shaft turned by a lever on its upper end. The pawls also have projections under which the collars catch and raise them from the ratchets as the machine moves forward; thus disconnecting the wheels from the axle, as required.

Claim.—1. The joint L, when the screw-bolts, carrying the boxes *n n*, are provided with eyes *m m*, to receive the journals of the cross-head R upon the connecting rod K, as herein described, for the purpose specified.

2. The projections *f* on the pawls F on the wheels B, in connection with the beveled sliding collars H H on the axle E, all arranged to operate in connection with the ratchet G, substantially as and for the purpose set forth.

81,687.—Eliza Putnam, Boston, Mass.—*Bookcase Bedstead.*—September 1, 1868.—The removable dividing piece is to give a finish to the case when the bed is shut in.

Claim.—The combination, with a case and bedstead, of a removable dividing piece, *k*, substantially as and for the purposes described.

81,688.—William Ross and James M. Adamson, Day's Store, Pa.—*Washing Machine.*—September 1, 1868; antedated August 28, 1868.—The clothes, held in the clamp by pressure on its handles, are brought down on the rubber by means of a treadle connected by a pivoted upright and rod to an arm jointed to the clamp.

Claim.—1. A washing machine, for washing clothing, composed of the tub A, and rubber B, and a clamp C, for holding the clothing, operated by a handle upon the same, said clothing being held down upon the rubber B by a treadle, G, substantially as shown and described, and for the purposes set forth.

2. The clamp C, composed of two parts or jaws, connected to the arm D by a universal joint, substantially as shown and described, and for the purposes set forth.

3. The arm D, and connecting rod F, and upright E, and treadle G, in combination with each other and with the clamp C, and washing tub A, and rubber B, substantially as shown and described, and for the purposes set forth.

81,689.—Alfred Sanders, Penn Yan, N. Y.—*Car Coupling.*—September 1, 1868.—The coupling is made by means of a spring lever, pivoted in the draw-head, with a groove for a cam rod, its horizontal shaft ending in a crank, which on being turned forward, allows the link pin of the draw-head to pass through into the lugs. A reversed action uncouples the cars.

Claim.—The combination of the side lugs *i i*, oblong opening *k k*, and pins *l*, with the spring lever C, and cam rod *d g h*, the whole so arranged as to form a double fastening, and allow the strain to be transferred from the pin to the lever, as herein set forth.

81,690.—Michael E. Savoy, Corinth, N. Y.—*Counter and Shank for Boots and Shoes.*—September 1, 1868; antedated August 29, 1868.—A metallic shank is connected to a metal counter provided with arms having a number of holes, so as to admit of being adjusted to fit the heels of boots and shoes of different sizes.

Claim.—The curved metallic shank A, and counter B, when the latter is provided with the adjustable arms *a*, for securing said counter at its forward end to the shank A, constructed and arranged as herein shown and described, when stamped from one piece of metal.

81,691.—William H. Schwalbe, New York, N. Y.—*Sofa and Bed.*—September 1, 1868.—The arms of the seat being separate from the back, can be fastened to it by thumb screws, and when the seat is let down, serve as legs; the back also being hinged inside of the lower section of the seat can be let down and supported by adjustable legs; a board hinged inside of the upper section, swung upright, rests on its upper edge, serves as a footboard.

Claim.—The combination and arrangement of screw-bolts K, back I, arms H, bed A C D, and footboard L, as herein represented and described.

81,692.—Conrad Seimel, Greenpoint, N. Y., assignor to Charles Pratt, New York City.—*Sheet-Metal Can.*—September 1, 1868.—The curved projections expanding under the heat of the molten solder will not spread apart, but remain so close as to form a tight joint when the solder cools.

Claim.—The square or rectangular sheet-metal can, constructed, as described, of the two pieces A A, bent to have the sides *a a* at right angles to each other, and having formed at the angles the semi-cylindrical projections *b*, the ends of said parts *a a* being rolled to form projections *c*, lapping within and over each other, as herein described, for the purpose specified.

81,693.—James Shepard, Bristol, Conn.—*Protecting Plants, &c.*—September 1, 1868.—A strip of thin wood or veneer is scored and bent till the ends lap, and a ring is formed, which is placed over the plant and pressed half-way into the ground.

Claim.—As a new article of manufacture, a plant protector, when constructed and arranged specially as and for the purpose described.

81,694.—Charles Sinclair, New York, N. Y.—*Ratchet Drill.*—The spindle with its drill is supplied with two handles, one of which is bifurcated and connected with a ratchet wheel, a spring pawl and a fixed pawl, so that one of the pawls will act on its wheel and the drill be continuously revolved, in which ever way the handle may be turned.

Claim.—1. The combination of the spindle A, retaining handle D, and operating handle E with the pawl G and ratchet wheel F, and with the ratchet wheel or disk C, having internal gear with the pinion *e*, toothed wheel I, and spring bolt J, all made and operating substantially as herein shown and described, the toothed wheel I having ratchet teeth formed on its inner edge, as set forth.

2. The combination of the drill spindle A, pinion I, and spring bolt J, when constructed and arranged as described, as an adjunct to the other mechanism for communicating rotary motion to the drill, substantially as described.

81,695.—Hector Sinclair, New York, N. Y.—*Hot-Air Register Attachment.*—September 1, 1868.

—The attachment to the wall in front of the register contains a water reservoir, fan blower, and a dust box above; the fan is set in motion by the heated air, and is so revolved as to throw up the dust into the box, away from the room, while the vapor from the reservoir mixes with the air and passes into the room.

Claim.—1. An attachment for hot-air registers, provided with a hollow dust-separating mechanism, substantially as and for the purpose described.

2. The combination, with a hot-air register, of the casing F, fan blower D, and dust-pan E, substantially as and for the purpose described.

3. The combination, with a hot-air register, of the casing F, reservoir C, and fan blower D, substantially as and for the purpose described.

4. In combination with a hot-air register, a fan-blower, dust receptacle, and water reservoir, substantially as described, for the purpose specified.

81,696.—Thomas Smith, California, Mo.—*Self-acting Wagon Brake.*—September 1, 1868; antedated August 29, 1868.—To the ends of a spring extending from one wheel to the other in the middle to a bar which connects braces that support the brakes, are fixed friction blocks adjusted to the rims of the wheels, the said blocks being connected by rods from near their ends to a rod which extends along the tongue to the neck yoke, and thus when the yoke is thrown back the rod is drawn forward and the brakes are applied.

Claim.—The self-acting wagon brake, composed of the block *e*, pivoted to the adjustable slide G, which is itself directly attached to the spring E, and operated by the rods *h* and I and yoke J, when the parts referred to are constructed as described, and combined and arranged in the manner and for the purposes specified.

81,697.—Thomas Smith, California, Mo.—*Compound Tool for Cutting and Shearing Bolts.*—September 1, 1868; antedated August 21, 1868.—Two arms are connected to a standard, one being fixed, the other hinged or pivoted; a pair of lugs project from the former toward the latter and support the end of a movable jaw with a cutter working between the posts of the standard and forced down by a projection on the arm so as to act on another cutter below.

Claim.—The improved bolt-cutting and shearing tool herein described.

81,698.—Hiram F. Snow and James H. Davis, Dover, N. H.—*Composition for Pavements.*—September 1, 1868.—The residuum of coal tar, after the water and gas has been distilled off, is mixed with tan bark or saw dust and gravel or mineral matters with a quantity of sulphuric acid.

Claim.—The combination of wood saw dust, or comminuted wood or bark, with the tarry risiduum, and a mineral matter or matters and an acid, as specified.

81,699.—Lewis A. Spickler, Clear Spring, Md.—*Sleigh.*—September 1, 1868.—The raves or fenders are attached to the upturned part of the runners by iron plates with bifurcations by which they are firmly fastened, and sockets for the eyes of the shaft irons.

Claim.—In a sleigh, adapted to be drawn by power applied in front, locating the point of attachment of the shafts behind the upturned part D, upon the rave C or bifurcated iron A, as herein shown and described for the purpose specified.

81,700.—P. H. Standish, Martinez, Cal., assignor to himself and Oliver C. Coffin.—*Gang Plow.*—September 1, 1868.—The plows are raised or lowered by a lever and pawls attached to the axle, which has a toothed wheel and has a crank near the hub for receiving the axle of the furrow wheel, the tongue also being adjusted for the line of draught by a bolt through the clevis and made fast to its rear end. The crank-shaped plow standards provided with a slot, and set screw which passes through the boss and rests on the bed, are pivoted on bolts passing through a hole in the turn of the standard.

Claim.—1. The wheel E, lever M, with pawl I and foot pawl N, and manner of arrangement thereof.

2. The tongue-adjusting rod J, clevis R, plate P *l*, as arranged, and secured to the bed or beam B.

3. The construction and arrangement of the bed B, and the manner of attaching the standards thereto, in combination with the tongue adjusting rod J, clevis R, and plate P *l*, as shown and described.

4. The crank-shaped standards, with slotted end and set screw, substantially as set forth.

81,701.—A. R. Stanley and Henry W. Ensign, Shullsburg, Wis.—*Sulky Plow.*—September 1, 1868.—To raise the plow out of the ground the ratchet is relieved of the pawl which catches into the retain shaft, and the upper end of the lever connected with the shaft is drawn back, while the eccentric moving forward the catch relieves the front end of the plow beam.

Claim.—1. The pivoted plow beam N, spring catch O, and eccentric, H, arranged to operate in the manner substantially as and for the purpose set forth.

2. The combination of the lever G attached to the eccentric H, the shaft F, pinion E′, rack D, and spring catch O fitting over the end of the plow beam N, substantially as described for the purposes specified.

81,702.—Werner Staufen, Paris, France.—*Vegetable Fiber as Substitute for Hair.*—September 1, 1868.

Claim.—The manufacture, substantially as above set forth, of a species of vegetable hair from the fibrous material which grows through and proceeds from the bark situated near the foot of the palm known as the *Levistonia Chinensis Roxb., or Latania Chinensis, Tacq.*

81,703.—W. C. Stickney and James McGee, Steubenville, Ohio.—*Ventilating Sash Adjuster.*—September 1, 1868.—The upper end of the sliding rod is pivoted to the inner arm of the three-armed plate by a pin and slot, a coiled spring, with a friction block, holding it in place.

Claim.—The combination of the three-armed plate C and sliding rod E with the coiled spring G, friction block H, and thimble F, substantially as herein shown and described.

81,704.—Brush Sutherland, Chicago, Ill.—*Water Wheel.*—September 1, 1868.—On the inner surface of the gate a ring or stop-water fits on the top of the wheel to prevent leakage, the top being also protected by a dome from the pressure of the water, and preventing its escape through the center; a vertical circular flange with ground edge fitting on the flange of the wheel forms a water-tight joint, while the dome is secured to the upper flange by wide arms and the spaces between them permit access to the stop water for adjustment.

Claim.—1. The combination of a stop-water, *c*, with the flange of the wheel and the gate C, arranged to operate in the manner and for the purposes shown and described.

2. The dome G, provided with a vertical rim H, and supporting arms I, arranged in relation to the flange F, substantially as described, and for the purposes set forth.

3. The combination of an adjustable stop-water, *h*, with the rim H, and the flange of the wheel, in the manner and for the purposes specified.

81,705.—Newton Tallman, West New Brighton, N.Y.—*Oiler for Machinery.*—September 1, 1868.—The perforated inner cylinder, having an outlet through the nozzle, strains the oil and is held in place by a spring, an adjusting screw and nut bearing on the bottom of the can.

Claim.—1. The perforated inner chamber *a* and spring F, in combination with each other, and with the nozzle and bottom of an oil can, substantially as and for the purposes herein set forth.

2. The adjusting screw *b* and nut *c*, in combination with the spring E and the cylinder or chamber *a*, substantially as and for the purpose herein specified.

81,706.—Benjamin C. Taylor, Dayton, Ohio.—*Horse Hay Rake.*—September 1, 1868.—The pieces fixed in the rails are of thin metal, made semicircular in form, transversely at the middle, and are cut away at the ends to support the spiral spring and guide the tooth, and serve as a stay for the bars, which are drawn up firmly against their ends by the bolts.

Claim.—The pieces E E, and their arrangement with reference to the bars A and B, the spring F, and bolts C C, in the manner substantially as described, and for the purposes specified.

81,707.—S. D. Tripp, Lynn, Mass.—*Reversing Cutting Machine.*—September 1, 1868; antedated August 21, 1868.—The stock to which the cutters are attached is so arranged that by means of bars inclined to each other, the position of the cutters may be reversed, and reversed curves be cut consecutively.

Claim.—1. The means employed for operating the cutter shaft B, to wit, the bars *g h i*, pivoted guide L, and the pivoted bar M on plate H, in connection with the cross-head G on the journal of shaft E, provided with the pins *e e*, all arranged to operate substantially in the manner as and for the purpose set forth.

2. Attaching of the plate H to the framing A, in such manner as to admit of the same having a reciprocating movement imparted to it, substantially as shown and described.

81,708.—John Uhl, Brooklyn, N. Y.—*Saw Set.*—September 1, 1868.—The saw block has an adjustable rest, with a sliding adjustable abutting plate, the length of tooth to be set being regulated by a screw with a conical head, or guide for narrow saws, with a removable anvil and with a punch which has a series of projecting ribs of widths corresponding to the tooth. The punch rests on, and is upheld by, a spring which, when the punch has been brought down on the anvil, automatically raises it clear of the ribs.

Claim.—The construction and arrangement of block A, swinging table B, screw G, adjustable plate D, anvil E, punch *d*, holding device *e*, spring *f*, substantially as herein described and for the purpose specified.

81,709.—Adolphe Pierre Viol and Césaire Pierre Duflo, Jr., Paris, France.—*Bleaching and Dyeing Feathers.*—September 1, 1868.—The feathers are dipped in a weak solution of nitric acid mixed with chromate or bichromate of potash, after which they may be dyed in the usual way.

Claim.—The within-described process of treating black, grey, brown, or otherwise tawny-colored feathers, by first subjecting them to a bleaching, and afterward to a dyeing operation, substantially as and for the purpose set forth.

81,710.—N. A. Vurgason, Brooklyn, N. Y.—*Lamp-Chimney Cleaner.*—September 1, 1868.

Claim.—A lamp-chimney cleaner, having four brushes, B B, C C, affixed on the arms *b b*, in combination with the staff A and spring band *a*, of rubber or other suitable material, all substantially as and for the purpose shown and described.

81,711.—Garrett Van Wagenen, Racine, Wis.—*Medical Compound for Treating Horses, Cattle, &c.*—September 1, 1868.—To melted beeswax are added pine and Barbadoes tar, also Strait's oil, haematoxyline, red lead mixed into a paint with Strait's oil, and chloride of zinc.

Claim.—The remedial compound, composed of the above-mentioned ingredients, and prepared in the manner described.

81,712.—F. F. Wagner, Harrisburg, Pa.—*Car Seat.*—September 1, 1868.—Improvement on Wagner and Dickinson's patent of June 21, 1859. Projecting lugs attached on the side of each axle opposite the swinging arms, which hold the chair backs, secure them to the seat frame, so that on turning down the arms the lugs project above the axle, raise the seat on their folding side, and, turning on central pivots, always keep it higher in front. On the lower part of the seat frame is also a footstool, hinged to an inclined frame, for persons on the other seats, a pin fitting through the seat frame and one of the toothed wheels connecting the arms being substituted for the notched lever.

Claim.—1. Providing the projecting lugs *f* on the axles or pins B, by which the swinging arms C D are pivoted to the seat frame for the purpose of elevating the front end of the seat, so as to have the seat incline backward in whatever position the arms may stand, as specified.

2. The pin or bolt *a*, for locking the swinging arms C D in any desired position, when said pin is fitted into one of the toothed wheels or segments by which the arms are connected for the purpose of having them move simultaneously, as set forth.

81,713.—C. W. Wailey, New Orleans, La., assignor to New Orleans Pneumatic Propelling Company.—*Paper Reservoir for Compressed Air.*—September 1, 1868.—A cylinder made by wrapping wetted paper around a former, and applying a thin coating of glue or varnish for the joints, is dried and then closed by a metallic head, having an annular groove and held in place by rods, screw threads, and nuts.

Claim.—The paper air tank A, when closed at its extremities with metallic heads B, and otherwise constructed in the manner and by the use of the means herein described, for the purpose set forth.

81,714.—George S. Walker, Erie, Pa.—*Stove-Pipe Drum.*—September 1, 1868.—Two vertical, triangular flues are arranged in the drum with a horizontal dividing plate, so that the lower flue receives the products of combustion, deflects them to the back of the drum, and causes them to pass successively into the spaces and over the points of the plate in contact with the outsides of the upper and lower flues.

Claim.—The arrangement within the drum H, and with relation to each other, of the curved fire plates F F′, to direct the products of combustion in the described manner herein set forth and shown.

81,715.—M. S. Watkins, Mansfield, Texas.—*Hat.*—September 1, 1868.—The bands of the metallic lining are bent in front to form enlargements in the crown and rim, for relieving the pressure on the temporal arteries, small holes also giving passage to the air into them.

Claim.—As a new article of manufacture, a hat formed with radial indentations in the crown and rim, as described, and provided with a lining, perforated opposite the said indentations, the metallic band of the lining being bent at the front of the hat, as and for the purposes herein set forth.

81,716.—Joseph Watts, Brazil, Ind.—*Churn.*—September 1, 1868.—As the paddles move down through the cream a vacuum is created, and the air, rushing in through the valved pipe, is carried by the paddles down into the cream, and rises through the cream and escapes by the pipe at the top, the cream being thrown by the paddles upon the screen, where it is drained.

Claim.—1. The suspended screen R and hinged lid O, in combination with the body A of the churn, and with the revolving paddles L, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the crank shaft C, arms J, and paddles L, with each other and with the body A and screen R of the churn, said parts being constructed and arranged substantially as herein shown and described and for the purpose set forth.

81,717.—David M. Weston, Boston, Mass., assignor to Greene, Tweed & Co., Brooklyn, N. Y.—*Belt Punch.*—September 1, 1868.

Claim.—The belt punch, having its lower jaw A slotted at C, for the passage of the cutter B of the upper jaw, and provided with the gauge D, carrying the slotted guard E, all operating as described, the jaws being opened by the tension of the rubber spring F, held in sockets or recesses of the handles, as herein set forth and shown.

81,718.—Gerhart Wiesler, Chicago, Ill.—*Tumbler Brush.*—September 1, 1868.—The brush head is formed of a single piece with the handle, having in its central bore a cylindrical plug, through which passes the wire that secures the end tuft of the bristles, and forming a shoulder on which the tuft may rest, so that the wire can be drawn tight while the tuft is kept in place, without being drawn in too far.

Claim.—The combination of the cylindrical head B, provided with the bore D and the cylindrical filler or plug C, arranged within the bore, as and for the purposes specified.

81,719.—Francis H. Williams, Syracuse, N. Y.—*Stench Trap.*—September 1, 1868.—The spring which holds the valve to its seat is inclosed in an inverted cup, the valve provided with water packing to keep out noxious gases, being allowed to open for the discharge of contents when the pressure or weight is too great for the spring, a collar serving as a valve seat and bridge holder, for keeping the valve stem in its place.

Claim.—1. A valve chamber, N, which is constructed with a tubular valve seat, B, and a pipe-connecting collar, C, substantially as and for the purposes described.

2. The construction of valve chamber N, of sections A A, one of which has an internally and externally-projecting collar, B, and the other an externally-projecting collar, C, substantially as and for the purposes described.

3. Valve I, applied to the inner end of collar B, and held up to its seat by a spring, *g*, which rests upon a bridge, *h*, applied to the upper end of said collar, in combination with the chamber N, substantially as described.

4. The inverted cup *f*, applied over the upper end of valve stem *e*, so as to protect the spring *g*, substantially as described.

5. A crowning or convex valve I, which is suspended by a spring, *g*, and applied to a collar, B, of the chamber N, substantially as described.

81,720.—Isaac Williams, Westerfield, Ind.—*Adjustable Measuring Rule.*—September 1, 1868.—As the angle is varied by varying the tongue, the slotted end of the brace slides up or down on the graduated part, and is fixed as desired by a screw and thumb nut.

Claim.—The combination of the pivoted adjustable brace J, slotted at *i* with the graduated part B, and its slotted extension G, and with the graduated part A, and its slotted extension D, all constructed as described, for the purpose specified.

81,721.—Henry F. Wilson, Fort Wayne, Ind., assignor to Jacob J. Kamm, same place.—*Paint Compound.*—September 1, 1868.—To a solution of carbonate of soda, borate of soda, and a saturated solution of hydrate of lime, is added white lead or other metallic pigment, and linseed oil.

Claim.—The combination of the above specified ingredients, as and for the purpose specified.

81,722.—Hanson H. Adams, Newburyport, Mass.—*Machine for Carving Wood.*—September 1, 1868.—Strips of wood are secured to the upper surface of the sliding carriage, parallel to the pattern, and in alignment with the revolving cutters. On turning the crank, the lever pivoted to the cross bar of the frame and to the sliding portion of the cutter head, depresses the cutter head, which, being brought in contact with the pattern, the cutters will cut or carve counterparts.

Claim.—1. The combination, with the vertical adjustable frame *j*, of the vibrating frames or supports *n*, and laterally-sliding or adjustable cutter head and its cutters, under the arrangement and for the operation as herein shown and specified.

2. The combination, with the frame *j*, laterally adjustable cutter head, and vibrating truss frames, by which the cutter head is supported, of the lever *z* and spring *o'*, or its equivalent, constructed and arranged to operate substantially as and for the purpose set forth.

81,723.—Garrett D. Anderson, Montrose, N. Y.—*Liquid Safe.*—September 1. 1868.—A metallic tank is made of a strip of metal bent and jointed tightly to plates, and has its bottom inclined from two sides to the center, a groove being there formed increasing in depth to the faucet; and between the tank and inclosing case of wood or metal is a fire-proof lining or filling, to protect it from being burned or heated.

Claim.—1. An oil or liquid tank, constructed without any joint at either or all of the points lettered *h i k l* in the drawing, substantially as herein specified.

2. An oil or liquid tank, provided with a bottom composed of two inclined surfaces, and provided with a depression at about the central point, substantially as and for the purposes herein set forth.

3. The combination, with a tank constructed in either of the above specified ways, of an inclosing case, of wood or other material, substantially as herein specified.

4. The combination, with said tank for containing oil or other inflammable liquid, of some suitable fire-proof material, substantially as and for the purposes herein specified.

81,724.—James H. Andrews, Benicia, Cal.—*Gang Plow.*—September 1, 1868.—The plows are attached to the rear end of the pole by a peculiar frame connection, so that the plow points can be elevated or depressed by raising or lowering the end of the pole. The standards are clipped to the frame and the braces are slotted and provided with bolts, so as to adjust the plows to the desired depth.

Claim.—1. Pivoting the pole C to the hounds D D by a rod, E, and linking the rear end of the pole to the arm G, of the shaft F, or equivalent device for raising and lowering the plows without lifting other parts of the frame, substantially as described.

2. The double-jointed frame I, having an apron, J, attached and arranged to operate in the manner substantially as and for the purpose set forth.

3. The manner of connecting the plows to the frame by the clips M M, slots N N, with bolts and nuts, substantially as described.

81,725.—George N. Annan, Buffalo, N. Y.—*Grinding Mill.*—September 1, 1868.—Sliding blocks in the heads of the casing rest against the journals on which the bed is hung, and by means of screws press outward against the journals. Screws also pass through the casing and bear on the bed, pressing oppositely to the blocks, the bed, while adjustable, being held in a fixed position, the axes or journals likewise being adjustable and adapting the opening of the cylinder and bed to grain of different degrees of fineness.

Claim.—1. The combination of the blocks *c c* pressing outward upon the journals of the bed, and the screws *f f* and *g g*, pressing inward upon the four corners of the bed, thus opposing each other, the whole arranged as described, and operating in the manner and for the purpose specified.

2. Connecting the heads D to the ends of the case by the two locks *c l*, in addition to the ordinary screws whereby the great strain is removed from the screws, as herein set forth.

81,726.—Charles S. Ambruster, Woodstown, N. J., assignor to himself and Charles H. Richman, same place.—*Hay Fork.*—September 1, 1868.—The plate being drawn up brings the arms and shanks together, the tines approach each other and grasp the hay; which being raised is released by disconnecting the block and plate, the weight of hay and fork being transferred from the plate to the block.

Claim.—1. The combination of plate C, hook *c*, stop *m*, spring *n*, trigger *o*, and rope or chain *r*, substantially as and for the purpose described.

2. The combination of the tripping attachment, above described, with the arms *a a*, shanks *s s*, tines *t t*, block I, and connecting cords, chains, or rods, *e e'*, substantially as and for the purposes specified.

81,727.—James C. Arms, Northampton, Mass.—*Paper Clasp.*—September 1, 1868.—A strip of stiff paper, as wide and three times as long as the width of a roll of tape or ribbon, having one side of it gummed one-third of its length, the tape wound twice around the roll, and over the strip, and the gummed end bent over adheres to the other end.

Claim.—The paper slide B, constructed and applied to rolls of tape, ribbon, &c., substantially as described.

81,728.—JACOB AUTENRIETH, Philadelphia, Pa. —*Cork Extractor.*—September 1, 1868.—The link or band larger than the cork, goes round its top sides and bottom, and when driven into the bottom, the lower part of it presses against the bottom of the cork while the upper part forms a loop for drawing the cork.

Claim.—The application to a cork of an endless flat strip or loop of non-elastic metal, in the manner and for the purpose herein described, and represented.

81,729.—D. S. BAKER, West Bloomfield, N. Y. —*Brake for Machinery.* — September 1, 1868.—A frame, consisting of two metallic cheeks, is supported by a spring, and provided with a friction roller which bears upon a rubber band on the periphery of a wheel, so as to prevent a reverse motion of the wheel beyond a limited extent.

Claim.—A friction brake, constructed and operated in the manner as shown and described.

87,730.—JOHN BALL, Canton, Ohio,—*Plow.*—September 1, 1868.—The double points admit of the "fashion" piece being turned when desired. The corrugated beam and handles admit of the latter being adjusted to the height of the operator.

Claim.—1. The double point I, when constructed as described, and operating subtantially as and for the purposes herein set forth.

2. The corrugated beam D, in combination with the corrugated handles E E, when arranged so as to be adjustable, substantially as and for the purposes herein set forth.

81,731.—JOHN BALL, Canton, Ohio.—*Clevis for Plow.*—September 1, 1868.—The clevis is made yielding, and so arranged with a spring as to prevent injury to the plow or team in case of an obstruction.

Claim.—1. The clevis C, constructed as described, in combination with the adjustable loops D D, for the purpose of raising or lowering the front end of the clevis, substantially as herein set forth.

2. The levers B B, pivoted to the sides of the plow beam A, and their lower ends pivoted to the rear ends of the clevis C, in combination with the rod F and spring G, constructed as described, and operating substantially as and for the purposes herein set forth.

81,732.—JOSEPH B. BANCROFT, Milford, Mass. —*Spindle Step.*—September 1, 1868.—The cap fitting close to the step also surrounds the spindle, being held stationary by friction as the spindle revolves, keeping out from between them a ring or flange which extends from the spindle nearly to the inside of the cap.

Claim.—The arrangement and combination of the ring or flange D with the spindle, its step, and cap, the whole being substantially in manner and for the purpose or objects as specified.

81,733.—ARTHUR BARBARIN, New Orleans, La. —*Gas Burner.*—September 1, 1868.

Claim.—1. The method, herein described, of letting on the gas to the burner or shutting it off therefrom, by the employment, in connection with the pipe or conduit for supplying gas to one or more burners, of a reservoir of quicksilver, glycerine, oils, or other non-freezing liquid in which the end of said conduit is immersed, the pressure of the gas in such conduit being regulated in the manner specified, so that, so long as the pressure does not exceed a certain limit, the gas will be retained in its conduit by the resistance of the said liquid, without the use of stop cocks or other means ordinarily employed, but whenever the pressure is increased so as to exceed the said limit, the gas will overcome the resistance of the liquid, and pass from its conduit to the burner, as set forth.

2. The use and application, for the purposes specified in the preceding clause, of naphtha or other hydrocarbon liquid, substantially in the manner described, so that the said liquid shall not only constitute the stop cock of the gas conduit, but shall also carburet the gas when the latter is forced through it by the presence of the gas in said conduit.

3. The combination, with a reservoir containing quicksilver or other suitable liquid, and carrying the gas burner, of the bent end of the gas induction pipe, held within the reservoir, and arranged as described, so as to be adjusted to a greater or less depth in the liquid in which it is immersed, the said liquid operating, in connection with the pressure of gas in said pipe, to shut off and let on the gas to the burner, as set forth.

4. The combination, with a burner to which the flow of gas is regulated by means of quicksilver, oils, or other liquids, in connection with the pressure of gas in the gas conduit, as described, of a gas-igniting device, composed of spongy or finely-divided platinum, arranged above the orifice of the burner, so as to be brought in contact with the gas issuing therefrom, as and for the purposes set forth.

81,734.—ARTHUR BARBARIN, New Orleans, La. —*Self-lighting Gas Burner.*—September 1, 1868.—The elongated ring upon the burner has on its sides two arms supporting fine platinum wires bent over at the top, between which is a spongy platinum with wires at the bottom to determine the instant ignition of the gas from the jet of the burner.

Claim.—A gas lighting device, consisting of spongy or finely divided platinum, combined with fine projecting platinum wire and fine projecting wire points or ends, in the manner herein specified, the said device being applied to a gas burner, and arranged to operate in connection therewith, substantially as shown and set forth.

81,735.—ARTHUR BARBARIN, New Orleans, La. —*Apparatus for Lighting Gas.*—September 1, 1868.

Claim.—1. The application and use of clock work, or equivalent mechanism, in combination with the armature of an electro-magnet, to let on or shut off the gas, and control at the same time the operation of the illuminating agent, substantially as described.

2. The combination of the rotary valves for supplying gas to the burners, and the mechanism for operating and stopping the same, with the armature of an electro-magnet, under such an arrangement that the motion of the said armature toward its magnet shall leave the said valves free to revolve, substantially as set forth.

3. The arrangement relatively to each other of the valves for supplying the hydrogen and illuminating gases to their respective burners, so that the hydrogen gas shall be supplied to its burners before the opening of the valve through which the illuminating gas passes, substantially as shown and described.

4. The method of transmitting a current of electricity from a main battery to the magnets of one or more valve-operating apparatus, by means of an apparatus arranged and operating so as to effect the momentary closing of the circuit between the said battery and magnets, substantially as shown, and for the purposes described.

5. The circuit-closing apparatus herein described, the same consisting of the combination of a revolving needle, and its actuating and stopping mechanism, with the armature of an electro-magnet, the whole being constructed and arranged so that the momentary passage of a current of electricity through the said magnet shall so move its armature as to effect the revolution of the needle, substantially as set forth.

6. The combination, with the said circuit-closing needle, of a plate or disk, in and to which are secured the insulated wires of one or more apparatus for operating the valves which supply the gas to the burners, substantially as and for the purposes described.

7. The method of closing the circuit of the local battery, by which the circuit-closing apparatus is actuated, by connecting the same with the operative works of a clock or other time-piece, under the arrangement herein described, so that the said circuit may be closed at any desired hour.

8. The construction and arrangement of the mechanism for closing and breaking the circuit between the operative works of the clock and the battery

connected with the magnet of the circuit-closing apparatus, substantially as shown and described.

9. The combination, with the operative mechanism of a clock or other time-piece, of the gas-lighting and circuit-closing apparatus herein described, the whole being constructed and arranged so as to cause the simultaneous ignition of any number of gas jets at any desired hour, substantially as set forth.

81,736.—JOHN ALLEN BASSETT, Salem, Mass.—*Process and Material for Carbureting Gases.*—September 1, 1868.—The case incloses a wheel, divided int ocompartments, into which the material is closely packed and is saturated, as the wheel revolves, by the hydrocarbon which passes through it.

Claim.—1. The combination of absorbent materials having different capillary powers, for the purpose of holding hydrocarbon liquids in suspension in carbonizing air and gases.

2. Carbureting air or gases by the combined capillary materials described and shown.

3. The apparatus, shown and described, charged with the materials specified, and used for the purpose set forth.

81,737.—AUGUSTUS BEAN, Fairview Village, Pa.—*Shaft for Vehicles.*—September 1, 1868.—Two short shafts are secured on the axle, the cart bed resting on them being hinged to one and stapled to the other. The draw shafts are connected by a cross bar and one of them is hinged to one of the short shafts, the other has a curved extension at the rear, sliding in a guard on the inside of the other short shaft, thus permitting the cart to be turned one side by the horse.

Claim.—1. The shaft H, provided with a curved extension, I, sliding under the bed of a cart in the guard J on the inner side of one of the short shafts C, and held in position by means of a spring, K, substantially as and for the purposes herein set forth.

2. The shaft F, hinged to one of the short shafts, C, and connected, by means of a cross bar, G, to the shaft H, substantially as and for the purposes herein set forth.

3. The combination of the shafts F and H, when constructed and attached to a cart in the manner described, and operating substantially as and for the purposes herein set forth.

81,738. — CORNELIUS BERRIAN, Clinton City, Iowa.—*Machine for Pressing Brick.*—September 1, 1868.—By one motion of the working lever the brick is pressed, the opposite motion causing the discharge of the brick. The same movement opens the mold to receive new clay.

Claim.—The combination and arrangement of cap B, shafts N and K, pitman F, rods S S, arm L, and traveling fulcrum J, when constructed, arranged, and operating substantially as and for the purpose herein set forth.

81,739.—EDWIN BERKENSHAW, Ashuelot, N. H.—*Teasling Machine.*—September 1, 1868.—The gig slats have projections which slide and catch under hooks on the cylinder, to which a spring provided with a lip is secured under one end of the slats, catching and holding them in place. On pressing down the spring the slats slide out from the hooks and are detached.

Claim.—The spring D and hooks C C for holding or attaching the gig slats B, the teasling gig cylinder A, when constructed and arranged substantially as herein specified.

81,740.—ADOLPHUS F. BISHOP, JOHN H. AIKEN, Norwalk, Conn., and JOHN M. PENDLETON, New York, N. Y.—*Fiber and Gum Fabric.*—September 1, 1868.—A sheet of felt is saturated with rubber and contains a quantity of sulphur or litharge. It is then vulcanized and cut or molded into the required shape.

Claim.—The within-described compound of fiber and rubber cement, formed in the proper shapes, and vulcanized, as and for the purposes herein set forth.

81,741.—THOMAS H. BOMAR, Atlanta, Ga.—*Car Coupling.*—September 1, 1868.—The coupling link entering the draw-head slides on an incline plane and drops behind a shoulder and rests above an angular elevating link. A pivoted bar drops against the shoulder and prevents the link from unfastening. On raising the angular elevating link the block rises and the connecting link is released from the shoulder.

Claim.—1. The arrangement of the pivoted arm D, angular elevating link C, stops E E, inclined plane A, and pin B in the draw-head G, all constructed and used substantially as specified.

81,742.—C. W. BRIGGS, Springfield, Mass.—*Charcoal Furnace.*—September 1, 1868.

Claim.—1. A charcoal furnace, surrounded by the flange F, and having a smoke flue, C′, opening beneath the flange, and an air flue formed by the plate B, prolonged as described, for the purpose of delivering the air supply at a point near the line of the diameter of the furnace, substantially as specified.

2. In combination with the plate C, forming the smoke flue, the flanged vessel A, having the side G below the flange flattened, substantially as and for the purpose set forth.

81,743.—AMOS BROADNAX, Mont Clair, N. J.—*Apparatus for Rendering Lard, Tallow, &c.*—September 1, 1868.

Claim.—1. Rendering fat or other oleaginous matter by putting it in a rotating or tumbling chamber, combined in or with a stationary chamber, to which the heat can be applied and regulated, substantially in the manner described.

2. Rendering fat by putting it in a tumbling perforated chamber, out of which the fat and water can be drained as fast as the melting proceeds, and in which the scrap can be dried, when said perforated tumbling chamber is confined in a chamber which can be heated to the required temperature.

3. Combining a perforated rendering vessel, which can be rotated, and which is confined in a hot chamber, over or in connection with a pan, arranged to receive the fat and water set free in the process.

4. Constructing a covered furnace, with radiating flues, substantially as described, in the bottom of a chamber, and arranging in said chamber, and over said furnace, a rendering apparatus, substantially as set forth.

5. Combining in a chamber to which the heat can be applied, and the temperature regulated, substantially as described, an open rendering kettle, divided by a perforated partition plate in such manner as to form an upper and a lower chamber, making the lower chamber large enough to hold all the grease or oil which can be extracted from a full charge of fat in the upper chamber, leaving the scrap, after the process is completed, on the plate above the surface of the rendered fat.

6. Rendering fat by forcing hot air out of a chamber in which the temperature can be regulated into the digester, by means of a pump, substantially as described.

7. Rendering fat or other oleaginous matter by drawing a current of hot air into the digester, or upon the fat, out of a chamber in which the temperature can be regulated, by means of a partial or complete vacuum created in the digester through the agency of a condenser and pump, or in any of the well-known methods of creating a complete or partial vacuum, substantially as described.

8. Separating the offensive gases from the condense-water, and destroying the same by passing said condense-water, whether out of an open or surface condenser, through a heater combined or connected with the apparatus, by which the gas is driven out of the water, as it flows from the condenser, into the fire, or is otherwise disposed of, substantially in the manner described.

81,744.—AMOS BROADNAX, Mont Clair, N. J.—*Rendering and Refining Lards, Oils, &c.*—September 1, 1868.

Claim.—1. The use of a steam superheater, in combination with a steam boiler or generator, and a rendering digester or distiller, and in which the temperature can be regulated, for the purpose of rendering fat or distilling oil by superheated steam or air, substantially as described.

2. Rendering, refining, or distilling fat or other

oleaginous matter by steam or air, superheated in a separate superheater, on its way from the boiler or generator to the digester containing the fat or oil.

3. Superheating steam or air in a magazine or chamber, E, and carrying said steam or air over into the digester or distiller by a blast or current of steam or air, substantially as described.

81,745.—Charles Brown, Buffalo, N. Y., and David L. Miller, Madison, N. J.—*Baling Press.*—September 1, 1868.—Slots cut in the sides of the press-box, are covered by metal plates connected to and moving with the follower so as to prevent the escape of the hay when being pressed. One side of the box is also made movable, to facilitate the removal of the bale. The descent of the follower is regulated by friction brakes. A hinged partition is arranged in the press-box, so that two small bales may be pressed at one time.

Claim.—1. The arrangement of the covering plates J, connected to the follower, and moving therewith, substantially as herein described.

2. The arrangement of the removable side K of the part B of the press-box, suspended and moving upon the hinged bars K^1 K^1, substantially as and for the purpose set forth.

3. The combination and arrangement of the friction brakes I with the worm shaft G and worm wheels F F, and eccentric rock shaft H and its connections, substantially as described.

4. The hinged partition L, arranged in the part B of the press-box, as and for the purpose set forth.

81,746.—George C. Bunsen, Belleville, Ill.—*Door Holder.*—September 1, 1868.

Claim.—The combination and arrangement of the spring dog or lever H with the case F, for operating as a door or window holder, substantially as described.

81,747.—Henry Burton, Richview, Ill.—*Bee Hive.*—September 1, 1868.

Claim.—The hive B, suspended within, but not in contact with, the base A, upon legs B^1, which supports it above the bench, said parts being respectively constructed and arranged in relation to one another substantially as and for the purpose set forth.

81,748.—Alonzo B. Caldwell, Syracuse, N. Y., assignor to himself and Jacob Pinkerton, same place.—*Journal Box.*—September 1, 1868.—Hooks and shoulders, constituting part of the bronze metal frame, hold the cast-iron shell which is cast around the frame; the latter is provided with arms which have flanges across their ends which support the soft metal and prevent it from being crushed.

Claim.—1. The knobs or hooks *h h*, or their equivalents, as a part of the bronze metal frame B, substantially as and for the purposes described.

2. The flanges *f f f*, upon the ends of the arms *b b b*, when made and applied in the manner and for the purposes described.

3. The cast-iron shell A, when cast around the heads of the knobs or hooks *h h* upon the bronze-metal frame B, in the manner and for the purpose as above described.

4. The shoulders *s s* upon the bronze frame B, in combination with the knobs or nooks *h h* and holes *a a* in the cast-iron frame A, when used to hold more securely together and strengthen the bronze-metal and cast-iron portions of the box, in the manner described.

5. A journal box, composed of the bronze-metal portion B, when made with the flanges *f f* and shoulders *s s*, combined with the cast-iron frame A, made as aforesaid, with the soft metal portions *m m m* filled in, substantially in the manner and for the purposes described.

81,749.—James Calkins, New York, N. Y.—*Lamp.*—September 1, 1868.—The air space acts as a non-conductor and prevents the oil in the consuming chamber, which has been cooled by passing through the coil, from being heated.

Claim.—1. The divided chamber, consisting of the reservoir A and consumption chamber D, in combination with the duct or coil C, and water chamber B, arranged and operating substantially as and for the purposes set forth.

2. The intervening air space G, between the chambers A and D, as and for the purposes set forth.

81,750.—Dennis W. Carkhuff, Lambertville, N. J.—*Device for Operating Wagon Brakes.*—September 1, 1868.—A handle, which is secured to the pawl, extends upward and slides in a guard attached to the brake lever. It is used to release the pawl from the ratchet.

Claim.—A slotted lever, ratchet, pawl, spring, and guard, when made and applied in the form and manner, and for the purposes herein described and set forth.

81,751.—Joseph B. Cassel, Worcester Township, Pa.—*Lard Press and Sausage Stuffer.*—September 1, 1868.

Claim.—1. The vessel C, rendered detachable from the base A, having a detachable spout D, and adapted for the reception of a perforated casing E, and of plungers I or K, the whole being arranged and operating substantially as and for the purpose set forth.

2. The yoke G, hinged to the vessel C, and its spindle H and pinion *l*, for operating the plunger rod H′, as described.

3. The combination of the perforated casing E and a funnel-shaped ring, hinged to the casing, as and for the purpose set forth.

4. The plunger K, attached to the under side of the plunger I by a dove-tailed projection *r*, or equivalent fastening, for the purpose specified.

81,752.—B. F. Cauffman, Millerstown, Pa.—*Evaporator.*—September 1, 1868.—The dampers prevent burning when the substance in the boiler is nearly evaporated. A side furnace is provided for convenience in "sugaring off." The lids, which are raised or lowered by cords, are provided with steam pipes for carrying off the vapors. A car conveys the coal from the main grate to the side furnace.

Claim.—1. The furnace A, provided with double dampers *c c* and dampers *g e m*, in combination with a small side furnace D, boiler F, and pan H, and the lids K K, the several parts being constructed, arranged, and used as and for the purpose specified.

2. The arrangement of the track *d*, car E, and windlass *h*, with the grate of the larger furnace A, with the side furnace D, when operated and used as and for the purpose set forth.

81,753.—Charles Clark, Dayton, Ky.—*Rope-making Machine.*—September 1, 1868.—One bobbin is journaled in the frame, the others are journaled in a revolving frame with hollow journals. Each bobbin has a gravitating friction bar over which the strands pass. A triplet revolves within the frame and causes the proper twist of the strands.

Claim.—The arrangement of the hollow journaled revolving frame E, gravitating friction bars H H′, hangers G, eyes L, and orifices K, triplet W, and positively-rotated delivery rollers N N′, for the purpose set forth.

81,754.—Pindar F. Cooley, Pittsfield, Mass.—*Whip Hanger.*—September 1, 1868.—An annular rim provided with notches into which the ends of the whip fit is suspended by a rod to a swivel.

Claim.—1. The notch *n* with the upper curviform surface line *g*, substantially as and for the purpose set forth and described.

2. The rim A, constructed circular, square, oval, or any other form, provided with the notches *n n n*, as described, and the supporting rods *o o o*, or their equivalents, and all in combination with the swivel C, as and for the purpose set forth and described.

81,755.—Eliott H. Crane, Burr Oak, Mich.—*Compound for Embalming Dead Bodies.*—September 1, 1868.—Nux vomica, alum, chloride of sodium, muriate of ammonia, arsenic, chloride of mercury, camphor, and chloride of zinc, separately pulverized and mixed.

Claim.—1. The discovery, application, and use of an embalming and mummifying compound for the preservation of the dead, and for taxidermic purposes, as prepared, compounded, and applied substantially in the manner specified and described.

2. The application of this compound, in dry powder, to the mouth, throat, and other natural apertures of the subject, substantially as specified and described.

81,756.—Geert De Bretton, New Orleans, La., assignor to himself and Joshua E. Vose, same place.—*Traveling Trunk.*—September 1, 1868.—The front upper corner of the trunk is hinged to the next front corner of the trunk body, the lower rear corner being rounded to pass easily over the clothes below, its top, when open, forming a shelf. The space above is divided into compartments, an extra cover is over the whole, and a hasp and lock, with metallic straps on both sides of them, form the fastening.

Claim.—1. The combination of part D with the trunk body proper, when these parts are united, constructed, and arranged so as to be convertible into a system of shelves, substantially as herein described for the purpose set forth.

2. The above combination in combination with the extra cover A, when the several parts are united, constructed, and arranged for conjoint operation, substantially as described for the purpose set forth.

3. The hasp J and metallic straps C, when severally constructed as described, in combination with a trunk provided with a part D, and an extra cover A, substantially as herein described for the purpose set forth.

81,757.—Sylvenus G. Delano, Grand Blanc, Mich.—*Automatic Cradle.*—September 1, 1868.—The cradle is hung on a frame by journals attached to adjusting plates at each end, and is raised or lowered by means of screws through slots in the plates; another plate pivoted to the adjusting plate, by a fork, engages with a vibrating lever, and thus motion is given.

Claim.—1. The adjusting plates C, in connection with the cradle body A and frame B, substantially as herein described.

2. The pivoted plate E, in connection with the vibrating lever G, when attached and operating substantially as and for the purposes set forth.

3. The combination of the above named parts with any suitable clock movement, when arranged, constructed, and operating substantially as described, and for the purposes designated.

81,758.—W. H. De Valin, Sacramento, Cal.—*Wheel for Carriage.*—September 1, 1868.—The spokes formed of straps of wrought iron are bent and fastened at the center to the rim, diverging to each end of the elongated hub, where their ends are secured by bolts. If used for other vehicles than wheelbarrows, they are fastened to bearings formed between the two larger portions of the axle.

Claim.—1. Uniting the rim or tire to the hub or axle by means of a series of straps or flat bars of wrought iron, each bent at the middle, where it is attached to the rim, and having its diverging ends extending thence to the hub or axle, to which they are united in the manner set forth.

2. The combination, with the elongated hub, and the axle upon which it is mounted, of the rim or tire, and a series of wrought-iron straps or flat bars, for steadying and bracing the said rim, and for holding the same to the hub, the whole being arranged in the manner set forth.

81,759.—George Edmund Donisthorpe, Leeds, England.—*Coal Mining Apparatus.*—September 1, 1868; patented in England April 28, 1863.—Wheels on the top of the carriage are pressed against the roof of the mine according to its irregularities, they being acted upon directly or through levers on their axis, by compressed air in a cylinder with its piston, while it is moved along the floor.

Claim.—1. The combination, in mining machinery, of the traveling carriage that carries the mining mechanism, with a yielding pressure wheel, which, while pressing the said carriage upon its track and preventing its rise, permits it to be moved forward without relaxing the pressure, the combination being substantially as set forth.

2. The combination and arrangement of the said traveling carriage, that carries the mining mechanism, with an air cylinder, to apply the pressure required to hold the said carriage upon its track, substantially as above set forth.

81,760.—George Edmund Donisthorpe, Leeds, England.—*Coal Mining Apparatus.*—September 1, 1868; patented in England May 22, 1861.—A cutting tool bar is mounted on a carriage running on and guided by rails, its end having a handle by which it can be driven up to produce a groove to be successively deepened.

Claim.—The combining with a carriage (capable of being moved by mechanism slowly along the face of the coal or mineral) a cutting tool, which is so supported and guided that a reciprocating to-and-fro motion may be imparted to it by the power of the workman, substantially as herein described.

81,761.—Frank Douglas, Norwich, Conn.—*Machine for Turning Rods.*—September 1, 1868.—The knives which reduce the stick to a round rod are so arranged that one of them scores directly into the stick, and at the same time feeds it along to the cutter, while the others shave off the corners of the rod and round it to the proper size.

Claim.—1. The arrangement of the inclined cross-cutting knife e with the knives e' e'', in a tubular cutter head, when constructed and operating substantially as and for the purpose above described.

2. The guide F, when constructed with the openings m m, and the notches n n, and operating in connection with the lock o and the tubular cutter head, substantially as and for the purpose set forth.

3. The arrangement of the grooved rollers R R', at the rear end of the cutter spindle, substantially as described.

81,762.—Frederick Ernst, San Francisco, Cal.—*Revolving Furnace for Roasting Ores.*—September 1, 1868.—The heat of the stationary fire gate passes in an opposite direction to the course of the rotating hearth and the ore is discharged by scrapers, connected with endless chains, crosswise of the hearth.

Claim.—1. The hearth D, revolving between the inner and outer walls B C of the furnace, with the circular rack F and flange G, operating in the grooves of the rollers H H, substantially as described.

2. The discharging apparatus, operating transversely across the furnace, above the rotating hearth, and consisting of the scrapers N N, attached to the endless chain N', operated by the wheels, substantially as described.

3. The construction of the hearth D, with the circular flange E E, so as to retain the ore upon the surface of the hearth, and the stirrer M, or its equivalent, to turn the ore as the hearth revolves, the whole constructed and operated substantially as described.

4. The dampers U U', and sliding plate S, arranged to be operated substantially as and for the purposes described.

5. In revolving furnaces, carrying the ore in one direction on the hearth, while the heat, flame, and gases pass in an opposite direction, substantially as described.

81,763.—Nelson B. Fassett, Adrian, Mich., assignor to himself and William Humphrey, same place.—*Rotary Steam Engine.*—September 1, 1868.

Claim.—1. The two steam backers S and S', in combination with their respective radial pistons P and P', constructed and operating in the manner substantially as set forth and described.

2. The circular disks j and k, in combination with the radial wings a, b, c, and d, shaft T, and rings 1 and $1'$, constructed in the manner set forth and described.

3. The combination of the convex-faced bar f and concave-faced bar f', for packing against the concave case B' and rotary piston R respectively, in the manner set forth and described.

4. The combination of the slot-wheel L with the crank arm K, friction roller z, and stop wheel M, constructed in the manner set forth and described.

5. The steam channel m and m' or m'', in combination with rotary piston R and center piece G respectively, as set forth and described.

81,764.—Isaac Fisher, St. Louis, Mo.—*Vise.*—September 1, 1868.—An improvement on his patent of May 5, 1868. Steel facings are fastened by dovetailed recesses to the jaws, their ends projecting so as to allow soft-metal clamps to be combined with the jaws, rectangular corrugated faces and a triangular block pivoted to a removable block serving as a jaw.

Claim.—1. The combination of the steel facings *b b* with the jaws *a a* of a vise, and the soft-metal clamps *x x*, substantially as shown and described.

2. The combination of the rectangular facings *c c* with the vise jaws *a a*, by means of the removable blocks *d d*, Fig. 2, substantially in the manner and for the purpose herein set forth.

3. The arrangement of the pivot connection of the triangular block *j* with the removable block *d*, when the said blocks are combined with one of the jaws *a* of my improved vise, substantially as and for the purpose herein set forth.

81,765.—Elias T. Ford, Stillwater, N. Y.—*Potato Digger.*—September 1, 1868.—As the machine moves forward, the long vines having been cut off by the knives swiveled upon the axle, the dividers are forced under the hills so as to raise the dirt with the potatoes, and by means of the leaning shafts armed with teeth, discharge the mass to the rear, most of the dirt falling between the teeth.

Claim.—1. The dividers E E, with the tubes H H, shafts J J, armed with teeth Q Q Q, arch T, draft bars V V, in connection with lugs *r r*, braces L *e* L *e*, the shafts F F hinged to axle B, with tubes G G, the adjustment of the dividers E E varying the line of draft with pole section B *r*, the section *b b* hinged to centers *d d*, the position of the separating teeth Q Q Q Q underneath the dividers E E, and the open space W between, substantially as described.

2. The pole section B *r*, hinged to the lugs *r r* underneath, and in rear of the axle B, in combination with the dividers E E, the lugs *r r* to be adjustable, in the manner and for the purpose specified.

3. The vine cutter *o o*, with knives S S, plane or sickle edge, as hinged with swivel U underneath the pole sections B *r* substantially as and for the purpose specified.

81,766.—Alexander Cæsar Frederick Franklin, No. 4, Princes Square, Bayswater, England.—*Reciprocating Steam Engine.*—September 1, 1868.—By means of two stationary cylinders, one open in front and the other at the back, with pistons and cranks, the steam, while driving one piston, operates through the driving shaft and cranks to cause a return movement in the other.

Claim.—The improved engine, constructed substantially as described, that is, with each cylinder open at one end only to the atmosphere, and with the cranks of the driving shaft and the connecting rods of the pistons of such engines arranged to project from the shaft in the manner herein described.

81,767.—Williard M. Fuller, Chicago, Ill.—*Apparatus for Amalgamating Gold and Silver.*—September 1, 1868; antedated August 28, 1868.—The upper part of the case being turned and carried down near the bottom of the kettle forms a funnel-shaped inducton pipe with a shaft and deflector for distributing the gold-bearing substance through the agent, a valve being provided to regulate the flow, through the inlet. A steam jacket below the kettle has an induction and eduction pipe for the steam and water of condensation, the tailings being discharged by a pipe at the bottom of the case.

Claim.—1. Discharging the tailings of an amalgamator through a conduit or outlet, the mouth of which is immersed in liquid, so that it will close such conduit against the admission of air, and at the same time afford a free and uninterrupted passage for the tailings, substantially as specified.

2. The steam jacket D, in combination with the kettle or vessel C, and shell or case B, substantially as described.

3. The shell or case B, when provided with pipes E, L, and A, so that it can be operated interchangeably, either by water or by exhausting the air, substantially as specified.

4. Placing the kettle C within an air-tight case, B, so as to leave an annular space or flues between them, and connecting such space or flues with a discharge pipe, E, placed below, substantially as specified.

81,768.—William F. Gilbert, Derby, Conn.—*Carriage Shackle.*—September 1, 1868.—The coupling is formed by two large cheeks with a correspondingly large head upon the thill iron, through which latter and between the cheeks is a large detachable bearing secured in place by a bolt.

Claim.—The combination of the sleeve or bearing D, arranged between the cheek A and B, and secured by the bolt E with the head G of the thill iron, the whole constructed so as to be united substantially as herein set forth.

81,769.—Frank Glasser, Mystic Bridge, Conn.—*Drill.*—September 1, 1868.—The operating lever is fixed at one end to the bevel wheel, and connected at the other to a screw and handle, serving to extend it and increase, or as a crank to reduce its leverage on the wheel. It can also be used as a tread drill by means of ratchets and blocks, a wheel and shaft.

Claim.—The adjustable lever, attached to the drill stock, as described, and consisting of the pivoted handle G, screw E, and fixed arm D, all operating as set forth.

81,770.—E. A. Goodes, Philadelphia, Pa., assignor to himself, E. L. Miller, and W. H. Morford, same place.—*Flour Dredge.*—September 1, 1868.—The perforated distributer is made to slide within the body of the dredge, and thus is made adjustable at will.

Claim.—The flour dredge B C, so constructed that its perforations may be entirely closed, or a greater or less number be uncovered, substantially as shown and described, for the purpose set forth.

81,771.—William S. Graves, Oberlin, Ohio.—*Fence Post Driver.*—September 1, 1868.—By means of the segmental stay and transverse slotted rail, the position of the frame may be changed to bring it to a vertical line on uneven ground.

Claim.—The segmental stay D and slotted rail E, as arranged, in combination with the ways or guides *b* and frame C, for the purpose specified.

81,772.—William Green, Holley, Mich.—*Potato Digger and Separator.*—September 1, 1868; antedated August 28, 1868.—The shovel being brought into gear by lowering the sliding frame, enters the ground and takes up potatoes, dirt, and vines, which pass into the conveyor; the dirt is shaken out and the vines thrown off by means of an agitator and rollers.

Claim.—1. Simultaneously adjusting the plow, and putting the apparatus into or out of gear with its driving wheels, by means of the sliding frame E E′ and axle D, when operating together for that purpose, substantially as described.

2. The conveyer G, in combination with the shovel F, substantially as and for the purpose set forth.

3. The use of the two rollers H H′, for the purpose of detaching and separating the potatoes from the vines, substantially as described.

4. The combination of the conveyer G, cords I I, and rollers H H′, substantially as and for the purpose set forth.

81,773.—Canceled.

81,774.—Stinson Hagaman, Weissport, Pa.—*Machine for Polishing Wood.*—September 1, 1868.—Under the circular plane is a sliding shaft, operated by a treadle, having connected with it an adjustable sleeve to act as a gauge, and supporting a table with the slate, the sleeve resting against the thicker or thinner end of a slide above it, as the one or other side is to be planed.

Claim.—The loose sleeve *i*, set screw *j*, nut *k*, and slide *l*, in combination with the shaft E and treadle M, operating substantially as described, and for the purpose specified.

81,775.—Alexander Hamar, New York, N. Y.—*Making Iron.*—September 1, 1868.—Steam or hydrogen is carried around the furnace and into the stack and boshes at different heights by a main and branch pipes, with valves and tuyeres; the branch pipes project into the furnace beyond its inner wall to inject the hydrogen into the charge.

Claim.—1. The method, herein described, of introducing steam, superheated steam, or hydrogen into the boshes of a blast furnace above the ordinary blast tuyeres, for the purpose set forth.

2. The method, herein described, of introducing steam, superheated steam, or hydrogen into the stack of a blast furnace, for the purpose set forth.

3. The method, herein described, of producing iron, suitable for conversion into steel, by the use of anthracite and a hot blast, in combination with the introduction of hydrogen or superheated steam into the furnace at different elevations.

4. The combination, substantially as set forth, with a blast furnace of tuyeres, arranged at different levels in the boshes and stack, for the purpose set forth.

5. The combination, substantially as set forth, with the furnace, of the jet pipes intruding into the interior of the boshes and stack, as and for the purpose set forth.

81,776.—S. M. HAMILTON, Baltimore, Md.—*Planing Machine.*—September 1, 1868.—The guide surrounds the mandrel and is adjusted by a set screw. It is made to move up and down by means of a lever so as to determine the relative bearing of the material to the cutters.

Claim.—The vertically-moving guide H, constructed and arranged substantially in the manner and for the purpose shown and described.

81,777.—WILLIAM E. HAMLIN, Jr., Providence, R. I.—*Heel Plate for Boots and Shoes.*—September 1, 1868.

Claim.—The improved heel plate for boots and shoes, consisting of a plate made in two parts, A and B, constructed and fitted to each other so as to accommodate heels of different sizes in the way substantially as described.

81,778.—DEXTER D. HARDY, Cincinnati, Ohio, assignor to THOMAS H. FOULDS, same place.—*Submerged Rotary Pump.*—September 1, 1868.—Two pistons with radial flanges interlocking as they rotate, are journaled in the heads of a case, in each end of which is a recess with a packing block, adjustable by screws, and curved to suit the outside of the pistons, the water, admitted by holes in the side, being carried between the pistons up into a recess connected with the outlet pipe.

Claim.—A pump, consisting of the case F, with the pistons G inclosed therein, connected by the pipe C with the hydrant B, and operated by the rod H, all substantially as described.

81,779.—JOHN HARDY, 2d, Andover, and BYRON B. FLOYD, Lawrence, Mass.—*Locking Latch.*—September 1, 1868.—Designed for application to a stove door to prevent it from being opened, except by those employed to attend it.

Claim.—A latch, provided with the eccentric button F, when arranged within the space *h*, as illustrated, and operated either by removable key or retained knob J, substantially in the manner and for the purposes specified.

81,780.—EDWARD HARRISON, New Haven, Conn.—*Grinding Mill.*—September 1, 1868.—An improvement on his patent of June 5, 1854. The husk for the runner casing, and also for the bed-stone, with their parts connected are each cast in one piece, the hopper having conical studs underneath fitted closely in the sockets and a rocker arranged to vibrate and conduct the grain.

Claim.—1. The husk or runner case A, constructed in one and the same piece, with discharge spout B, frame C, connections D, bearings E and F, sockets H H, substantially as set forth.

2. Fitting hopper N into sockets H in the manner described, when said sockets are a part of one of the husks of the mill.

3. The rocker P, pivoted to the husk, and so as to be operated by an eccentric or cam, S, on the pulley or shaft, substantially as and for the purpose specified.

4. A double-faced stone, provided on its edge with a central flange, L, when the surfaces of the said flange bear the relative position to the face of the stone as described, so as to be set and adjusted to present either face of the stone, in the same relative position to the grinding surface of the other stone, substantially as and for the purpose specified.

5. In combination with the subject-matter of the above fourth clause, the runner plate or bed-stone husk, constructed so as to receive the stone, substantially as and for the purpose specified.

81,781.—B. R. HAWLEY, Normal, Ill.—*Tubular Air Heater.*—September 1, 1868.—The perforations in the diaphragm or rear portion of the top plate of the fire box allow the flames to pass through to ignite the soot and smoke at that point.

Claim.—The diaphragm B^3, when perforated at b^2, and otherwise arranged, as herein shown and described.

81,782.—WILLIAM H. HERBERT, Blissfield, Mich.—*Miter Box.*—September 1, 1868.—Two slotted quadrants are connnected with the frame provided with ears at each end for the rod on which the guards, quadrants, and attachments oscillate, saw guides, with flanges on the guards, being adjustable by screws, and an oscillating bar also being arranged for the material to rest on.

Claim.—1. The oscillating bar R, when constructed and operating substantially as and for the purposes herein set forth.

2. An adjustable miter box, consisting of the two quadrants D and L, frame C, set screws G, M, and P, the rod J, guards K, saw guides N, and oscillating bar R, when arranged and operating substantially as herein described.

81,783.—J. W. HODGES, Plymouth, Ill., assignor to himself and A. W. KING.—*Device for Binding Loads of Hay upon Wagons.*—September 1, 1868.—The binder works up and down on the posts by means of pawls catching into teeth on the posts, and is forced down upon the hay by a forked lever embracing one of the posts and catching into its teeth, its fulcrum also catching into a notch in the binder, which, when down, is held fast by catches or pins.

Claim.—The combination of the two upright rack bars B B, the horizontal beam C, its pawls *g g*, with the lever D, its fulcrum *h*, with the rack A, all constructed and operating as herein set forth.

81,784.—WILLIAM M. IRVINE and ALFRED H. MOSES, Montgomery, Ala.—*Ventilator for Hat.*—September 1, 1868.—Screws pass through slots in the band, which may thus be adjusted or partly removed to suit heads of various sizes, a space for ventilation being left in front and behind between the hat and band.

Claim.—1. A band or ring so constructed and arranged on the inside of a hat that it may be adjusted to different-sized heads, substantially as described.

2. The band A, constructed in either one or more parts, and furnished with tubes *e* and *a*, slots C, and tube E, all arranged in the manner and for the purposes set forth.

81,785.—F. JACOBY, St. Louis, Mo.—*Apparatus for Extracting Wort and Similar Liquids.*—September 1, 1868.

Claim.—1. The application of a partial vacuum in the sub-compartment of a mash tub, to cause the wort to accumulate more quickly, and to cause its extraction more thoroughly out of the mash, substantially as set forth.

2. The combination of the pump E, its connecting pipe D, with the concentrating head C, and the drain pipes B and mash tub A, substantially as and for the purpose set forth.

81,786.—ALBERT W. JOHNSON, New York, N. Y.—*Whip Holder.*—September 1, 1868.—The end of the whip is placed in the socket, which being pressed the shaft is drawn down through the case, turning by a pin that acts in the spiral slots of the sleeves, thus opening the jaws to admit the whip. The pressure being stopped, the jaws are acted on by the spring to close about and hold it.

Claim.—1. A holder for whips, &c., composed of jaws B, in combination with a rest, M, or their respective equivalents, connected together so as to be operated and to operate substantially in the manner described.

2. The jaws B, sleeves E F, center shaft G, spring O, and rest M, when all constructed and arranged together for operation substantially as described.

81,787.—JESSE F. JOHNSON, Monrovia, Ind.—*Harness Maker's Clamp.*—September 1, 1868.—Adjustable notched guide plates are fitted on the inside of the jaws so as to admit of the strap being drawn through without letting the filling drop. The holding bar is composed of two horizontal bars connected by arms, and is actuated by a lever to keep the strap in place as it is drawn through the jaws.

Claim.—1. The guide plates C attached to the jaws A A′, substantially as and for the purpose set forth.

2. The holding bar E, lever G H *e*, and elastic strap I, arranged substantially as and for the purpose set forth.

3. The channeling tool L, constructed and applied substantially as set forth.

81,788.—WILLIAM A. JORDAN, New Orleans, La.—*Harness.*—September 1, 1868.—The end of a rope enters the socket and is held by a knot in the yarn.

Claim.—A metallic connecting termination or tip, for certain parts of harness, as herein indicated, when the same consists of the self-fastening annular tapering socket clamp, A, and a projecting loop, B, and is otherwise constructed substantially as herein described, for the purpose set forth.

81,789.—WILLIAM C. KELLUM, San Francisco, Cal.—*Escapement.*—September 1, 1868.—A crown-wheel escapement, operated with two rollers on the balance staff, gives the balance an impulse in each direction as it vibrates, and by means of a double-headed screw, in connection with the detent lever, each tooth of the escape wheel is locked twice at each double vibration of the balance. The detent lever is so placed as to lock by gravitation or a spring.

Claim.—1. The escape wheel C, having escape teeth either on the side or rim, and the notched impulse rollers D and D′ above and below, constructed and operating substantially as and for the purpose herein described.

2. The detent lever F, with the adjustable double-headed screw *c c′* or its equivalent, locking each tooth of the escape wheel twice at each revolution, either by spring or gravitation, substantially as herein described.

3. The point *d* on the arm G, and the point *e* on the roller D, for unlocking, substantially as herein described.

81,790.—GEORGE KING and LYNDHURST T. SHOPE, Frederick City, Md.—*Seeding Machine.*—September 1, 1868.

Claim.—Hinging the lower section of the seed spouts P V to the tubes or spouts R M, as and for the purpose specified.

81,791.—WATSON KING, Springfield, Ill.—*Hay Rake.*—September 1, 1868.—The axle as it revolves is kept in place by an adjustable lever and collar, and the teeth being free, the rake can be backed without raising it, the teeth being caused to turn up, so that the curved part slides on the ground, while by revolving the axle and throwing back the teeth, it may be cleared and the hay dumped.

Claim.—1. The rotating of the axle A by means of the gearing C, B, and D, herein described, whether spur or beveled, as applied to hay rakes.

2. The lever B C, as shown in Fig. 2, as applied to hay rakes.

3. The collar F, in combination with the geared lever B and C, as herein arranged and described.

4. The tooth, as constructed in Fig. 4, in combination with the adjustable brace L and nut M.

5. The adjustable brace L, as herein arranged and described

81,792.—CHARLES H. KNOWLTON, Camden, N. J., assignor to FURBUSH & GAGE, Philadelphia, Pa.—*Cam for Operating Shuttle Box.*—September 1, 1868.—The cams operating with the respective ratchets and pawls of the vibrating arm, in connection with the drop box, which has different compartments, serve to continually change the compartments as they are alternately acted upon, one pawl being in operation while the others are disengaged.

Claim.—1. In a drop-box loom, the within-described system of ratchet wheels and cams, adapted to each other, carried by one spindle, and arranged to be operated and to operate substantially as and for the purpose herein set forth.

2. The friction clamps T, in combination with the cams which operate the drop boxes of looms.

81,793.—BALTHASAR KREISCHER, New York, N. Y.—*Burning Kiln.*—September 1, 1868.—The gases and products of combustion pass off through the doorways or double walls and openings connected with the lower flue, a top flue connecting the space between them by means of tubes for carrying off the vapor of the green material, there being a double arch for heating the air on its way to the fireplace, and returning it. A bottom flue also communicates with the kilns and smoke stacks, to prevent the loss of heat and drawing up of moisture in the kiln.

Claim.—1. The arrangement of passages E F, controlled by dampers *m*, substantially as herein described, for carrying off the gases and products of combustion through the doorways C of the kilns, and openings *e f d*, controlled by dampers *g* and *j*, communicating with an adjoining kiln or lower flue, D, as required.

2. The top flues F F, in combination with the hollow doorways C and connecting tubes or passages E, essentially as herein described.

3. The double arch G to the kilns, in combination with the openings or tubes H and chamber or passages *p*, made in the side walls of the whole structure or fire end of either kiln, and connecting with the grate or fireplace, as herein set forth.

4. The bottom flue D, arranged below the floor of the kilns, and transversely to them, in combination with branches running to or from each kiln, in direction of the length thereof, and connecting, by suitable openings, the kilns at their ends or doorways C with either smokestack, and controlled by suitable dampers, substantially as and for the purposes specified.

81,794.—STEPHEN R. KROM, New York, N. Y.—*Machine for Separating Ores.*—September 1, 1868; antedated August 5, 1868.—As each projection on the trip wheel comes in contact with the pin the lever is thrown back and the bellows carried down. The pin being passed, the rubber spring connecting the lever with another fixed pin carries back the lever and bellows, repeating the operation for every tooth on the wheel.

Claim.—1. Introducing the material upon the bed I in a thin stratum, close to the surface of the bed, substantially in the manner and for the purpose herein set forth.

2. Traversing the material across the perforated bed I transversely to the length of the machine, that is to say, extending the bed I longitudinally of the length of the framework A, and causing the material to traverse across its narrowest dimensions, substantially as and for the purpose herein set forth.

3. The roller L, arranged and operating, as represented, relatively to the discharge passage J, for the purposes herein set forth.

4. The trip wheel C and lever F G, or their respective equivalents, arranged relatively to the bellows D and to the perforated bed I and its connections, as and for the purposes herein set forth.

5. In combination with the perforated bed I, and with means for introducing and removing the material as specified, mounting the bellows D on a rocking shaft, S, and operating it by an adjustable, vibrating motion, substantially as and for the purposes herein specified.

6. The gates N and K, so arranged as to allow the separate or simultaneous changes in the thickness and velocity of the strata on the ore bed I, substantially as and for the purposes herein set forth.

7. In combination, the ore bed I, with its feeding

and discharging devices, the adjustable, oscillating bellows D, the trip wheel C and its connections, and the means H H^1 H^2, or their equivalents, for varying the rate of discharge through the passage J, all arranged for joint operation, substantially as and for the purposes herein set forth.

8. The within-described arrangement of the operating parts C F and their connections, at the end of the main framework A, so that they may operate by a direct connection through the rocking shaft S, with the bellows D, and that the closed end of the frame A shall form one entire side of an inclosing case, to protect the working mechanism, all as and for the purposes herein set forth.

81,795.—CARL KUPFER, Madison, Wis., assignor to himself and KUND J. FLEISCHER, same place.—*Plane for Cutting Blind Slats.*—September 1, 1868.—The edges of the bit cut the bottom and sides of a slat at one stroke across the stick, leaving a straight edge to guide the plane in cutting the next slats.

Claim.—1. The bit A, when constructed with sharpened upper and lower edges 1 and 2, leaving two lips, 3 and 4, said lips to be at right angles with the upper and lower cutting edges, substantially as and for the purpose set forth.

2. The combination of the bit A, as described and claimed, with the plane stock, for the use and purposes specified.

81,796.—BENJAMIN LADD, Ottumwa, Iowa.—*Horseshoe.*—September 1, 1868.—The clips are on the shoe outside the hoof, and are turned up and fastened after the shoe has been fitted on and the spurs driven into the hoof.

Claim.—1. Making the inside face of the clip, where it joins the top face of the shoe, in a line with or even with the outer edge of said top face, substantially as described.

2. In combination with clips arranged as above claimed, one or more spurs on the top of the shoe, substantially as described.

3. The shoe, as above described, provided with nail holes, as a means of fastening it on, if the clips, or some of them, get broken off.

81,797.—GEORGE T. LAPE, Summit, N. Y.—*Construction of Arches, Tunnels, &c.*—September 1, 1868.

Claim.—1. The construction of sections or voussoirs with horizontal, dovetailed tongues and grooves along their abutting ends, substantially as and for the purpose specified.

2. In combination with said dovetailed tongues and grooves, constructing said voussoirs or sections with rebates along their abutting sides, so that they will lap over each other at their joints or points of contact.

3. The construction of sewers, aqueducts, and arches for bridges, culverts, tunnels, &c., by combining and abutting or securing to each other a series of sections or voussoirs, substantially as and for the purposes herein set forth.

81,798.—H. S. LESHER, Galesburg, Ill.—*Animal Trap.*—September 1, 1868.—The hinged platform, on which the animal ascends for the bait, tilts and closes the entrance, being held by a hooked rod, which, with the tilting plate, on which he next steps, is connected with a spring, restoring both to their places, and preventing escape.

Claim.—1. The tilting platform *g*, so arranged in combination with the trigger *i* and spring *m* that when the animal presses the platform down it is retained in position to prevent its escape.

2. The hinged plate R, so arranged in combination with spring *m*, trigger *i*, and tilting platform *g*, that when the animal seeks escape over the plate R, the tilting platform will be liberated, thus allowing it to fall to its original position.

81,799.—J. B. LEWIS and J. E. UDALL, Concord, Ill.—*Sulky Plow.*—September 1, 1868.—The eccentrics, fastened to the flanges on the ends of the axle, have wrist pins, on which the traction wheels revolve, and thus the axle is raised or lowered, together with the plow beam, by the compound lever entering notches in the quadrant.

Claim.—1. The flanges G, eccentrics I, wrist pins J, and pins L, when constructed, arranged and operating substantially as herein described, and for the purposes set forth.

2. The compound lever M, when constructed, arranged, and operating substantially as herein described, for the purpose specified.

3. The combination and arrangement of the above-named parts with the frame A, axle B, bolt H, seat C, traction wheels K, plow beam D, plow E, and quadrant N, substantially as and for the purposes specified.

81,800.—THOMAS E. LEWIS, Pennville, Ind.—*Wagon Bodies.*—September 1, 1868.—The bed pieces are hinged at their inner edges, and straps fastened to the under side, so that they can be folded and lapped, the ends or gates being held by a rod inserted in eyes.

Claim.—A wagon body constructed and operating substantially in the manner described.

81,801.—LORENZO LOVEJOY, Malden, Mass.—*Well Tube.*—September 1, 1868.—Short perforated, curved, arched, or pointed tubes, arranged in the main tube, are filled with some soluble substance to prevent the entrance of clay, &c., as the main tube is forced downward, and, on pouring in hot water, the substance is melted and the water freely passes into the main tube.

Claim.—The combination, with a well tube, of a series of curved or bent perforated tubes, when constructed, applied, and operating substantially as and for the purpose set forth.

81,802.—ALBERT LYMAN, Troy, N. Y.—*Reservoir for Cooking Stove.*—September 1, 1868.—The upper edge of the reservoir has a shoulder with a vertical flange, on which respectively slides, either way, the upper or under cover.

Claim.—A metallic reservoir, constructed in the manner described, in combination with sliding covers, all arranged and for the purposes substantially as set forth.

81,803.—DONALD D. MACKAY, Whitestone, N. Y.—*Flooring Clamp.*—September 1, 1868.—The levers are set astride of a sleeper, at a proper distance from the board, against which rests the pusher block; the pointed studs are made to bite into the sleeper, and the levers being pressed forward, force up the board, which is further tightened by means of the toggle brace, and another lever then throws up the center of the toggle, casts off the ring, and spreads apart the lever, thus effecting the release.

Claim.—1. The levers A, pivoted together as at *a*, and furnished at their lower ends with adjustable fulcrum stems *c*, having spurs *c'*, substantially as shown and described, for the purpose specified.

2. The combination of the tripping lever *m* with with the pusher block B, the toggle brace *g* g^x, and the levers A, substantially as and for the purpose specified.

3. The arrangement of the pivots *e* of the pusher block, the slots *d* in the levers A, and the springs *f*, substantially as and for the purpose herein set forth.

4. The arrangement of the ring *b*, at the upper ends of the levers A, carrying the pusher block B and toggle brace *g* g^x, substantially as and for the purpose specified.

81,804.—WILLIAM R. MALONE, Mason, W. Va.—*Check Valve for Pumps.*—September 1, 1868.—The slightly conical valve is prolonged into an irregular taper, with side openings into the bore, the valve stem, with jamb nuts to regulate the lift, working freely in the square end of the bore.

Claim.—The valve seat for check valves provided with the conical form from A to B, and the taper prolongation provided with the opening in the side and with the square termination of the bore D, in combination with the stem and valve, constructed and arranged substantially as and for the purpose specified.

81,805.—THOMAS D. McCALL and SAMUEL BUSHNELL, Walton, N. Y.—*Hinge.*—September 1, 1868.—A roller or cylinder of the same length as the door is fixed to the latter by recessed jointed clasp hinges around it, similar hinges being attached to the jamb, so that the door may open either way.

Claim.—The clasp hinges *s s* and *n n*, with their joints, *a*, and the revolving cylinder *e*, with its grooves *g g*, when constructed, combined, and arranged in the manner and to operate substantially as described.

81,806.—THEODORE J. McGOWAN, Cincinnati, Ohio.—*Pump.*—September 1, 1868.—An improvement on his patent of May 26, 1863. The "vacuum chambers" are cast or formed on the valve chest, instead of being cast in one piece with the chambers or pockets, as in the first device.

Claim.—The "vacuum" chambers *b b′*, when cast or otherwise formed upon the valve chest, substantially as herein described, for the purpose specified.

81,807.—D. McNEELY and C. J. CADY, Spurgeon, Ind.—*Cultivator.*—September 1, 1868.—The rear plow standard is fixed to the draught beam, and the forward standards to the cross-beam supported thereby, the wheel having its bearings below in plates pressing against the beam, and supporting the shaft in their ears, the parts being strengthened by braces. A detachable rake is also fastened behind and to the rear standard.

Claim.—1. The combination of the draft beam A with plates J J, slots and set screws *s s′*, and wheel D, substantially as described.

2. The arrangement of the beam A, handles B B, wheel D, plows E E E, standards C C^1 C^2, cross-beam L, braces K *o o′ o″*, and attachable and detachable rake F, substantially as shown and described.

81,808.—JAMES D. MEADOR, Independence, Mo.—*Moth Fly Trap for Bee Hives.*—September 1, 1868.—A metallic floor has tongues cut in it, which are bent downward to form openings between their lower ends and the plane of the floor, below which is a compartment with a glass or illuminated floor. While the bee enters the hive by the covered passage above, the moth descends the inclined tongues and is imprisoned in the cell below.

Claim.—1. The tongued floor B, in combination with an illuminating floor D, all arranged and employed as herein described and set forth.

2. The several parts A *a*, B *b*, D, and the covered way *c*, when constructed and combined as herein shown and described.

81,809.—MARTIN METCALF, Grand Rapids, Mich.—*Hot Air Furnace.*—September 1, 1868.—Cold air is carried up by passages between the outer case and the inner box, into the pipes below the flange, and in contact with and through the drum into the chamber above.

Claim.—1. The pipes R, or their equivalents, when arranged with a drum D, and extending downward as described, and for the purpose specified.

2. The combination of a case, A, provided with passages *x* and a box, B, provided with a projecting flange, *f*, and slots *x*, with the pipes R and the drum D, when constructed and arranged substantially as and for the purpose herein set forth.

81,810.—JOHN L. MIDDLETON, Zanesville, Ohio.—*Churn.*—September 1, 1868.

Claim.—The churn A, having an opening, G^1, constructed as described, in combination with the metallic lid G, locking bar H, screw *g*, and handle, knob, or button, g^1, substantially as and for the purpose set forth.

81,811.—WARREN P. MILLER, New York, N. Y.—*Saw.*—September 1, 1868.—A square shoulder is formed on the tooth, abutting against a rest on the saw plate above the recess that receives its shank, so that a shortened tooth may have its point turned down, its shoulder filed, and on being turned back its point will be projected to the cutting line.

Claim.—1. The shoulder *d*, on tooth *b*, and rest *c*, on saw plate A, when constructed and arranged to operate in the manner and for the purpose substantially as described.

2. A detachable saw tooth, in which is combined a circular shank adapted to a circular recess in the saw plate, and having shoulder *d*, adapted to abut against rest *c*, on the saw plate, as described.

81,812.—WARREN P. MILLER, New York, N. Y.—*Saw.*—September 1, 1868.

Claim.—A saw, with the teeth *c c* in pairs on base *e*, having parallel sides, and deep spaces, *d*, between the pairs of teeth, constructed and arranged to operate in the manner and for the purpose described.

81,813.—GEORGE MOTTER, Jr., Henry, Ill.—*Sliding Gate.*—September 1, 1868.—The gate is supported on a roller at its forward end and near its rear end by rollers placed respectively above and below the supporting rail, so as to sustain the gate when wholly opened.

Claim.—1. The gate constructed with the triangular brace at its rear end, and having the rollers *d d* applied so as to bear upon opposite sides of the rail *a′*, and being held thereon by the projections *e*, in combination with the posts A and A′ with the roller C, all arranged to operate substantially as herein set forth.

2. The stationary hooks F and G, constructed and applied as shown and described.

81,814.—JULIUS NUELLENS, Torquay, and MATTHIAS NEUHAUS, London, England.—*Wine Cooler.*—September 1, 1868; patented in England, May 29, 1868.—A tilting case is provided with an elastic diaphragm having a hole in its center through which the neck of a bottle passes, so as to allow the bottle to be tipped without taking it from the cooler.

Claim.—1. Constructing or providing portable coolers or cooling apparatus with a water-tight cover, substantially in the manner and for the purpose herein described and shown.

2. The combination, within the case *a*, of the series of divisions *c*, forming apartments and otherwise supporting the ring *b*, substantially as and for the purpose described.

3. The elastic diaphragm *g*, with central opening, *h*, and overlapping edges, in combination with the plate *i*, and suitable fastening devices on said plate and the case *a*, substantially as and for the purpose described.

81,815.—ALFRED PARAF, New York, N. Y.—*Water-proof Cloth.*—September 1, 1868.—The water-proof mixture consists of benzole, powdered gramamite, wheat flower, and India-rubber, with which linseed oil is to be used when applied.

Claim.—1. As a new article of manufacture, the water-proof mixture, compounded and prepared substantially as before set forth.

2. The manufacture of water-proof fabrics, by applying the water-proof mixture before described upon textile fabrics, substantially in the manner before set forth.

81,816.—WALTER PECK, Rockford, Ill., assignor to WILLIAM JOBES, SETH H. HILLS, and AMELIA C. PECK, same place.—*Windmill.*—September 1, 1868.—A series of devices by which the fans are automatically feathered or adjusted at a varied angle to the direction of the wind, and the speed thus regulated.

Claim.—1. A bounding piece, arranged to operate for controlling the speed of a windmill, substantially as described.

2. The combination of a bounding piece, for controlling the speed of a windmill, with a weighted extensible lever, substantially in the manner described.

3. The collar *m*, when supported by the shaft *n*, and held by the ratchet and pawl *n′*, and operated by pulley and cord, or band, and when in combination with the weighted lever K, all as and for the purpose set forth.

4. The ratchet on arm *q*, in combination with its spring pawl, when the pawl moves in guides, and is held by the drop catch *s*, substantially as and for the purpose set forth.

5. In combination with the latch, connected as described, the sliding piece *t*, with its pin *t′*, moved and operated substantially as and for the purpose set forth.

81,817.—ANDREW J. POST, Hudson City, N. J.—*Bridge.*—September 1, 1868.—The strut is received in a hollow in the lower part of the flanged casting, through which also pass the braces fastened on top by nuts, the flanges fitting in the timbers which bear against their edges and the sides of the casting. The base of the strut rests on a casting through which, with the braces, it is secured by a cross-bolt.

Claim.—The castings M *m* fitted in the top chord, as specified, and extending up to the upper surface thereof, having inclined surfaces forming fair bearings for the nuts on the diagonal ties, and recesses at the base adapted to receive the round ends of the struts B, all constructed, combined, and arranged substantially as and for the purposes herein set forth.

81,818.—JOHN REINIG, Fond Du Lac, Wis.—*Eaves Trough.*—September 1, 1868.

Claim.—The construction of a hanger, for the purpose described, when constructed of one piece of metal, bent in such form as to conform to the shape of the eaves trough, and provided with bolt and nut G, substantially as herein described and set forth.

81,819.—EDWIN O. ROOD, Lodi, Ill.—*Mechanical Movement.*—September 1, 1868.—A vibrating lever is attached to a rock shaft between two rings, provided with teeth, those of one ring being opposite the spaces between the teeth on the opposite ring, so as to act when the rings are rotated alternately on the vibrating lever, and impart a reciprocating movement to a cutter bar or other device.

Claim.—The vibrating lever or bar H, or its equivalent, applied to a rock shaft, F, in the manner described, and employed in conjunction with two circular series of teeth or projections *e*, substantialy as and for the purpose set forth.

81,820.—JOHN ROOT, Cass County, Mich.—*Farm Gate.*—September 1, 1868.—When the gate is opened half way it will nearly balance and may be swung round, the post and wheel turning with it. The gate is elevated by the action of the eccentric wheel when being opened.

Claim.—In combination with the sliding gate B, the eccentric wheel H and revolving post E, all arranged and operating in the manner and for the purpose set forth.

81,821.—ALEXANDER S. ROWLEY, Hudson, N. Y.—*Sewing Machine.*—September 1, 1868.—The loopers arranged under the table are operated by cams at each end of parallel bars, and catch or release the thread as the needles ascend or descend; in case of straw, &c., an endless apron takes it from the spike cylinder and carries it to the table, fingers acting both as feeders and pressers extending over the aprons, and also regulating the length of the stitch.

Claim.—1. The combination and arrangement of the two cams C C′, the rods *c d e*, and series of hooks *b b b*, &c., substantially as and for the purpose set forth.

2. The combination and arrangement of the angular box or hopper E, the spiked, toothed, or corrugated cylinder F, endless apron D, and holding and feeding fingers *s s s*, &c., substantially as and for the purpose herein set forth.

3. In combination with the above, a sewing mechanism substantially as and for the purpose described.

81,822.—SAMUEL RUE, Jr., Paoli, assignor to himself, SAMUEL MCCAMBRIDGE, and EDWARD G. MARTIN, Philadelphia, Pa.—*Injector for Steam Generator.*—September 1, 1868.—Valves and valve-seats are formed on the ends of an intermediate pipe, between the steam and feed pipes, at one end, and the supply or discharge pipe, which leads to the boiler, at the other end, and on the ends of hollow plugs, which are combined with the steam and discharge pipes.

Claim.—1. The arrangement of the adjustable intermediate pipe H with the plugs D and D′, when said parts are provided with the valves L and L′, and the valve seats *a* and *a′*, substantially in the manner hereinbefore described.

2. The arrangement of the adjustable pipe H, being smaller at its receiving end than the front end of the steam pipe, whereby to increase the pressure upon the water through the former, substantially as specified.

3. The diminished bore of the pipe H, for effecting a greater pressure at its receiving than at its discharging end, whereby to resist the check of the check valve, between the injector and the boiler, substantially as described.

4. The combination of the air and water chamber K, with the injector, opposite the feed pipe, whereby to facilitate the supply of water to the injector at the commencing of its flow, substantially as described.

81,823.—THOMAS STANDRING, Fort Richmond, N. Y.—*Belting.*—September 1, 1868; antedated July 6, 1868.

Claim.—As a new article of manufacture, the belting, consisting of the solid sheet of steel *a′* clamped between the leather parts *a e*, by the central rivets R, and prevented from loosening by being cemented to such parts, as herein shown and described.

81,824.—SIGMUND RUTSCHMAN, Philadelphia, Pa.—*Meat-chopping Machine.*—September 1, 1868.—The locking pins through the sliding boxes and flanges prevent the cross-head from turning, until desired, when they are withdrawn, a quarter turn given, and the pins are then reinserted.

Claim.—The combination, with the cross-head and sliding boxes of a meat-chopping machine, of flanges *a a*, permanently secured to the cross-head, and of the pins *f f*, inserted through the said flanges and the sliding boxes, substantially as and for the purpose herein specified.

81,825.—ALBERT H. SAUNDERS, Nashua, N. H.—*Reel.*—September 1, 1868.—The chambered plates in the hub connected with the radial arms being arrested by the stops, are brought, by means of the spring, to right angles with each other, so that the reel can be introduced into different sized skeins, and proper tension secured.

Claim.—1. The reel, made with the hub in two parts, *a′ b′*, connected by a spring, as described, and having a pair of arms extending from each of the said parts *a′ b′*.

2. The reel, as made with the self-adjusting radial arms, and with the hub formed in two parts, *a′ b′*, connected by a spring, and having a pair of such arms extended from each of the parts *a′ b′*, as specified.

81,826.—BENJAMIN SAUNDERS, Nashua, N H., assignor to himself and ALBERT H. SAUNDERS.—*Warp Dresser.*—September 1, 1868.—The lower shaft in revolving causes the brushes and cranks to act on the warps, while they are counterbalanced by weights applied to the pulleys making one side the heavier.

Claim.—In a dresser frame, the combination of the counterbalance with the brush frame, its operative cranks and pulleys, as described.

81,827.—CHARLES C. SAVERY, Philadelphia, Pa.—*Water Cooler and Refrigerator.*—September 1, 1868.

Claim.—The combination and arrangement of the enameled ice and water tank C C C P and its lid, L, with the enameled air chamber C″ C″, and its door D, constructed substantially as herein specified.

81,828.—GEORGE W. SEYMOUR, Whitney's Point, N. Y.—*Carriage Wheel.*—September 1, 1868.—The hub is formed of two movable rings to support the axle box with its key. The rings are set apart so as to brace the spokes, and may be compressed or loosened, by means of a nut and screw, to regulate their tension.

Claim.—The combination and arrangement of the stationary key D with the wheel turning the axle box E, adjustable thimble nut F, and movable rings B B, all being constructed substantially as herein described and represented, for the purpose set forth.

81,829.—JEREMIAH SHERMAN, New Oxford, Pa.—*Animal Trap.*—September 1, 1868.—The gates as the animal from the bridgeway strikes their inner portions, are turned on their pivots and cause the animal to drop into the cage, which is closed by their return, the side, shield, and overlapping boards being arranged to prevent his escape.

Claim.—The combination of the bridgeways *m* in the side boards *b*, the inclined side boards *c*, and overlapping boards *h*, with the passage A*, pivoted gates C, and cage A, all arranged substantially as shown and described.

81,830.—WINSLOW SHERMAN, New York, and JACOB RUSSELL, Brooklyn, assignors to JACOB RUSSELL, HENRY T. MCCOUN, JAMES L. ROMER, and THOMAS T. BUCKLEY, Brooklyn, N. Y.—*Feeding Nail Plate.*—September 1, 1868.—An improvement on patent No. 63,655, April 9, 1867.—The feed plate may be adjusted and swung one side without being detached; the oscillating bed which carries the cutter, with the adjusting lever and springs operating automatically, secures uniformity in the sizes of the heads and blanks, the nail plate being held or set loose by means of a spring clamp.

Claim.—1. The arrangement of the feed plate or frame A, bars B, socket pins *a a*, or their equivalents, and the frame of the machine, in the manner so as to admit of the feed plate being swung to one side and out of the way of the machine without detaching it therefrom, substantially as specified.

2. The combination, with the frame of the machine and the feed plate or frame A, of the bar or bars B, removable socket pins *a a*, and horizontally and vertically adjustable brackets C C, all for operation together and in connection with adjusting screws, or their equivalents, to facilitate the adjustment of the feed plate or frame in various directions, and to admit of its being swung to one side or back, essentially as herein set forth.

3. The combination, with the feed plate or frame A, and horizontally oscillating bed G, of the nail-plate-adjusting levers R R, stops *s s′*, and springs *m m′*, operating automatically to insure uniformity in the sizes of the heads to the cut blanks, substantially as specified.

4. The combination, with the bed plate or frame A and cutters S S′, of the spring clamp T and pin X on the cross-rocking beam H, operating to hold the nail plate during the intermissions to its feed, and to relax hold thereof while being fed, essentially as specified.

81,831.—H. N. SCHULTZ, Sabillasville, Md.—*Flour Bolt.*—September 1, 1868.—The cams of the wheel strike on the upper beveled end of the lever which is fastened below by a pin, ride over it and let its lower end drop with a shock proportioned to the height of the lift, thus jamming the bolt.

Claim.—The combination of the cam wheel B upon the end of the flour bolt, with the lever C and adjustable stop *m*, operating as described, whereby, as the bolt rotates forward, the stop holds the lever firmly in place, and as it rotates backward it allows the lever to swing out of the way, substantially as described, for the purpose specified.

81,832.—A. B. SMITH, Rochester, Pa.—*Harvester.*—September 1, 1868.—The objects are to dispense with weighty appliances, give increased freedom to the motions of the cutting apparatus in passing over an uneven surface and adapt the shoe to override such objects as may oppose themselves during either a forward or backward movement of the machine.

Claim.—1. The construction of the drag bar of two light bars, D D, connected by bolts *a b c*, which also serve as pivot connections respectively with the frame A, "false shoe" E and shoe T, substantially as and for the purpose herein specified.

2. Pivoting the drag bar to the shoe T, forward of the finger bar G, the forward end of the shoe being adjustable in height by the screw *f* or its equivalent, while the rear end has a free sliding movement on the "false shoe" E, under the keeper *w*, substantially as herein set forth.

3. The "false shoe" E, constructed and arranged as set forth, in combination with the drag bar D D, shoe T, and the finger bar G, substantially as and for the purpose herein specified.

4. The spring *u*, in combination with the lever R, vibratory arm S, sliding pinion *l*, and the clutch wheels *m n*, or their equivalents, substantially as and for the purpose herein specified.

5. The spring *u* applied to the coupling bar, substantially as and for the purpose specified.

81,833.—A. B. SMITH, Rochester, Pa.—*Endless Platform for Churn-Power.*—September 1, 1868.—The cross-steps of the platform are braced and held in the same plane, under downward pressure, the object being to prevent sagging.

Claim.—The metallic braces or cleats C C, applied to the endless platform, substantially as and for the purpose specified.

81,834.—J. HUNT SMITH, Norwich, Conn., WILLIAM SHEDLOCK, and ALFRED SHEDLOCK, New York, N. Y.—*Braid.*—September 1, 1868

Claim.—The new and improved manufacture herein described of a triradiate braid, or braid composed of three radial members, united to each other by interlocking or interbraiding the threads of the different members with each other, substantially as herein described.

81,835.—THOMAS W. F. SMITTEN, Brooklyn, N. Y.—*Breast-Pin Fastening.*—September 1, 1868.—The bridle or guard allows the tongue to work freely upon its pivot, but in the event of the latter breaking, the guard holds the pivotal end of the tongue in place and thus maintains the security of the catch.

Claim.—A guard or bridle, embracing the tongue near the joint, in combination with the body and tongue, substantially as described, whereby the breast-pin or brooch is securely held, and prevented from being lost by the wearer, should the rivet pin of the joint come out.

81,836.—JACOB SOUTHWICK, Brant, N. Y.—*Fence*—September 1, 1868.

Claim.—A portable board fence, when constructed as described, the fence posts A A being formed of two pieces, locked together near the top, and spreading at the bottom, and the panels each consisting of boards B B, confined together by strips C C, and hung on the fence posts A A, the whole being secured by pins *a a* and stakes E E, substantially as herein set forth.

81,837.—E. H. STEARNS, Erie, Pa.—*Head Block.*—September 1, 1868.—The knees are automatically retracted, after the log has been sawed, by means of springs which are wound up in the act of moving the knees forward, or setting the log to the saw. The stops and adjustable segment bars limit the backward movement of the knees according to the size of the log, and the stops serve as buffers to avoid jars. Provision is made for moving the dogs out of the way, when liberated from the sawed log.

Claim.—1. In head blocks for saw mills, the employment of springs, so applied that when the knees are released from the setting mechanism, the springs will automatically bring back the knees to the required position for the next advancing movement, substantially as set forth.

2. The segment bars L, constructed, arranged, and applied in the manner shown, or in any equivalent way, for the purpose of limiting the backward movement of the knees, as set forth.

3. The elastic stops P upon the knees of the head-block, in combination with the segment bars L, substantially as described, for the purpose specified.

4. The flanges T, for the purpose of carrying and adjusting the dogs, when disengaged from the log or remnant thereof, substantially as described.

81,838.—BENJAMIN STEPHENS, Wheeling, W. Va.—*Composition for Roofing.*—September 1, 1868; antedated April 3, 1868.—The slag is obtained from the boiling furnaces of rolling mills.

Claim.—The compound of coal tar and pulverized slag, as and for the purpose described.

81,839.—LUTHER STREETER, Chicopee, Mass., assignor to himself and RANSOM SHEPARD, same place.—*Garden Hoe.*—September 1, 1868.—The forked shank is designed to afford means of attachment, and also to retain the original curve of the blade.

Claim.—In combination with the blade A D of a field hoe, which is more or less curved in the direction of its length, the forked shank terminating in a single socket or tang for the handle, and applied to the blade, as set forth, the whole constructed and arranged substantially as described.

81,840.—JAMES W. SUTTON, Detroit, Mich.—*Water Heater for Steam Generator.*—September 1, 1868.

Claim.—1. The air space within the jacket G, when connected with the annular air space F, and operating substantially as and for the purposes herein set forth.

2. The combination of the above-named parts with the boiler A, water pipes L, check valves M, three-way cocks N, stationary connections O, and escape pipe P, when arranged, constructed, and operating substantially as and for the purposes herein specified.

81,841.—THOMAS TAYLOR, Washington, D. C.—*Machine for Cleaning Feathers.*—September 1, 1868.—The inner cylinder has two compartments, the upper for live steam, the lower one for condensed steam. By contact with the deflectors the condensed portion of the entering steam is separated from the effective steam and caused to drop into the water receptacle. The outer cylinder contains the feathers, the perforated one diffuses the steam, and the central cylinder serves as an axis upon which the others revolve. When the steam is to be cut off the motion of the cylinders is reversed and a cam thereby made to act to close the valve.

Claim.—1. The combination of cylinder A B C D, supported and revolving on the center cylinder S S, in the manner substantially described and set forth.

2. The cylinder S S, constructed as set forth, being of two compartments, and operating with the valves *x x*, in the manner described.

3. The mode of keeping the valves open by the spring U, in connection with the cam or cams *t t*, operating substantially as described and set forth.

4. The deflecting tubes *i* H, *i* H, for the purposes substantially described and set forth, and as combined with the portions T T.

5. The mode of shutting the valves *x x*, Fig. 1, by the backward motion of the cylinder A B C D, as substantially described and set forth.

81,842.—J. W. THOMPSON, Bureau Junction, Ill.—*Churn.*—September 1, 1868.—The lever being vibrated the segment and belt are actuated, and the dasher is consequently moved up and down as well as right and left.

Claim.—1. The combination of the lever E, segment F, belt H, vertical dasher staff B, upright beaters J J, and horizontal beaters K K, when constructed and arranged to operate in the manner and for the purposes set forth.

2. The ventilators *c c*, substantially as and for the purposes set forth.

81,843.—JOHN TINGLEY, Philadelphia, Pa., assignor to himself and SAMUEL L. DAVIS, Camden, N. J.—*Tightening Band for Vessels.*—September 1, 1868.—A metal band is fastened to the outside of the vessel, near the upper edge, by pins passing through slots, one end of the band being secured to a plate, and connected with a screw rod and nut on the opposite end, by which means it is contracted or set free, as required.

Claim.—1. The plate G, of a shape to fit the side of the vessel, having a projection, *f*, and secured to one end of a band, a screw rod at the other end of which passes through the projection *f*, as and for the purpose described.

2. The said band, with screw rod at one end and projection at the other, in combination with a handled nut, E, arranged to conform, or nearly conform, to the shape of the vessel to which the band is applied, as set forth.

3. The slots *m* in the band D, for the purpose specified.

81,444.—CHARLES TÖLLNER, Pulaski, N. Y.—*Smoking Pipe.*—September 1, 1868.

Claim.—A smoking pipe or bowl, consisting of clay, which, in the process of manufacture, is successively baked, saturated with unctious matter, and carbonized, substantially in the manner and for the purpose herein set forth.

81,845.—JOHN TURNER, Norwich, Conn.—*Machine for Covering Cord.*—September 1, 1868; antedated August 25, 1868.—The covering bobbins are arranged, each with its axis coinciding with that of the twisting spindle and its yarn bobbins, their centrifugal force being thus reduced, while an increased velocity being given them, a more perfect winding round the strand is effected with fewer of them.

Claim.—The covering bobbin F, arranged and operating in combination with the twisting spindle C and yarn bobbin D, substantially as shown and described.

81,846.—OLIVER VANORMAN, Ripon, Wis.—*Spring Seat for Vehicles.*—September 1, 1868.

Claim.—1. The arrangement of the detachable seat, consisting of the elevated levers or bars B B, with hooks and eyes C C, or equivalent devices, to the parallel bars D D, substantially as described.

2. The arrangement of rubber springs E E, fastened near the lower ends and on the under sides of the elevated seat bars B B, which rest upon the parallel bars or levers D D.

81,847.—JAMES VARLEY, Hudson City, N. J.—*Wash Boiler.*—September 1. 1868.—The telescopic joint in the central tube provides for the removal of the cover and regulates the ventilation of the perforated upper chamber, and the distribution of the water in the boiler, while the perforated false bottom, held fast by the lips when the steam is on, can be readily removed.

Claim.—1. The central jointed tube C, perforated upper chamber D, and false bottom B, in combination with each other, and with a wash boiler, substantially as herein described.

2. The telescopic or sliding joint *a*, in combination with the central jointed tube C, for adjustment of the upper chamber D, or removal of the cover, substantially as herein set forth.

3. The combination of the lips *p p* and notches *e e*, for locking in place the false bottom of the wash boiler, substantially as specified.

81,848.—FELIX WALKER, Memphis, Tenn.—*Sash Fastening.*—September 1, 1868.

Claim.—The eccentric duplex balance wheels *a a*, pivoted to the sash upon the same pivot, in combination with the curved keeper *e*, constructed and operating as described, for the purpose specified.

81,849.—EDWIN WANT, New Haven, Conn., assignor to himself and J. E. SPENCER, same place.—*Eye Glass.*—September 1, 1868.—An improvement on his patent of January 15, 1867. The spring has over it a plate for the purpose of strengthening it at the point of attachment.

Claim.—In combination with the bows of eye glasses, constructed and arranged upon their spring E, substantially in the manner described, the application of plates H H, at the point of attachment of the bows, to the spring E, in the manner and for the purpose specified.

81,850.—GARDNER WARREN, Boston, assignor to WILLIAM M. BYRNES, Charlestown. Mass.—*Sliding Sash.*—September 1, 1868.—A metallic spring of the same length of the sash, and formed with a flange and curved portion, is secured to the frame, the side of the sash fitting in the curved portion, so that the sash will be held in any desired elevated position.

Claim.—The metallic spring D with the flange *a*, when constructed and applied substantially as described, and for the purposes set forth.

81,851.—ALEXANDER WATT, Wandsworth, England.—*Bleaching Soap.*—September 1, 1868.

Claim.—A soap, containing a soluble chloride or hypochlorite, mixed and compounded with a previously made soap in a melted state, in the manner herein described.

81,852.—William Weeks, Albany, N. Y.—*Die for Stamping Wooden Boxes.*—September 1, 1868.—The block in the upper part of the die being pressed down upon the punch forms the inside of the box, while the rabbet on top of the sleeve also forms a rabbet on the box top, and a blow on the ends of the rods forces up the sleeve and the finished box to the top of the die.

Claim.—The combination of sleeve D, rods E, punch B, and collar C with a die, A, and plunger G, constructed substantially as and for the purposes herein shown and described.

81,853.—Francis Herbert Wenham, London, England, assignor to Andrew Shanks.—*Hot Air Engine.*—September 1, 1868.—The stroke of the piston in one direction is produced by heated air from the furnace, while in the other direction the piston is impelled by the expansion of the compressed air above the same. Perforations in the outer portion of a fire-clay disk placed over the furnace admit jets of flame at every stroke of the piston.

Claim.—1. The cylinder *a*, constructed as herein set forth, whereby a portion of air admitted into the cylinder is retained and compressed above the piston at each upward stroke of the same, substantially as set forth.

2. The arrangement of the furnace *g*, with the hopper *i* and grate *h*, constructed with reference to the cylinder *a*, substantially as herein set forth.

3. The fire-clay disk *o*, constructed and fitted in the furnace, substantially as and for the purposes set forth.

81,854.—Alonzo Whitcomb, Worcester, Mass.—*Planing Machine.*—September 1, 1868.—The cross head by a single movement of the handle is clamped to the uprights by means of levers operated through a handle, slide, and roller.

Claim.—The combination of the uprights B, cross head C, and the pivoted levers D, arranged to operate substantially as described, for the purpose of readily adjusting the cross head of a planer, and securing the same in position.

81,855.—John Willard, Norwich, Conn.—*Box Opener.*—September 1, 1868.—Attached to the chisel point is a hollow stock, within which plays a loaded plunger, which, being driven against the base of the socket, serves as a hammer.

Claim.—The combination of the chisel point A, the tubular handle B, and the weighted rod C, constructed and arranged to operate substantially as set forth, as an article of manufacture.

81,856.—E. R. Williams, Rochester, N. Y.—*Fruit Jar.*—September 1, 1868.—The stopper, grooved on one side and inclined on the other, is packed into the jar by means of an elastic strap which hooks over lugs, one on the stopper, and the other on the jar.

Claim.—The construction of the stopper B, with a groove, *a*, extending part way around, and graduating into an incline, *b*, when employed in connection with the elastic band *i*, in the manner and for the purpose specified.

81,857.—W. B. Winton, Marion, Iowa.—*Hand Plow.*—September 1, 1868.—The plow beam, pivoted at the point of connection of the handles, has secured to it a curved serrated plate working in another plate in rear of the wheel, and may thus be raised or lowered at pleasure.

Claim.—The curved serrated spring-metal bar or plate D, in combination with the pivoted plow beam C, substantially as and for the purpose set forth.

81,858.—John Worden, Normal, Ill.—*Lubricator for Axles.*—September 1, 1868.—The oil is carried from the tank to the end of the axle, (through a groove,) and by means of a perforated skein flows to the bearing part, its weight, when at rest, closing the holes, and checking the flow.

Claim.—The circumferential reservoir C, connected with the perforated skein B and the axle A, with its longitudinal groove *x*, to operate substantially as specified.

81,859.—Edward S. Wright, New York, N. Y., assignor to Samuel Leggett, same place.—*Cutter Head.*—September 1, 1868.—The wedges are inserted in a slot in the head which carries the knives, the central one having at its inner end a projection entering a recess, as a guide to keep it in place, and also projections on its sides passing into slots on the inner ones, a screw through the outside of the head likewise entering a recess in the outer end of the central wedge to adjust them all.

Claim.—The construction of the wedges B, B^1, and B^2, as described, that is, with the elongated slots *c* or recesses in the inner surfaces of the outer ones, and the projections *b* upon the outer surfaces of the inner one, for the purpose of guiding said wedges in their movements, and also for preventing them from falling out of the cutter head when the center one is driven back for the purpose of releasing the knives

81,860.—John A. Burnap, Albany, N. Y.—*Pulley.*—September 1, 1868.—One or two sets of rollers form the anti-friction journal for the pulley. When two sets are employed a flange separates the two series and serves as a guide or an end wall to the chambers in which the rollers are confined.

Claim.—1. The pulley and block, having the friction rollers constructed and arranged so as to be self-guiding, in the manner as described.

2. The combination of the pulley A, pulley block B, and two sets of cylindrical rollers *c c c c* and c' c' *c* c' and flange F, all constructed and used as shown and described.

3. The arrangement, in the eye of the pulley B, of two or more sets of cylindrical rollers, constructed and kept in position by means shown and described.

81,861.—L. J. Adams and J. H. Esale, Avon, Ill.—*Grain Moistener.*—September 8, 1868.—The steam is forced through a perforated plate or shield and is thrown in jets into wheat as it falls from a chute. A drip pipe is placed just beneath the perforated shield and carries off the condensed steam.

Claim.—The combination of the steam pipe or pipes F, perforated shield G, and drip pipe or pipes H, with the hopper A, substantially as herein shown and described, and for the purposes set forth.

81,862.—Alfred Arnemann, Guttenberg, Iowa.—*Safety Attachment for Pockets of Apparel.*—September 8, 1868.—A spring catch attached to a pocket-book prevents its being opened while in the pocket, and a wire clasp fastens it to the article of wearing apparel.

Claim.—A pocket-book protector, consisting of the wire clasp A, and of the plate B, spring *c*, hook *d*, and knob *f*, all arranged and operating substantially as herein shown and described.

81,863.—E. H. Ashcroft, Boston, Mass.—*Steam Safety Valve.*—September 8, 1868.—A cylindrical jacket envelopes a spiral spring, the upper end of which jacket is fastened to a cross head, and the lower end slides over a projection on top of the valve.

Claim.—The arrangement of the projecting jacket *d* with the cross head C, with reference to the valve and spring, substantially as herein shown and described.

81,864.—George Ashworth and Elijah Ashworth, Manchester, Great Britain.—*Portfolio.*—Patented in England, March 15, 1867.—September 8, 1868.—Bands of leather or caoutchouc are attached to the inner edges of the sides of the portfolio at each end, and can be detached on one or both sides. Wire staples or binders are fastened in the sheets and through which the bands of leather or caoutchouc are passed and then fastened to the side of the portfolio.

Claim.—The spring clips or fasteners *d*, constructed and applied to a portfolio substantially as described, in combination with a band or bands, *c*, of leather or other suitable material, and which are adapted to staples or binders secured to the sheets to be bound, substantially as specified.

81,865.—John Ashworth, North Andover, Mass., assignor to George L. Davis, John A. Wiley, and Joseph M. Stone, same place.—*Oper-*

ating Shuttle Boxes in Looms.—September 8, 1868.—A lever is connected by a link to a standard, upon which latter the shuttle boxes are mounted, and is operated by two cams in such a manner as to raise or lower the standard upon which the series of shuttle boxes is placed, so that any one of the boxes may be brought to the race from any position at every pick. The cams are actuated by a pawl and ratchet connected by rods with levers placed in contact with a revolving pattern chain.

Claim.—1. The combination of the lever E with the two cam wheels H and I, arranged with and acting on said lever, at different points in its length, substantially as and for the purpose set forth.

2. The combination of the lever E, the cam H, and its hook rod or rods for operating the same, and the cam I and its hook rod or rods for operating the same, with the vibrating pawl or driver N, and the levers P and the pattern chain, and their accessories, for controlling the movements of the shuttle boxes, substantially as described.

81,866.—VINCENT M. BAKER, Preston, Minn.—*Water Wheel.*—September 8, 1868.—The chutes are arranged so as to throw the water against the radial buckets at right angles, and the amount of water is regulated by means of gates attached to an annular ring, which is turned by a pinion engaging with a rack on its periphery.

Claim.—The chutes i^x, in combination with the sliding gates G, operated through the medium of the ring H and gearing *k l*, all arranged substantially as and for the purpose set forth.

81,867.—GRANT O. BALDWIN, Hillsborough, Ohio.—*Still.*—September 8, 1868.—Steam is forced through fruit placed in a copper still and is condensed in a hollow cone placed above the still, over which a stream of cold water passes, and from which the condensed steam is conducted.

Claim.—The slide D and condenser E, constructed as described, when used in combination with the boiler B and steam pipe C, substantially as and for the purposes herein set forth.

81,868.—W. G. BARETTE, Canton, Md.—*Apparatus for Rectifying Spirits.*—September 8, 1868.—A vertical cylinder divided into several compartments is placed above the still. One of the compartments is used as a refrigerator for condensing the oils in the other compartments and which are again returned to the still. A pipe conveys the surplus water from the refrigerator to the still. The first portions of the vapors are condensed and carried to a receiver placed on the side of the cylinder; from there they are conveyed to the still again for redistillation.

Claim.—1. The combination, with the still A, of the cylinder B, provided with the condensing chambers D and E, refrigerator F, and pipes H and I, substantially as and for the purpose described.

2. The arrangement of the supply pipe G, discharge pipes K and M, the air tube L, and refrigerator F, substantially as and for the purpose described.

3. The receiver O, provided with a pipe, P, communicating with the still, for returning the light wines, substantially as and for the purpose described.

4. The combination, with the cylinder B, of the stop-cock R, tubes S, and worm T, substantially as and for the purpose set forth.

81,869.—WILLIAM H. BARNES, New London, Conn.—*Coffee Mill.*—September 8, 1868.—A coiled spring is placed around the arbor of the rotating grinding plate, and exerts its tension against the plane face of the shell and the eye of the crank, which latter is held against the spring by a nut working on a screw thread on the end of the arbor.

Claim.—The combination and arrangement of the coiled spring *a* with the arbor of the runner C, shell D, and nut *b*, all operating substantially as shown and described, and for the purpose set forth.

81,870.—B. B. BOLLINGER, Louisville, Ohio.—*Register for Knitting Machine.*—September 8, 1868.—The periphery of the pattern wheel is provided with notches corresponding in distance from each other to agree with the changes required to be made in the knitted fabric, and receives motion from a pawl connected to some intermittingly moving part of the knitting machine; the periphery of the said notched wheel causes a hammer to strike a bell as each notch passes a given projection on the arm of the bell hammer.

Claim.—1. The knitting-machine register, composed of a pattern wheel, E, a spring hammer, F, and an alarm bell, substantially as and for the purpose described.

2. In registers for knitting machines, the combination of the alarm bell, hammer, and mechanism for moving the pattern wheel, substantially as herein described.

81,871.—ROBERT KIRK BOYLE, New York, N. Y., assignor to himself and GIUSEPPE TAGLIABUE, same place.—*Printing Telegraph Instrument.*—September 8, 1868.

Claim.—1. Arranging a pair of electro-magnets on each side of two horseshoe magnets which are fastened to an oscillating shaft, substantially as herein shown and described, so that one pole of each horseshoe shall be attracted by but one electro-magnet, for the purpose specified.

2. The application of the adjustable springs *d d'* to the stationary part of the apparatus, said springs aiding to repel the horseshoe magnet, and to adjust the same in the center of forces, substantially as herein shown and described.

3. The insulated sleeve *f*, attached to the horseshoe magnet, in combination with the slotted pillar *g*, and with the wires of the local magnet, all made and operating so that when the oscillations of the horseshoe magnet will cease, the connection of the wire of the local magnet will be completed, substantially as and for the purpose herein shown and described.

4. Connecting the local magnet F, by means of an escapement lever, *j*, with the friction wheel H, substantially as and for the purpose herein shown and described.

5. The lever I, when connected with the sleeve *m*, in combination with the friction wheel H and spring *p*, all made and operating substantially as herein shown and described.

6. The device herein shown and described for locking the bar *n* into the toothed disk L, by the action of the horseshoe and subsequently of the local magnet, said device consisting of the sleeve *m*, lever I, spring *p*, and friction wheel H, the latter having upright pins *l*, and all made and operating substantially as and for the purpose herein shown and described.

7. Connecting the friction wheel H with the escapement levers *j* and M, all made and operating substantially as and for the purpose herein shown and described.

8. Connecting the sleeve *m*, which is operated by the action of the local magnet F, with the sleeve *t*, which is moved by the action of the horseshoe magnets E E', substantially as herein shown and described.

9. The device herein shown and described for winding up the hair spring *x*, by which the sleeve *t* is turned, said device consisting of the cam *u*, arm *w*, forked bar *v*, arm *c'* ratchet wheel *y*, and block or pin *b'*, all made and operating substantially as herein shown and described.

10. Combining the horseshoe magnet and the local magnet in such a manner with the type-wheel shaft that, by the action of the horseshoe magnet, it receives the required motion, while by the action of the local magnet, it is instantaneously stopped in the desired position, substantially as herein shown and described.

11. The arm N, when secured to and projecting from the shaft J, in combination with the arm *n*, which projects from the revolving and sliding sleeve *m*, and which, by being locked in the stationary disk L, also locks the shaft J, substantially as and for the purpose herein shown and described.

12. The type wheel O, when provided with a pin, *h'*, in combination with the turning cam P, sleeve *i'*, on shaft R, pin *j'* on sleeve *i'*, arm T, and spring *m'*, all made as described, and operating in combination

with each other, substantially in the manner set forth.

13. The sliding sleeve *i'*, which is moved when the type wheel shaft is stopped, and which is combined with the pin S, having the arms M, T, and U, and operating the printing cushion V, substantially as and for the purpose herein shown and described.

14. The feed rollers *p' p'*, when receiving motion from the friction wheel H, and when combined with the support *l'* U, and with the printing cushion V, all made and operating substantially as and for the purpose herein shown and described.

15. The printing cushion V, when pivoted to an upright pin, and when operated by a spring, *o'*, which is secured to one of the arms of the pin S, substantially as herein shown and described, so that it will be forced with sufficient power against the edge of the type wheel, and will still be yielding, as set forth.

81,872.—C. W. Brewer, Racine, Wis.—*Piano Hammer.*—September 8, 1868.—A soft rubber tube or volute is inserted in the felt portion of the ordinary hammer head, so as to produce a clear rounded note instead of a prolonged ringing or bell note.

Claim.—A piano hammer, constructed substantially as and for the purpose set forth.

81,873.—Hiram M. Britton, Cincinnati, Ohio, assignor to himself and Joel F. Richardson, same place.—*Railroad Car Heater.*—September 8, 1868; antedated March 9, 1868.—The heating apparatus is placed in a car separate from that of the passengers, the air being conveyed from said heating apparatus to the entire train by means of fans, pipes, and flexible tubes under control of the conductor.

Claim.—The relative arrangement within the car A of the hot-air chamber G, having double metallic walls C E, the furnace D *d d*, the induction pipes H, conducting pipes I I' M N, and fan J, substantially as and for the purpose set forth.

81,874.—Henry L. Brown, Mansfield Center, Conn.—*Silk Winding Machinery.*—September 8, 1868.—One of the spools revolves on a spindle attached to the frame of the machine. The other turns on a spindle fastened to a vibrating arm so that the relative parallel position of the spools shall successively change into a diverging position, first in one direction and then in the opposite, thus keeping the silk to be wound from kinking or breaking.

Claim.—The arrangement of the spools *c c'*, arms *d*, and connecting rod *e*, in a silk-winding machine, so as to produce an automatic vibratory change motion of one spool, relatively to the other, substantially as described.

81,875.—Joseph K. Bull, Buckingham, Iowa.—*Grain Binder.*—September 8, 1868.—The movable platform is hinged to the rear end of the cross bars pivoted to the frame of the machine. A rope connects the lower end of the movable platform with a crank attached to the reel shaft driving the rake. A box for receiving the bound grain is pivoted to standards, and held in position by a pin inserted in a catch plate attached to the box.

Claim.—1. The movable platform B, hinged or pivoted bars C, and cord or chain D, in combination with the frame A, substantially as herein shown and described, and for the purposes set forth.

2. The combination of the seat E, box or trough G, and pivoted box I, with each other, and with the movable platform B and frame A, substantially as herein shown and described, and for the purpose set forth.

81,876.—J. H. Butts, Stroudsburg, Pa.—*Medical Compound.*—September 8, 1868.—Designed to cure rheumatism, gout, and kindred diseases. For rheumatism, smartweed and hops in boiling water are used. For gout, alum and white-oak bark are added.

Claim.—The compound above described, composed and operating substantially as and for the purposes herein set forth.

81,877.—W. F. Chrisman, Trenton, Tenn.—*Pessary.*—September 8, 1868.—An elastic cylindrical air vessel, having concave heads, the concavity of which is retained by means of an axial conical tube, the whole being composed of a layer of India-rubber interposed between textile materials.

Claim.—A pessary, of the form, construction, and method of operation substantially as shown and described.

81,878.—Gilbert H. Clemens and Everett Clemens, New York, N. Y.—*Steam Safety Valve.*—September 8, 1868; antedated August 28, 1868.—Below the valve seat is a safety valve which is pressed upward by levers capable of adjustment, having their fulcra on a plate attached to the valve seat; the short ends of said levers engaging with the bottom of the valve stem and the other ends being weighted. A chamber is formed below the valve seat for the escape of steam.

Claim.—1. The arrangement of the enclosed chamber *f*, with reference to the valve within such chamber, the levers *h h*, and weight *k*, below the same, substantially as set forth.

2. The arrangement of the levers *h h*, radially, whereby their shorter ends act directly upon the valve stem, and their longer ends sustain the weight, substantially as set forth.

81,879.—Alfred H. Comp, Mount Joy, Pa.—*Plane.*—September 8, 1868.—A dovetailed plate is inserted flush with the wood in the face of a plane, before the mouth. A screw operates a slide in the dovetailed plate to regulate the width of the mouth.

Claim.—The beveled sliding plate A and beveled grooved plate B B, with their screw bearings, when constructed to operate in the manner and for the purpose specified.

81,880.—James L. Cox, Manchester, N. H.—*Bed Lounge.*—September 8, 1868.—The back of the lounge is hinged to a right-angled piece of iron and has a ratchet attached to its lower end. The head of the lounge is adjustable and is held in position by a ratchet.

Claim.—The ratchet *b* and lock *x*, in combination with the hinge *a*, operating back A, arm A' with ratchet *m*, arm C with ratchet *h* and joint D, the several devices operating, relatively to each other, as described and for the purposes specified.

81,881.—Matthew Cridge, Allegheny City, Pa.—*Hot-bed Sash and Frame.*—September 8, 1868.—Sliding sash bars are grooved to receive the glass, and tongued to slide in grooves in the sash frame. A following bar is slotted and secured by screws in the slots.

Claim.—1. In a hot-bed sash, the sliding rails or bars *b*, constructed and used substantially as and for the purposes hereinbefore set forth.

2. A slotted following sash bar or rail *f*, which forms one side of the sash frame, and which holds the other sash bars and the glass securely in position, substantially as above described.

81,882.—Hugh Davidson, New Salem, Ill.—*Wagon Brake.*—September 8, 1868.—An arrangement of devices by which the brake is automatically adjusted to all positions of the wagon.

Claim.—The arrangement, herein shown and described, of the brake bar S, slotted plate P, U-shaped levers O H, connection N, rod K formed with an eye at its rear end, bolt G, arms E, slotted plate D formed with hooks, slotted strap F, rod C having a hook at each end, and sliding sleeve A, all constructed as described, and arranged with relation to the reach Q, king bolt M, and pole B, to operate as set forth.

81,883.—Matt. J. Dawkins, Brookston, Ind.—*Construction of Wagon and Carriage Wheels.*—September 8, 1868.—A thimble has cams on one end and fits inside of the hub. The thimble being revolved, the cams force the spokes, which rest against them, into tapering sockets and radially against the tire, dispensing with the shrinking of the tire.

Claim.—1. Setting or adjusting the wheel, with the spokes inserted therein, to the tire, by means of cams cast on to a thimble, said cams being located within the hub, and their faces bearing against the spokes, substantially as described and set forth.

2. The hub, made of three parts, viz, the back part,

with the main box cast in one piece, the front part, and the thimble, with the cams cast thereon.

3. The step-shaped form on the lower part of the spoke, which rests against the cams.

4. In combination with the foregoing, the tapering sockets in the centrally divided hub, substantially as described.

81,884.—Louis Adolphe De Milly, Paris, France.—*Manufacture of Solid Fatty Acids.*—September 8, 1868.

Claim.—1. Complete saponification, by means of sulphuric acid, in the space of three minutes or less, substantially as and for the purpose set forth.

2. Saponifying by means of sulphuric acid, without distillation, of the fatty acids, and without the usual deposit of carbonaceous, insoluble, tarry matter, which accompanies the existing mode of using sulphuric acid, as described in the specification.

3. The use of water and white of egg for giving the brilliant whiteness to the candle stuff, substantially in the manner and for the purpose set forth.

4. The due mixture of the palm and animal fat, substantially as described, for giving the crystalline structure found in this compound.

5. While I do not claim the use of pressure to separate liquid and solid fats treated with the sulphuric acid, I do claim treating this material with the succession of hot and cold pressure, substantially in the manner and for the purpose described.

81,885.—Edward Ellingen, Mineral Point, Wis.—*Coffin.*—September 8, 1868.—The inside of the coffin is coated with composition of resin and lard, to render it impervious.

Claim.—The coffin, coated upon the inside with a composition impervious to moisture, as described, and rendered air-tight by the India-rubber packing *b*, let into the under surface of the lid, and held in place by the metallic strip B, as herein set forth and shown.

81,886.—John S. Fenner, Warren, R. I., assignor to the Inman Manufacturing Company, same place.—*Machine for Sizing and Polishing Braid.*—September 8, 1868.—The braid is passed through a sizing trough to pressure rollers, and then over guide and tension rollers, which hold it obliquely against the brushes. It is then drawn off by a reel, which receives intermittent motion from a toothed wheel actuated by projections on the end of the lower brush shaft engaging with the teeth.

Claim.—1. The arrangement of driven guide and feed rollers with a rotary brush or brushes, such rollers presenting the braid to the brush or brushes, substantially in the manner shown and described, and so that the braid in passing through the machine shall be repeatedly subjected to the action of the brush or brushes, substantially as described.

2. The arrangement of guide and tension rollers $j\ j'$, $c\ c'$, $d\ d'$, $g\ g'$ and $h\ h'$ upon opposite sides of brush drums C D, substantially in the manner and for the purpose described.

3. In combination with a dressing and polishing machine, mechanism, substantially as herein described, for communicating an intermittent movement to the braid, while it is being acted upon by brushes, substantially as specified.

4. The arrangement of the weighted roller F^2, and the roller F, with a sizing trough and drying and dressing brushes, as described.

5. The arrangement of the guide and tension rollers *c d g* with the brushes C D, substantially in the manner described.

6. The combination of the reel E, sizing trough F, brushes C D, guide and tension rollers *j*, *c*, *d*, *g*, and *h*, and reel E^1, all arranged substantially as described

81,887.—Joseph S. Field, Brooklyn, N. Y.—*Culinary Apparatus.*—September 8, 1868.

Claim.—1. The apparatus for cooking by steam, when made to be one complete and inseparable vessel, having distinct compartments, for the reception of pans or dishes, each compartment provided with a door, and so arranged that they are all supplied with steam from a common boiler, by means of a side flue, having one of its walls perforated, as herein shown and described.

2. The vessel A, when divided by means of partitions B into compartments, which are connected by means of the flue F with a boiler, C, each compartment provided with steam-tight doors I, and the flue F and boiler admitting of the passage pipe G, arranged as described, for the purpose specified.

81,888.—Colgate Gilbert, Buffalo, assignor to J. J. Gilbert, Little Falls, N. Y.—*Starch Separator.*—September 8, 1868.—A receiver is supported at one end by legs and at the other by screws, so that the inclination can be changed. One end of a bolting frame slides on the frame of the receiver; the other end rests on studs in arms attached to a rock shaft. The tube conveying the grain is made extensible, so as to be readily adjusted.

Claim.—1. The method of supporting and vibrating the bolting frame A of a starch separator, substantially as shown and described and for the purpose set forth.

2. The method of supporting the bolting cloth B of a starch separator by longitudinal ribs *a a a*, &c., arranged and combined substantially as shown and described and for the purpose set forth.

3. The extensible and adjustable tube, composed of the parts S T U V V, when forming part of a starch separator, and arranged and combined to operate substantially as shown and described and for the purpose set forth.

4. The method of adjusting the incline of a starch separator by means of screws *g*, when the same are arranged in combination with the receiver C, frame A, and bed G, all substantially as shown and described and for the purpose set forth.

5. An improved starch separator, when constructed and arranged to operate substantially as shown and described and for the several purposes set forth.

81,889.—Lucius D. Gould, Newark, N. J.—*Sash Fastener.*—September 8, 1868.—A bolt slides in the side of an eccentric, and is made to impinge on the window frame when the eccentric is holding up the sash, thus preventing the window from being raised.

Claim.—The combination of the bolt *e* with the eccentric *a*, when combined therewith by sliding in the eccentric, in the manner and for the purpose shown.

81,890.—W. B. Gould, Boston, and W. H. Harris, Taunton, Mass.—*Anti-slipping Plate.*—September 8, 1868.—To the bottom of a metal plate is fastened a clamp, which clasps the edge of a table, and is held in position by a set screw.

Claim.—A plate, provided with a device for securing it to a table, substantially as set forth.

81,891.—Joseph B. Greenhut, Chicago, Ill.—*Grain Binder.*—September 8, 1868.—The grain is gathered and delivered automatically upon a compresser by means of a rake attached to and operated by an endless chain placed in a slot in the grain platform. The compresser works in connection with a regulating device for stopping the rake and binding machinery until there is as much grain cut as there is in a sheaf, compressed and held in the compresser.

Claim.—1. The rake C, constructed as described, in combination with chain E, guide rail *a*, plate D', hook *e*, plate D, pin *g'*, and guide F, or their equivalent devices, the whole arranged and operating substantially as herein set forth and specified.

2. The compresser R, consisting of standard W, provided with cam *y*, hook *v'*, and plates *u* and *v*, the compressing arms Y Y, plates Y' Y', and adjustable spring lever Z, each part constructed as described, and all arranged and operating substantially as herein set forth.

3. The regulating device, consisting of segment M, pawl N, adjustable plate S, bent rod 2, and connecting plate *q*, all arranged and operating substantially as and in the manner herein described and specified.

4. In combination with the compresser R, the cap II, provided with opening 1 and flange 1', with its pawl 2', substantially as and for the purposes set forth.

5. The combination of the knife 3, fork 4, and de-

vice IV, and cam flanges U′, all arranged and operating substantially as set forth.

6. The binding device, consisting of case A″, shaft B″, rod H″, pin G″, spring *h*″, fingers K″ K″, pinion C″, head *c*″, flanges *d*″ *d*″, yoke *e*″, and forked standard D″, or their equivalents, each and all constructed, arranged, and operating substantially as and in the manner herein described and specified.

7. The bent lever L″, brace *m*″, case A″, and arm 7 of the device IV, in combination with the fingers K″ K″, and the mechanism for operating the same, the whole constructed and arranged substantially as herein described and for the purpose set forth.

81,892.—John T. Greenwood, Beloit, Wis.—*Gas Heater.*—September 8, 1868.—The body of the stove is made of wood, and has a tin lining, forming a chamber, into which cold air is admitted. A deflector is attached to the under side of the top plate. The wick tubes pass through two reservoirs of water down into the oil tank.

Claim.—A kerosene stove, herein described, or its equivalent, when made of wood, in combination with cold-air draughts *a a*, tin lining E, cold-air chambers *e e*, (*a a*,) heat deflector *d*, cones L L, tank M, cover M′, and cooler I, when the whole is constructed and arranged substantially as and for the purpose herein set forth and described.

81,893.—George D. Hadley, Cincinnati, Ohio, assignor to himself and Gardner Waters, same place.—*Globe Valve.*—September 8, 1868.

Claim.—A globe valve, when constructed with a blank surface, A, above the screw *a* in the body or shell of the valve, and the corresponding blank surface B, above the screw *b* on the stand D, so that when the screw *b* is relieved from the screw *a* and the valve E is bearing upon its seat, the blank surfaces A and B shall form a perfect guide for the purpose of grinding the valve to its seat, without being obliged to remove the handle or the packing from its stuffing box, or the body of the valve from its connections.

81,894.—Joseph Hafenegger, San Francisco, Cal.—*Explosive Compound.*—September 8, 1868.—Compound No. 1 for blasting is composed of chlorate potash, sulphur, willow charcoal. Compound No. 2 is composed of chlorate potash, sugar, ferro-prussiate potash, and is made self-igniting by being saturated with phosphorus dissolved in bi-sulphuret of carbon. Compound No. 3 is composed of chlorate of potash, charcoal, sulphur or sugar, ferro-prussiate potash. Compound No. 4, for shells and blasting, is composed of chlorate potash, charcoal sugar, and sugar. Compound No. 5 for exploding by percussion is composed of chlorate of potash and sugar.

Claim.—1. The within-described explosive compounds, consisting of Nos. 1, 2, 3, 4, 5, made of the ingredients enumerated, mixed or compounded in about the proportions specified.

2. The self-igniting match, compounded of the liquids or fluids enumerated, whether applied separately or mixed, to the explosive compounds or materials sought to be ignited or exploded, substantially as described.

81,895.—Edward Hagan, New York, N. Y.—*Service Pipe for Buildings.*—September 8, 1868.—The pipe conveying water from the main is surrounded by a casing forming a chamber around the pipe. This casing extends to the inside of the building and has an aperture for the admission of steam for thawing the pipes. A wooden casing covers the pipes and their connections on the inside of the building, and has doors opposite the union and elbow joints.

Claim.—The casing E, G, and N, inclosing the service pipes, forming spaces around the latter, the casings being provided with apertures *d*, for the introduction of steam or hot air to the spaces surrounding the service pipes, which latter are connected by union joints immediately at the points of junction of the several sections of the casing E G, doors O P Q R being formed in casing N, opposite the joints of pipes L J R, all constructed and arranged in the manner and for the purposes substantially as shown and described.

81,896.—Thomas Haigh, Harrisburg, Pa., assignor to himself and Charles M. Lightner, same place.—*Churn.*—September 8, 1868.

Claim.—1. Suspending the cubical box between the posts B B, by attaching the trunnions *b d* to two of its diagonally opposite corners, whereby, as the box is rotated, the inclinations of its sides are rapidly changed, as herein shown and described.

2. The cog-wheels E G, and pulleys D H, and hollow trunnion *d*, all operating together, substantially as described, in combination with the diagonally suspended box and its dasher, all substantially as shown and described, and for the purpose set forth.

81,897.—Warren Hall, Dennis, Mass.—*Cranberry Gatherer.*—September 8, 1868.—The front end of a carriage body is hinged to an axle, having a chute extending from it whose front end terminates in a comb or series of horizontal teeth and vertical knives. Within the carriage body is a box or receiver whose front end is hinged so as to be turned down upon the bottom of the carriage body level with the rear end of the chute.

Claim.—1. The arrangement of the joint axle with respect to the chute, when hinged to the carriage body, as set forth, the said axle, under such arrangement, being fastened to the chute.

2. The combination and arrangement of the series of knives *k k l*, with the chute, its teeth, and carriage combined, as set forth.

3. The combination of the receiver, made as described, with the carriage and the chute combined, and constructed in manner and so as to operate as specified.

81,898.—S. M. Hamilton, Baltimore, Md.—*Planing Machine.*—September 8, 1868.—An adjustable guide is made to slide in the top of the table provided with a circular aperture in which the cutter head revolves, the lower part having connected with it a forked lever for raising and lowering the same, so as to regulate the work with reference to the knives in the cutter head.

Claim.—The combination of the adjustable guides D with the cutter head, constructed and operating substantially as described and shown.

81,899.—Gunder E. Hammer, Rochester, Minn.—*Stove Pipe Thimble*—September 8, 1868.—A part of one end of the thimble is hinged to obtain access to the air chamber for cleansing.

Claim.—The stove-pipe safe, as constructed, of the inner cylinder B, outer cylindrical casing A, and perforated heads, the lower head being made in two parts, one of which is fixed to the cylinders A B, while the other, E, is hinged to the outer cylinder, and provided with fastening devices, as herein shown and described, for the purpose specified.

81,900.—Charles Harrison, New York, N. Y.—*Cock or Faucet.*—September 8, 1868.—A hollow piston is made to slide in a hollow cylinder fastened to the barrel of the cock. The bottom of the cylinder is grooved for the admission of water when the piston is down, the water being gradually expelled as the piston rises so as to prevent the hammering action of the valve on its seat.

Claim.—1. The piston *h*, formed hollow, in combination with the guide *m*, valve *n*, and cylinder *f*, as and for the purposes specified.

2. The grooves *t*, within the cylinder *f*, in combination with the piston *h* and valve *n*, as and for the purposes set forth.

81,901.—Peter Hayden, Pittsburg, Pa.—*Brick Machine.*—September 8, 1868.—A rotating shaft provided with spiral blades carries the clay from the crushing mill to the press boxes located on the periphery of a cylinder, the clay being forced into them by means of a follower and plungers operated by a cam. The cylinder is rotated by crank arm moving in slots between the press boxes on its periphery. The bricks are removed by means of a plunger and follower.

Claim.—1. The intermittingly rotating cylinder M, provided with the press boxes L′, followers T, recesses *d*, and teeth *i*, in connection with the crank arm *f* on shaft N, all arranged to operate in the manner substantially as and for the purpose specified.

2. The plunger R, operated substantially as shown and arranged, in relation with the followers T, for the purpose of compressing the clay in the press boxes, substantially as set forth.

3. The plunger U, operated from the plunger R, through the medium of the lever V, for the purpose of discharging the bricks from the press boxes L′, substantially as shown and described.

4. The combination of the pressure rollers F I, rotary shaft K, provided with the spiral wings or blades *b* and *b′*, the cylinder M, provided with the press boxes L′, with the followers T therein, the plungers R U, and the fixed cam X, all arranged to operate in the manner substantially as and for the purpose specified.

81,902.—George W. Heckart, Columbiana, Ohio, assignor to himself and Christian Kramer, same place.—*Fifth Wheel Bender.*—September 8, 1868.—On a pedestal is a series of forms to which is secured a clamping screw for holding the iron while being bent. An adjustable bending device revolves around the forms, having its axis on the pedestal.

Claim.—A bending machine for "fifth wheels," consisting of a series of forms, B, clamping screw, C, and adjustable bending device, formed of the arm *x*, rollers *f* and *h*, levers D, 7, 8, 9, and 12, link 11, and arm 10, the whole being constructed, arranged, combined, and operating as herein described, and for the purpose set forth.

81,903.—C. C. Hinsdale, Cleveland, Ohio.—*Manufacture of Sheet and Plate Iron.*—September 8, 1868.—The bars are subjected to an acid bath to remove the oxide, then washed in clean water, then coated with a preparation of clay, lampblack, and prussiate of potash. The bars are then heated and rolled, and again coated with the above preparation, the process being repeated as often as necessary.

Claim.—1. The herein described compound, and the manner of using the same, in the process or mode of making plate or sheet iron, substantially as and for the purpose set forth.

2. Coating the metal with plastic alloy separately, and in combination with lampblack, or its chemical equivalents, for the purpose set forth in the process described.

81,904.—Benjamin F. Holbrook and Ebenezer B. Rumrill, Boston, Mass.—*Stove Grate.*—September 8, 1868.—The bed plate rests on balls moving in slots in the base of the stove. A lug extends down on one side of the bed plate to which one end of the grate is pivoted while the other is supported by an arbor in a loop on the opposite side, by which the bed plate is rotated and grate revolved.

Claim.—1. The movable bed plate B, substantially as and for the purpose set forth.

2. A bed plate, B, revolving on balls *c c c c*, substantially as and for the purpose described.

3. The movable bearing or loop *g*, in combination with the revolving bed plate B and arbor D of the revolving grate C, substantially as described, for the purpose set forth.

4. The annular ring H, for protecting the revolving bed plate and supporting the lining, substantially as described.

5. The sliding and removable port cover F, in combination with the port E and arbor D, with its spring *m*, constructed and operating substantially as and for the purpose specified.

6. An arbor, D, so pivoted to its grate as to admit of being readily connected therewith or disconnected therefrom, substantially as and for the purpose set forth.

81,905.—William Holzhäuser, Buffalo, N. Y. —*Ventilator.*—September 8, 1868.—Air is forced downwardly in the top of a pipe supplying air to rooms by means of a revolving wind catcher or an ordinary fan blower. The supply is regulated by dampers placed near the top of the building and registers in the rooms. The impure air escapes through pipes connected with registers placed in the top of the room.

Claim.—1. The combination, with the system of pipes B *b′* F, of a fan blower, C, for the purpose and substantially as described.

2. The combination with said system of pipes, of the revolving wind catcher D, constructed and operating substantially as and for the purpose described.

3. In combination with the above, the main regulating dampers G G′, and registers H H′, arranged and operating as described.

81,906.—Gilbert Jessup, Shortsville, N. Y.—*Cotton-Seed Planter.*—September 8, 1868; antedated August 27, 1868.—Two hollow cylinders are joined on a shaft, one having its edge slotted for the seed to pass through, the other attached to the frame having a rock shaft with an arm attached to force the seed through the slots. The shaft to which the revolving cylinder is secured is capable of endwise adjustment.

Claim.—1. The construction and arrangement of the revolving cylinder B with its slots J, shaft P in combination with the stationary cylinder A or its equivalent, for the purposes herein described.

2. The rock shaft *b*, arm H, and spring *o*, in combination with the revolving cylinder B, all acting conjointly, in the manner and for the purposes shown and described.

3. The spring G or its equivalent, in combination with the pins *v*, for the purposes set forth.

4. The longitudinal adjustment of the shaft P and cylinder B, in combination with the stationary cylinder A or its equivalent, for the purposes of regulating the quantity of seed being distributed.

81,907.—Frank G. Johnson, Port Richmond, N. Y.—*Watch Regulating Adjustment.*—September 8, 1868.—The object is to move the regulating hand of a watch so that it may be adjusted with the greatest nicety.

Claim.—The fixed screw shaft *a*, upon which the grooved nut *c* carrying the end of the regulating hand *d* is rotated, all arranged and operating as described, for the purpose specified.

81,908.—John Allcock Jones, Middlesborough, England.—*Manufacture of Iron and Steel.*—September 8, 1868.—After the iron has been puddled for a short time the temperature is lowered and a flux of oxide of manganese, salt, nitrate of soda, or sal ammonia is incorporated with the fluid metal. Crude iron is melted in a furnace lined with some oxide of iron, free from phosphorus or sulphur; the temperature is lowered and a flux of the above-mentioned materials is incorporated; heat is again applied until the iron settles to the bottom and the cinder rises, and is then plunged into water or pressed.

Claim.—1. The production of iron and steel from cast or refined iron, by first melting and puddling the same, adding thereto purifying agents or fluxes, then separating as much of the slag as it is practicable to separate therefrom, and removing the crude iron or metal resulting to furnaces or crucibles, and melting the same, as hereinbefore described.

2. The preparing the crude iron or metal without the employment of a puddling process, and melting the same into steel, as hereinbefore described.

3. The conversion of cast iron into malleable iron without the employment of the puddling process, by allowing the metal to remain for a sufficient period in the puddling or other furnace, as hereinbefore described.

4. The employment of a bath, consisting of slag or cinder, in which the crude iron resulting from the processes before referred to is melted, so as to be converted into steel, as hereinbefore described.

5. The subjecting the crude iron resulting from either of the processes hereinbefore described to pressure, so as to separate a portion of the cinder or slag therefrom, prior to its being placed in or upon the steel-melting hearth or furnace.

81,909.—Thomas B. Kelley, Dundee, Ill.—*Ice Boat.*—September 8, 1868.

Claim.—A boat, provided with the water-tight compartment or case B, open at top and bottom, with the propelling wheel mounted in a sliding adjustable frame D, fitted within said case B, for the purpose of adapting the boat for use either on the ice or water, substantially as set forth.

81,910.—William C. Kellum, San Francisco, Cal.—*Escapement.* — September 8, 1868.—The balance receives one impulse at each complete or double vibration; the detent lever is operated by a liberating pin attached to the balance staff, and moving alternately above and below a lifting spring which operates the detent. The balance staff moves in a plane parallel with the plates of the timepiece and plane of the escape wheel and is locked by a spring or gravitation.

Claim.—1. The detent F, and the adjusting screw *d*, together with the curved arm H and the spring I, operated by the liberating pin *a*, or its equivalents, locking by spring or gravitation, substantially as and for the purpose described.

2. The escape wheel B, moving in a plane parallel to that of the balance staff and of the plates A A, and giving impulse to the pallet *c*, either from the sides or point of the teeth, in combination with the detent F, arm H, and spring I, substantially as described.

3. The balance staff C, standing parallel with the plate A, and the liberating pin *a*, passing alternately above and below the lip J at each vibration, substantially as described.

81,911.—I. J. Kidd, Young Settlement, Texas. —*Corn Planter.*—September 8, 1868; antedated August 28, 1868.—A circular feed wheel fits in a slot in the beam just behind the plow and receives motion through a band from a roller behind the plow.

Claim.—The arrangement of the feed wheel *c*, pulleys K K, plow beam B, cords or bands *j j*, roller I, spout F, and plows B and H H, the several parts being constructed and operated substantially as and for the purpose specified.

81,912.—James Kuhn, Mount Pleasant, Pa.—*Face Tester for Millstones.*—September 8, 1868.—The concentric annular projections are smeared with color to mark the raised portions.

Claim.—The circular block A, of wood or other suitable material, provided with concentric annular projections, *a*, on its face side, substantially as and for the purpose set forth.

81,913.—N. P. Larsen, Chicago, Ill.—*Burglar Alarm.*—September 8, 1868.—An indicator is connected with the striking mechanism to show the alarm is in working order. The key is provided with a cam to discharge a pistol when the bell rings. A bobbin of thread is attached to the box inclosing the alarm machinery and is used to connect the machinery with doors, windows, &c.

Claim.—1. The lever D, plate E, with pin *f*, spring F, and wire H, all combined and operating as and in the manner herein described, and for the purpose specified.

2. In combination with the above, the pin *b*, of the hammer B, and the bobbin O, arranged substantially as set forth.

3. The key K, when used as described, and provided with cam L, for the purpose of operating the trigger N, as herein shown and specified.

81,914.—James L. Linderman, Rockford, Ill.—*Seeding Machine.*—September 8, 1868.—Partitions partly inclose the feed wheels and have openings in the lower and rear parts to allow the seed to flow down double inclines; spouts are placed in the front part of hopper between the partitions into which the feed wheels deliver the grain. The speed of the feeding shaft is regulated by an idle gear wheel on adjustable bearings.

Claim.—1. The wheels E, provided with seed channels upon their peripheries, extending rearward from the seed cups, and made tapering in form as shown and described, for the purpose set forth.

2. The wheels E, constructed as described, in combination with partitions F, constructed and arranged as described, double inclines G, and spouts G′, the whole being combined and operated substantially as and for the purpose described.

3. The wheel C, shaft *c*, and slotted bearings *c*′, in combination with gear wheels B D′, and frame A, as and for the purpose described.

81,915.—E. A. Locke and W. N. Weeden, Boston, Mass.—*Lamp Shade.*—September 8, 1868.

Claim.—A lamp shade ring made from a strip, when the abutting ends of the strip are held together by projections thereon, which are inserted into a loop formed on one of the spring supports *f*, as specified.

81,916.—Robert Love, Hoboken, N. J.—*Varnish for Metal, Wood, and Paper, or other Fabric.* —September 8, 1868.—Varnish impervious to water or oil, composed of gum shellac, gum sandarac, gum elemi, and gum amber, mixed with boiling alcohol.

Claim.—1. An enamel, paint, or varnish, composed substantially as described, for the purposes specified.

2. Forming or compounding an enamel, paint, or varnish of the materials specified, substantially as described.

81,917.—M. N. Lovel, Erie, Pa.—*Lamp-chimney Cleaner.*—September 8, 1868.—Curved handles are provided with clamps for holding slips of paper or cloth so that the slips may be turned over as they become foul.

Claim.—1. The handle A of a lamp-chimney cleaner, provided with the spring clamp *b* and hook *e*, substantially as and for the purpose described.

2. The handle A of a lamp-chimney cleaner, provided with the grooved and curved portion B, in combination with the clamping spring *b* and hook *e*, substantially as and for the purpose described.

81,918.—Charles C. Manuel, North Troy, Vt., assignor to himself, William G. Elkins, and O. N. Elkins, same place.—*Stump Extractor.*—September 8, 1868.—A strongly-braced frame is raised by uprights above the axletrees of the running gear of a wagon. A chain passes over a fixed and movable pulley, one end being fastened to the cross-beam and the other end is wound around a drum actuated by suitable gearing.

Claim.—1. The arrangement of the main timbers A A and their accessory cross-beam B, braces D and E, uprights C and H, cross-beams G, bolster J, when mounted on four wheels, and constituting the frame of a machine for extracting and removing stumps and other heavy bodies, all substantially as shown and described, and for the purpose set forth.

2. The arrangement of the chain *a* and its accessory sheaves or pulleys *d e g*, and hooks *b b*′ *c*, and roller *f*, in combination with a frame mounted on wheels, substantially as described, and any suitable gearing for actuating the said chain, all as and for the purpose set forth.

3. The combination, in a stump extractor, of the accessory gearing *k j h l m*, and rope *n*, all arranged to operate substantially as and for the purposes set forth.

81,919.—John L. Mason, New York, N. Y.—*Garbage Box.*—September 8, 1868; antedated August 27, 1868.—The receptacle is secured by an arm to a slide provided with a toothed rack; said slide moves up and down in a hollow column by means of a pinion engaging with the rack. The column is supported on a post and can be revolved.

Claim.—1. The rising and falling slide S, in combination with the garbage receptacle R, constructed and operated as and for the purpose described.

2. The revolving column P′, in combination with the slide S and receptacle R, constructed and operated as and for the purpose set forth.

81,920.—David P. Mathews, Winthrop, Mass. —*Medical Compound for Cattle and other Animals.* —September 8, 1868. — Composed of elecampane, gentian, paradise seed, fenugreek seed, and cummin seed.

Claim.—As my invention the said composition, composed of the constituents hereinbefore mentioned.

81,921.—David Max, Newton, Ill., assignor to himself and Thomas Waltz, same place.—*Cloth Measuring Machine.*—September 8, 1868.—An indicator, provided with a scale, is operated by rolls through which the cloth passes, the rolls being gauged to pass a given amount of cloth at each revolution. The end of the cloth is secured to the roll proper by a clamp.

Claim.—1. The indicator, consisting of the shaft H, worm I, spur wheel F, pointer K, and annular index G, in combination with the rolls C D, L L′, and friction brakes N N′, all arranged and operating substantially as described, for the purpose specified.

2. In combination with a cloth-measuring machine, substantially as herein described, the rolls L L′, composed of the roll proper, *a*, and clamping piece *a′*, connected by means of the flaring ferrules or bands *b*, substantially as and for the purpose set forth.

81,922.—Hiram S. Maxim, New York, N. Y.—*Gas Machine.*—September 8, 1868.

Claim.—1. A gas machine, in which the production of gas is automatically stopped when its pressure as well as when its quantity is excessive, and as automatically restarted when the difficulty is overcome, as set forth.

2. The cylinder *c*, connected with the inclosed tank D, to show the height and pressure of the contents of the tank, and to convey part of them to the heating chamber, as specified.

3. The burner tube G, when provided with a valve, *h*, which is connected with a diaphragm, *j*, so as to be closed when the pressure of the gas is too high, as set forth.

4. The combination with each other of the four separate vessels A, B, D, and I, the latter having the elastic diaphragm J stretched across it, substantially as herein shown and described.

5. The device for automatically operating the valve *s* which regulates the flow of gas into the gas holder I, said device consisting of the diaphragm J, pin *o*, lever L, lever *t*, arms *w*, *x*, and springs *y*, all arranged, combined, and operating substantially as herein shown and described.

6. The pipe M, for conducting the evaporated gasoline to the gas holder, and for mixing it with the required quantity of air, said tube containing the perforated partition *b′*, the interior tube *c′*, and the valve *e′*, all made and operating substantially as herein shown and described.

7. The cam *z*, for keeping the valve *s* closed, as set forth.

8. The pipe *f′*, for conducting illuminating gas from the gas holder I to the heating chamber *a*, substantially as and for the purpose herein shown and described.

81,923.—A. McDaniel, Dubuque, Iowa, assignor to himself and S. J. Henion, same place.—*Spring Bed Bottom.*—September 8, 1868.—The mattress is placed on inverted spiral springs, supported by longitudinal rails, the ends of the rails resting on spiral springs placed upon cross-rails braced by rods running diagonally.

Claim.—1. The combination and arrangement of the rails B, rods C, spring D, and rails F, provided with the upper springs L, all substantially as and for the purpose set forth.

2. The arrangement of the rails B, rods C, springs D, and rails F, substantially as and for the purpose described.

81,924.—Hiram McIlroy, Poplar Ridge, N. Y.—*Forward Axle for Carriages.*—September 8, 1868.—A plate having an upright socket piece at its center, and steel circle plates secured to its ends, is attached to the axle. The head block has a plate secured to it provided with a pin in the center, which fits into the socket and has secured to its ends chambered circle plates which embrace the lower circle plates.

Claim.—1. The central pivot and socket, in combination with the hooks and flanges on the circles for uniting the head block and axle, substantially as described.

2. The chambered upper circles and hooks, and pivot socket, provided with the leather packing, substantially as and for the purpose described.

3. The upper circle bar or plate, provided with the chambered circles and hooks, and with the central pivot, all cast in one piece, and united to the head block in the manner described.

81,925.—Ferdinand Mehrmann, Fountain City, Wis.—*Combined Spur and Creeper.*—September 8, 1868.—A bow-shaped bar or plate with teeth on one side is pivoted to the ordinary spur. Said plate can be turned forward under the sole of the boot to be used as a creeper, or it can be folded back over the heel, and locked in either position.

Claim.—A combined spur and creeper, made and operating substantially as herein shown and described.

88,926.—Emilie J. Meriman, New York, N. Y.—*Corset.*—September 8, 1868; antedated September 4, 1868.

Claim.—Supporting the corsets, and the clothing depending therefrom, by means of straps I I, the ends of which are attached, by an adjustable lacing or other fastening, to the waistband or middle of the corset, substantially as and for the purposes set forth.

81,927.—John Metherell, Rockford, Ill.—*Millstone Ventilator.*—September 8, 1868.—The drums are made air-tight except at the eye of the stones; the air is exhausted by fans placed in pipes, connecting with the sides of the drums, and forced into a cooling box, from which it is drawn off by a large fan.

Claim.—The arrangement of the pipes F, provided with fans, as described, in combination with the cooling chamber G, central passage H, and fan I, as and for the purpose set forth.

81,928.—John C. Miller, Bushnell, Ill.—*Brick Machine.*—September 8, 1868.—A bed is grooved on each side to admit the molds. A tub sets over the bed and is open at that part of the bottom over the grooves. The molds are provided with racks and are made to slide in the grooves by means of cog wheels engaging with the racks.

Claim.—The tub E and shaft G, in combination with the frame A, ways *c c*, cog-wheels H and I I, and molds D D, all constructed as described, and operating substantially as and for the purposes herein set forth.

81,929.—John H. Miller, Oskaloosa, Iowa.—*Plane for Cutting Blind Slats.*—September 8, 1868.—Two arms slightly curved hold the timber, and are pivoted to the carriage and have their inner ends free, the outer ends being pivoted to a rod which connects them.

Claim.—The pivoted arms G and connecting rod H upon the carriage F, when constructed and operating substantially as and for the purpose specified.

81,930.—Simon Motte, Paris, France, assignor to Isaac Hyneman.—*Bellows Pumping Apparatus.*—September 8, 1868.—A pair of bellows pumps are operated by a single lever, and communicate with common inlet and outlet ducts provided with valves, and while one pump is receiving the other is discharging. The top of each pump is provided with a removable cover.

Claim.—1. A bellows pump having a depressed valve in its stationary base plate, and a removable cover in its vibrating piston or lid, all substantially as shown and described.

2. A bellows pump in which the fluid is received and discharged from near the end opposite the axis of vibration, by means of the piston B′, through confluent pipes, substantially as described.

81,931.—W. T. Munger, Branford, assignor to P. Corbin and F. Corbin, New Britain, Conn.—*Reversible Latch.*—September 8, 1868.—The part of a divided horseshoe slide are hinged together so that the horseshoe can be opened and removed forward to allow the square end of the latch to be reversed, and the latch being pressed into the lock, the spindle is revolved and the cam thereon latches fast the swinging portion of the horseshoe.

Claim.—The divided horseshoe, formed of the part *i*, pivoted to the portion *d*, in combination with the latch *g* and shank *f*, attached to the horseshoe, so that it may be revolved for reversing said latch, substantially as set forth.

81,932.—Amos Newell, Redwing, Minn., assignor to himself, Henry S. Brown, Frederick Ar-

NOLD, and ALFRED ARNOLD.—*Ore and Bone Crusher.*—September 8, 1868.—The ore or bone is thrown into the top of the case and passes down between two disks, provided with hammers revolving in opposite directions.

Claim.—Two distinct sets of hammers, so made and arranged as to revolve in opposite directions, adapted to and in combination with the case A, substantially as and for the purpose described.

81,933.—AMOS NEWELL, Redwing, Minn., assignor to himself, HENRY S. BROWN, GEORGE F. ARNOLD, and ALFRED ARNOLD.—*Mill for Pulverizing Bone, &c.*—September 8, 1868.—The case is divided into compartments by disks to which the hammers are attached. An annular space is left between the inner circumference of the case and the disks, forming a passage across the path of the hammers.

Claim.—The case A, hammers B, and partitions C, combined and arranged substantially as shown for the purpose herein set forth.

81,934.—JOSEPH OKEY, Indianapolis, Ind., assignor to himself and FERDINAND A. LEHR.—*Wash Boiler.*—September 8, 1868.—A slotted hinged door sets over chambers in the bottom of the boiler and is raised for inserting soap.

Claim.—The door *m m*, when constructed with slotted sides, in combination with the chambers K K and pipes *d*, *e*, and *f*, substantially in the manner described, and for the purpose set forth.

81,935.—LUCIUS M. OLDEN, Pana, Ill.—*Seeding Machine.*—September 8, 1868.—Rotary colters are placed in front of the teeth for cutting the way for the teeth, said colters being applied to a frame hinged below the main carraige, and provided with a raising and lowering device. Each of the drill teeth is provided with an endless feeding device for compelling the discharge of seed from the channels; motion is communicated to this feeding device through the medium of a shaft driven from the main axle and stopping when the drill teeth are raised from the ground.

Claim.—1. The application, to the seed passage of a drill tooth, of a feeding device, *l*, or its equivalent, substantially as described.

2. The combination of feed wheel *y*, hinged funnel G^3, and a drill tooth, which is constructed with a feeding device, *l*, or their respective equivalents, substantially as described.

3. The vibrating frame C, carrying colters C^1, and suspended by means of a lifting chain L, in combination with drill teeth, which are suspended from said frame C, by means of chains L′, substantially as and for the purposes described.

4. The devices, substantially as described, for disengaging wheels D from their axle D′, when frame C is lifted, in combination with drill teeth, which have feeding devices applied within them, substantially as described.

81,936.—JOHN PARK, Joliet, Ill.—*Bedstead and Quilting Frame.*—September 8, 1868.—A rod provided with journals has bearings in movable cross legs. One of said legs at each end has a ratchet bar secured to it, and the other has a pawl or brace. Rollers for holding the material are adjusted in the top of the legs, to one end of each of which is secured a ratchet wheel which engages with a pawl pivoted on the leg next to it.

Claim.—The arrangement of the shaft A, legs B B B B, with their pawl D, and rack bar C, and the rollers K K, with their ratchets *h* and spring pawls *g*, the whole combined, adjusted, and operating as herein set forth.

81,937.—QUINTIN PARKER, New York, N. Y.—*Steam Generator.*—September 8, 1868.—A pipe is suspended from the back end of the deflector and passes through the boiler sheet, through which pipe the accumulated dirt which obstructs the lower flues is made to pass.

Claim.—The combination of the pipe G with the boiler sheet A, suspended from the upper plate of the deflector E, in rear of the flute sheet, substantially as herein shown and described.

81,938.—LEWIS PATRIC.—Shortsville, N. Y.—*Shaft Journal.*—September 8, 1868; antedated August 27, 1868.—The socket gudgeons are provided with lugs to receive the clamping screws, said screws working in an eye bolt fastened to the shaft.

Claim.—In combination with the socket gudgeons or journals G and shaft S, the screw or threaded eye bolt *f* and clamping screw *s*, as and for the purposes set forth.

81,939.—THOMAS PAYNE, Grand Rapids, Mich.—*Meat Chopper.*—September 8, 1868.—The chopping box is rotated by a pinion engaging with a circular rack attached to its under side. Two knives are suitably connected with each end of a lever, being pivoted at the center, and vibrated by suitable mechanism.

Claim.—The combination of the crank shaft I, gear wheels K and L, shaft M, crank wheel N, pitman O, arm P, rack shaft Q, cross head R, short connecting rods S, stems T, and knives U, with each other and with the frames B, and revolving chopping box C, substantially as herein shown and described, and for the purpose set forth.

81,940.—PHILIP PEFFER, Milroy, Pa.—*Shaft Coupling.*—September 8, 1868.—One of the shafts is pointed and fits into a socket in the end of the other. They are held together by a spiral spring secured to the flanges.

Claim.—The combination, with the shafts D and E, when connected together by a point and socket, of the spring C, substantially as and for the purpose described.

81,941.—G. M. PETERS, Lancaster, Ohio.—*Dropper for Harvester.*—September 8, 1868.—The platform is given a reciprocating and tilting movement, so as to be quickly withdrawn from under the gavel, to allow it to drop in front of platform behind the cutting apparatus.

Claim.—1. Hinging or pivoting the platform to a bent arm or support, by means of which it is operated, in such manner as to admit of a reciprocating and tilting movement, substantially as described.

2. The bent arm or rod, to which the platform is hinged, and by means of which said platform is vibrated, in combination with the rod or link for tilting the platform upon its operating arm.

3. The bent rod or arm J, link J′, crank K, connecting rod L, and lever M, or their equivalents, in combination with the platform I, arranged and operating substantially as described.

81,942.—DARIUS G. PICKETT, Stockton, N. Y.—*Grass Seed Sower.*—September 8, 1868.—The hopper is divided by partitions, the seed being agitated between them by pins projecting upward from a perforated slide.

Claim.— The combination, with the seed slide B, of the pins *f f*, holes *d d*, and cross partitions *g g*, the whole arranged as described, and operated in the manner and for the purpose specified.

81,943.—HENRY POTH, Pittsburg, Pa.—*Wheel for Vehicle.*—September 8, 1868.—The tenons of the spokes are provided with metal plates which cover the end and lateral faces of the spokes, and are indented at an angle to form a notch in which a beveled ring fits and serves as a key. The axle box is provided with a collar against which the beveled ring rests. A chamber is formed between the axle box and metal hub, and suitably packed to be used as an oil box.

Claim.—1. The combination, in a vehicle wheel, of the tenon plates *e*, beveled ring *d*, screw box B D, and metal hub A, substantially as herein shown and described.

2. The combination, in a vehicle wheel, of the screw box B D, packing rings *c* and *f*, when arranged to form an oil-tight space, *h*, between the box B and the metal hub A, and provided with holes for the screw *i*, all substantially as herein shown and described.

81,944.—CHARLES C. RAMSAY, Chicago, Ill.—*Gas Pressure Regulator.*—September 8, 1868.—A rubber diaphragm, placed in a case through which the gas passes, is of such dimensions that by proper connections with the valve admitting the gas, if undue pressure is exerted, will close the valve.

Claim.—The combination of chamber B, having the diaphragm *b*, with the spiral spring H, arranged as shown, with the valve C resting on the lever E, connected to the diaphragm by a rod, F, all arranged to operate substantially as herein set forth.

81,945.—JOSEPH A. RAND, Morrisville, Vt., assignor to THOMAS A. MITCHELL, Washington, D. C. —*Clothes Pin.*—September 8, 1868; antedated August 27, 1868.—The pin is in two pieces pivoted together, and when closed holds the clothes on the line.

Claim.—The arrangement and construction of the pieces A and B, with the square head C and its aperture D at one end, as herein described and for the purposes set forth.

81,946.—DANIEL RISHER, Jr., Dravosburg, Pa. —*Device for Loading Coal.*—September 8, 1868.

Claim.—1. The mode of loading coal into boats, flats, or barges, by sliding the coal down a chute into a hopper hung to a car, and thence running it down an inclined track to the boat, flat, or barge, and discharging it from either end of the hopper into the boat, flat or barge, substantially as hereinbefore set forth.

2. The tipping coal hopper *g*, made with the bottom concave or sloping down toward the middle from the discharging ends, substantially as and for the purposes hereinbefore set forth.

3. The tipping coal hopper *g*, connected by bearers *d* with a rocking shaft *d'*, mounted on a car or truck, substantially as and for the purposes hereinbefore set forth.

4. Sliding bars *m'*, carrying a coal hopper, so connected with the bearers *d* as that, by a slight longitudinal motion imparted thereto, the center of gravity of the loaded hopper may be shifted, substantially as and for the purposes above set forth.

5. A tipping handle, *i*, attached to the rocking shaft *d'* of a coal-loading car, in combination with tripping devices, constructed and used substantially as and for the purposes hereinbefore expressed.

81,947.—CHARLES F. RITCHEL, Chicago, Ill., assignor to himself and HENRY S. HAYNES, same place. —*Chalk and Sand Paper Holder for Billiard Table.* —September 8, 1868.—The interior of two circular blocks is recessed for the reception of chalk and sand paper, the central parts of the outside faces being cut away to allow the cue to be inserted.

Claim.—An improved chalk and sand-paper holder, formed by the combination of the recessed blocks A and B with each other, said blocks being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

81,948.—FRANCIS ROACH, Boston, Mass., assignor to himself and JOSEPH ZANE, same place.—*Faucet.*—September 8, 1868.—The valve is closed by the expansive power of a spring, and is raised off its seat by a rotary tubular key with cams arranged in line with and constituting part of the faucet neck.

Claim.—1. The arrangement of the induction and eduction pipes *b c*, the valve seat *a*, the valve D, the case A, the spring D', the stem C, the cap B, the neck *d*, the key E, and the cams *f f* and stops *g g*, the whole being as and to operate as hereinbefore described, and as represented in the accompanying drawings.

2. The arrangement and combination of the two holes *h i* with the key E and the spindle C, arranged and combined with the valve, its spring, and case, as specified.

3. The combination of the adjusting screw F and the annulus *k*, applied to the spindle C, as described, with the key E arranged with the spindle C, its valve, and spring, and the neck *d*, substantially in manner and under circumstances as hereinbefore specified.

81,949.—S. R. ROSCOE, Obion County, Tenn.—*Sofa Bedstead.*—September 8, 1868.—An improvement on his patent of May 14, 1867. The cushion is held in position to form the back of a sofa by hooks attached to the headboards, and is steadied by couplings attached to its lower edge, and the bottom of the seat. The headboards are hinged to swing around and form the ends of the sofa and are held by hooks fitting in eyes.

Claim.—The combination of the cushions D and E with the folding headboards A and B, the hooks *d d*, the eyes *b b*, and the couplings *m n*, all constructed and operating substantially as and for the purpose described.

81,950.—HENRY A. RUST and LUDWIG HERRMANN, Chicago, Ill.—*Bridge.*—September 8, 1868.

Claim.—1. The arrangement of one or both ends of the main braces when constructed in a convex or rounded form, in corresponding concave grooves or recesses in the blocks B and E, substantially as specified.

2. The arrangement of the inclined end of the counter braces in a corresponding inclined recess in the top block, to operate substantially as set forth.

81,951.—DAVID SHANNON and WILLIAM SPENCER, Winslow, Ind.—*Grain Separator.*—September 8, 1868.—The case is pivoted between the rear arms, its forward end resting on a bar pivoted to the center of a lever. On the bottom of the case are metal plates inclining toward two holes in the bottom, so as to form funnels. The grain is fed into a drum of wire gauze from a spout vibrated by projections on the end of the drum.

Claim.—1. The combination of the cylindrical drum M, case C, with inclined planes I, openings H, lever E, strap G, and bar D, all substantially as herein set forth.

2. The lever E, pivoted at one end and suspended at the other by means of a strap G, in combination with the pivoted center bar D, when operating for the purpose of giving proper pitch to the box C, substantially as and for the purposes herein set forth.

3. The bent wires *i i*, on the end of the cylinder *d*, when acting in combination with the spout P, to feed the grain from the hopper O into the drum M, substantially as and for the purposes herein set forth.

81,952.—HENRY F. SHAW, West Roxbury, assignor to JAMES A. WOODBURY and SOLOMON S. GRAY, Boston, Mass.—*Lathe Head.*—September 8, 1868.—An eccentric sleeve on which the smaller gear cylinder works, is capable of being so adjusted as to cause the latter to be thrown into a position eccentric to and in gear, or out of gear, with the larger or internal gear cylinder.

Claim.—1. The combination of the gears D and E, the disk P, having the spring pin *p*, and eccentric sleeve *c* attached thereto, and the pulley block C, provided with the eccentric sleeve *d*, all arranged substantially in the manner and for the purpose specified.

2. The combination of the pulley block C, provided with the cam-sleeve *d*, disk P, and eccentric collar *c*, catch S, and gear wheel E, substantially as and for the purpose set forth.

81,953.—HENRY F. SHAW, West Roxbury, assignor to JAMES A. WOODBURY and SOLOMON S. GRAY, Boston, Mass.—*Mechanism for Operating the Bed of Planing Machine.*—September 8, 1868.—A wheel with internal spur gear is secured to the shaft that moves the bed of the planer. A toothed wheel is hung eccentrically upon a sleeve, revolving on the shaft to which the internal toothed wheel is secured, and into which it gears.

Claim.—1. In combination with the bed of a planing machine, the rack *c*, pinion *d*, and shaft *g*, or their equivalents, and the internal and external gears *f e*, eccentric sleeve *i i'*, and the fast and loose pulleys, when arranged and operating substantially as specified, and for the purpose set forth.

2. The arrangement, on the shaft *g*, of the fast and loose pulleys, the eccentric sleeve *i i'*, and the internal and external gears *e e'*. substantially in the manner shown and for the purpose set forth.

81,954.—M. M. SMITH, Nashville, Tenn.—*Ladder or Step for Street Lamp-lighter.*—September 8, 1868.—A shank is provided with horns for clasping the tapering part of a lamp post; one step is affixed to extensions on the horns, the other to the horizontal part of the shank.

Claim.—A step ladder for lamp posts, constructed substantially as and for the purpose shown and described.

81,955. — H. A. SNYDER, Shullsburg, Wis.—*Fanning Mill.*—September 8, 1868.—A hinged board forming part of the cylinder is connected with gates for admitting air into the box. A spring presses down the board, and when the current of air is too violent, the board raises and closes the gates, and *vice versa.*

Claim.—The hinged board B, actuated by spring-tension acting against the blast of a fanning mill, and connected with gates or valves H, closing the ingress aperture I of the fan-wheel box A, all substantially as shown and described, for the purpose set forth.

81,956.—MICHAEL JOSEPH STEIN, New York, N. Y.—*Machine for Sewing the Uppers to the Soles of Boots and Shoes.*—September 8, 1868.

Claim.—1. In combination with the needle and the self-adapting rest, which is to rest and ride on the sole of the shoe or boot that is being sewed, and which is to bear against the bottom of the inner channel cut in the leather, to resist the pull of the needle, a second rest, so formed that it shall rest and ride on the surface of the sole, that in sewing it may not interfere with the loop of thread, the two being connected, and having a mode of operation in connection with the needle, substantially as herein described.

2. The curved needle, when made and mounted so that its inner curved surface is concentric with its axis of vibration, and eccentric on its outer surface, substantially as and for the purpose specified.

3. The pointed cast off, with its outer surface eccentric, in combination with the needle, the contiguous surfaces of the two being flat, and both being mounted, so that they shall work in contact, substantially as and for the purpose set forth.

4. Attaching the lamp and its cap, and the flue through which the thread passes, to the movable plate which carries the sewing mechanism, substantially as described, that the means for heating and guiding the thread may be always in the same relative positions, as set forth.

5. The feeding pawl, with its projections, working in cam-formed recesses, or the equivalent thereof, having a like mode of operation, in combination with the movable table on which the last holder moves, or the equivalent thereof, by means of which combination the feeding pawl spaces the stitches equally, notwithstanding it acts on the undulating surface of the sole, as described.

6. The welt guide, substantially such as described, in combination with the mechanism, or the equivalent thereof, for guiding the sole on the last relatively to the sewing mechanism, as described.

81,957.—WILLIAM STODDARD, Winona, Minn. —*Fanning Mill.*—September 8, 1868.—An oscillating feeding bar is placed beneath the mouth of a hopper and feeds the grain into a curved perforated screen. An endless belt revolves in close contact with the screen to keep the grain flat. After falling through the screen the grain is carried into rotary screens.

Claim.—1. The combination, with the hopper of a fanning mill, of the oscillating feeding bar A, substantially as and for the purpose described.

2. The combination, with the screen C, of the endless apron or belt D, substantially as and for the purpose described.

3. The rotary screens L and M, arranged as described, in combination with chute G, screen C, and fan blower, substantially as and for the purpose described.

81,958.—ELI STURGEON, Columbiana, Ohio.—*Safety Bridge for Railroad Car.*—September 8, 1868. —Springs are attached to a cross piece of wood under the center of the bridge, their ends forming hooks which are attached to four upright studs secured to the platform of the car.

Claim.—The adjustable bridge A, with spiral springs *b b*, attached to the bumpers or platforms of railroad cars, C, by means of hooks *d d* on the four uprights *c c c c*, in the manner and for the uses and purposes set forth and herein more fully described.

81,959.—HOWARD M. THOMPSON and CHARLES W. BURBANK, Alfred, Maine, assignors to themselves and GEORGE H. KNOWLTON, same place.—*Tailor's Press Board.*—September 8, 1868.—The press board rests on the top of a standard, its end extending under a flat arm pivoted to the edge of the standard and held by a screw bolt fastened to the clamp jaw. The base board to which the standard is secured is hinged to a clamp jaw fastened to the under side of the table.

Claim.—1. The press-board supporter, substantially as described, that is, as composed of the base board D, the standard C, the arm E, and the clamp jaw F, connected in the manner so as to operate as explained.

2. The combination and arrangement of the adjusting screw *e* and nut *f* with the connection rod *c*, the clamp jaw F, the base board D, the standard C, and the arm E, arranged and combined substantially in manner and for the purpose as specified.

3. The combination of the press board B, and mechanism, substantially as described, for supporting it above, and fixing or clamping it to a table, as explained, such mechanism consisting of the base board D, the standard C, the arm E, the clamp jaw F, and the connection rod *c*, or their mechanical equivalents.

81,960.—JAMES K. THOMPSON, Chicago, Ill., assignor to himself and WILLIAM B. HOWARD, same place.—*Bridge.*—September 8, 1868.—Improvement in the wooden chords of the "Howe Truss," consisting of two or more continuous wrought iron bars placed edgewise and spaced to conform to the width of the shoes used in the "Howe Truss."

Claim.—The wrought-iron chords A A′, each consisting of several bars placed apart and edgewise, and the plates *b b′* and stays E E, connecting the said bars, when used and arranged substantially as herein described and specified.

81,961.—ANSON C. TICHENOR, Council Bluffs, Iowa.—*Car Coupling.*—September 8, 1868.—The coupling pin is provided with shoulders which engage with the shoulder formed by a recess in the draw head and a shoulder on the pivoted block. The draw head has a ledge on its upper face into which a shoulder on the hinged block is made to slide when the car starts, for the purpose of locking the pivoted block.

Claim.—The combination of a draw head A, constructed substantially as described, and provided with a transverse locking edge *a*, with a hinged block B, constructed with a shoulder *c*, when said block is so connected to the draw head that the forward motion of the cars will automatically lock the shoulder *c* beneath the ledge *a*, in the manner and for the purpose specified.

81,962.—SIGMUND ULLMAN, New York, N. Y.—*Envelope.*—September 8, 1868.

Claim.—Securing the eyelet *d* in the open flap *c* of the end, by gumming a strip of paper over said eyelet, at the outer side of the flap, as herein shown and described.

81,963.—SIGMUND ULLMAN, New York, N. Y.—*Envelope.*—September 8, 1868.—The rear side of the envelope is cut obliquely from the double fold outward, the face end is notched out in V-form; the end is folded over at each side of its center, one side lapping over the other.

Claim.—An envelope, having its ends cut and folded in the manner substantially as herein shown and described.

81,964.—AUGUSTUS VAN ORSDALE, Jasper, N. Y.—*Steam Condenser.*—September 8, 1868.—Horizontal plates are arranged one above the other in the condenser and have an opening at the end of each on alternate sides. A pipe admits the steam between two of the lower plates and a deflector is placed near the end of the pipe to prevent the steam from escaping through the water-discharge pipe.

Claim.—The combination of the exhaust pipe C and deflector D with the plates *a a*, heater A, and pipes B B′, arranged and operating substantially as described.

81,965.—HEMAN WHIPPLE and ELON DENIO, Baldwinsville, N. Y.—*Making Forks.*—September 8, 1868.—An incision is made in a bar of metal to form the prong of a fork without bending down one part much below the other. The prong is bent around into the proper position for shaping, by a plunger and swinging support.

Claim.—1. The cutters *e e*, formed wider apart near the stock than at the cutting edge, in combination with the shear *h*, for the purposes and as set forth.

2. The rocking support *i*, in combination with the cutter *e* and bed shear *h*, for the purposes and substantially as set forth.

3. The swinging supports 12, in combination with the winding, wedge-shaped, bending plunger *m*, arranged and operating substantially as and for the purposes set forth.

4. The connecting rod *b* and ball 1, in combination with the screw 3, head 4, and hollow plunger *c*, carrying the cutting or bending tools, substantially as set forth.

81,966.—JOHN L. WHITING, Boston, Mass.—*Brush.*—Sebtember 8, 1868.—An improvement on his patent of August 4, 1863. A series of cone-shaped points project from the handle into the mass of bristles, the same being surrounded by a tapering ferrule.

Claim.—The combination and arrangement of the series of projections with the other parts of the brush, as described, the series being productive of new and useful effects, as specified.

81,967.—JOHN S. WILLIAMS, Chicago, Ill.—*Double Ratchet Lever Power.*—September 8, 1868.—A double ratchet pawl terminates in a lever pivoted to a plate secured to the machine, the lower end of the lever being connected with a hand lever provided with a balance weight. The ratchet pawl is arranged to operate on both sides of a ratchet pinion which communicates motion to a toothed driving wheel.

Claim.—1. The combination of the double ratchet pawl A D, ratchet pinion F, lever E, connecting rod 14, lever, Fig. 4, arm 22, treadle, Fig. 5, and balancing weight, Fig. 6, substantially as set forth.

2. The combination of the ratchet pinion F and gear wheel *g′*, as and for the purpose set forth.

81,968.—ARTHUR GATES WILSON, New York, N. Y.—*Oil Tank.*—September 8, 1868.—The wooden bottom is covered with corrugated material and has a tube inserted near the periphery of the tank covered with wire gauze. The head is detachable.

Claim.—1. The bottom F, strainer H, and tube G, all arranged and combined substantially as described and for the purposes set forth.

2. The detachable head B, when so arranged within the cylinder A as to have its upper surface fall below the walls of said cylinder, to operate in connection with the supplemental cover C, substantially as and for the purposes specified.

81,969.—T. F. ALLYN, Nyack, N. Y.—*Bow Spring for Railway Cars.*—September 8, 1868.

Claim.—1. A bow spring, composed of one or more plates of metal, either square, rhombic, circular, oval, or any equivalent shape, bent to the form of a bow, so as to have two outside bearing surfaces or points opposite to each other, or nearly so, substantially as described.

2. The application of the foregoing described plates, in combination with the bolsters or frames of cars or carriages, substantially as described, and for the purpose set forth.

81,970.—EDGAR JOHN AMOR, New York, N. Y.—*Combined Screw Driver and Wrench.*—September 8, 1868.—The blade is provided with slots for use as a wrench on taps, &c.; also with an oblong slot in the forward end for the insertion of a fork or other screw driver.

Claim.—The blade B, provided with a series of angular-shaped openings, *a*, near its handle end, with an oblong slot, *b*, in combination with a removable or detachable fork screw, driving blade, or other bit, arranged to stand at right angles to the blade B, near its forward end, for operation essentially as described.

81,971.—JAMES ARMSTRONG, Bucyrus, Ohio.—*Feed-Water Heater and Filter.*—September 8, 1868.—The pans have flanges, and the diameter of the upper pan is less than the one next below it. The larger one has an opening in the center, around the edge of which is a flange. The water, after passing over the pans, enters a chamber containing filterers. At the bottom of the chamber containing the pans is a flanged disk, which can be removed for cleaning.

Claim.—1. The pans B B′, when constructed and arranged substantially in the manner shown and described.

2. The combination of the steam pipe G, chambers F and F′, substantially in the manner shown and described.

3. The chambers F F′ and the filters *e* and *f*, when constructed substantially in the manner shown and described.

4. The arrangement of the pans B B′ and the disk B″, substantially in the manner described.

81,972.—JAMES ARMSTRONG, Bucyrus, Ohio.—*Steam Generator.*—September 8, 1868.—Vertical tubes are arranged vertically side by side, close together, their upper and lower ends being connected by horizontal pipes. The ends of the tubes are closed by screw caps, which are removed for cleaning. The inner tubes are arranged with spaces between for the heat to circulate. The fire box is made of tubes arranged like the end and sides.

Claim.—1. The arrangement of the outer and inner tubes of the boiler, whereby the heat is caused to circulate around the inner ones, substantially as shown and described.

2. The construction of the fire box with the surrounding tubes, as herein shown and described.

3. The construction of the hollow screws *a*, and the arrangement of them with the tubes B, as herein shown and described.

81,973.—JOSEPH H. C. BACHELDER, Winstead, Conn.—*Rolling Mill.*—September 8, 1868.—The taper of the bar is regulated by sectional hinged slides, operating under the bearings of the under roll, and operated by pinions gearing into racks on the under side of the slides. A graduated wedge is inserted between the sections, which, during the operation of the machine, causes the rolls to rise. Attached to the frame, in front of the rolls, is a self-acting tongs, operated by a cam-wheel, connecting with a lever on the lower part of the tongs.

Claim.—1. The slides J J, with their racks O, movable bearings H H, graduated wedges K, guards L, and pinions P P, when arranged, constructed, and operating as described and for the purpose set forth.

2. The tongs V, with their lever Z, spiral spring X, lever W, and cam wheel U, when arranged, constructed, and operating as described and for the purpose set forth.

3. Pin *b* on sliding wedge, in combination with dog *c*, shaft *d*, upright slotted arm *e′*, bell lever *f*, horizontal side *g*, clutch *h*, movable coupling *l*, treadles *m* and *p*, rod *n*, spiral spring *w*, loose sleeve *s*, arm *u*, and shoulder *v*, all arranged and operating as set forth.

81,974.—JOHN A. BASSETT, Salem, Mass.—*Apparatus for the Manufacture of Heating and Illuminating Gas.*—September 8, 1868.—An air pump is used similar in construction to a wet meter. At the inlet of this pump a chamber is placed, containing a series of perforated diaphragms. A reservoir containing hydro-carbon is placed above the pump, at the bottom of which a valve is placed, so connected with the pump shaft that at each revolution of the shaft a quantity of hydro-carbon passes into the carbureter.

Claim.—1. The arrangement of the valve J, in connection with a reservoir of hydro-carbon liquid, for the purpose set forth.

2. The combination of the chamber E with the pump B, the chamber containing a series of forami-

nous diaphragms or fibrous material, for the purpose substantially as described.

81,975.—Henry Bechtold and John Nunamacher, Lancaster County, Pa.—*Yellow Wash for Barns, Buildings, &c.*—September 8, 1868.—Composed of coperas, yellow ochre, chrome yellow, alum, glue, and salt, mixed in hot water.

Claim.—The composition of a yellow wash or paint, combined substantially in the manner and for the purpose specified.

81,976.—Horatio B. Beckman, Newburg, N. Y.—*Steam Safety Valve.*—September 8, 1868.—Upright, elliptical springs are placed in grooves on top of the safety valve, their upper ends being kept in place by a disk, grooved on its lower surface. The said disk is made adjustable to regulate the power of the springs.

Claim.—The arrangement of the safety valve A, adjustable elliptical springs s^1 s^2 s^3, and plate C, substantially as herein specified.

81,977.—Charles Birkenshaw, Chicago, Ill.—*Sewer Pipe.*—September 8, 1868.—The end of the pipe connecting with the main sewer is provided with a valve, hinged at the top and opening toward the main sewer, so as to prevent currents of gas from passing back.

Claim.—The combination of the chamber B, pipes B B′, and valve C, arranged substantially as and for the purpose set forth.

81,978.—George Blake, Whitby, Canada, assignor to himself and Thomas Connar, same place.—*Harvester Rake.*—September 8, 1868.—The inner end of the rake works in bearings in a bracket attached to a shaft working in a hollow pedestal. A toothed segment engages with a pinion attached to said shaft and revolves the rake. A finger is secured to the end of the rake shaft, and by striking a plate on the pedestal raises or lowers the rake teeth.

Claim.—1. The case G and hollow pedestal F, for containing and supporting the gearing that operates the rake, substantially as herein shown and described.

2. The combination of the connecting rod J, internally-toothed segment I, gear wheel H, shaft E, bracket D, and rake head C, with each other, and with the hollow pedestal F, and case G, substantially as herein shown and described, and for the purpose of operating the rake B C.

3. The spring L, attached at one end to the bracket D, and at the other end to the rake head C, by the pin M passing through a slot in the journal of the rake head, in combination with the finger N and fixed plane O, all arranged and operating as described, for the purpose specified.

4. The combination of the finger N, stop-pin P, and plane O, with the rake head C and hollow pedestal F, whether said plane be stationary or adjustable, substantially as herein shown and described, and for the purpose set forth.

81,979.—M. S. Bringier, Ascension Parish, La.—*Mode of Purifying Water.*—September 8, 1868.—A wall of felt is secured to the inner surface of the perforated sides of a drum. The felt takes up the impurities as the water is forced through by the centrifugal force caused by the revolution of the drum.

Claim.—The process of filtering water, by passing it through a vessel, constructed and operating substantially as described, whereby it is subjected to the action of centrifugal force, and a more rapid filtration is effected as set forth.

81,980.—Albert Burhaus, Albany, N Y., assignor to himself and Henry H. Burhaus, same place.—*Potato Digger.*—September 8, 1868.—A double share with a shoe is attached to a beam similar to that of a plow. An inclined scoop runs from the back of the share and is slotted, each slot having rollers provided with projections for breaking the soil. A vibratory sieve is placed back of the scoop, and is operated by a rod and crank connected with a toothed wheel on the axle. Two boxes supported on sled runners receive the potatoes from the sieve.

Claim.—1. The scoop E, furnished with the lateral slots *e e e*, in combination with the rollers *r r*, or their equivalents, as and for the purpose set forth and described.

2. The double share B, in combination with the land shoe C and the scoop E, as and for the purpose set forth and described.

3. The sieve J, operated by the rod *o*, shaker piece *s*, rod *d*, crank *c*, pinion *p*, and gear *x*, and all in combination with the wheels N N′, and frame G and axle F, as and for the purpose set forth, and described.

4. The sled runners L L and boxes K K′, in combination with the sieve J and its carriage, as and for the purpose set forth and described.

81,981.—R. K. Chandler, Ruther Glen, Va.—*Stocking Stretcher.*—September 8, 1868.

Claim.—1. Constructing a stocking stretcher, with the hinged sections A B, and the catching device D arranged at the upper side of the sections, in such a manner that the stretcher is expansible after the stocking has been drawn upon it, substantially as described.

2. Providing for lengthening or shortening the foot portion of a stocking stretcher, by means of a longitudinally-adjustable toe section, C, substantially as described.

3. Forming notches or serrations, C, upon the edges of a stocking stretcher, substantially in the manner and for the purposes described.

81,982.—Lewis Charles, Clear Springs, Md.—*Farm Gate.*—September 8, 1868.—The gate slides longitudinally on a supporting bar made in two pieces, one being secured to a panel and the other pivoted near its center. They are made beveling where they join; a spring keeps the pivoted bar in place.

Claim.—1. The combination of the sliding gate A with the pivoted supporting bar *d d′*, substantially as described.

2. The combination of the spring stop *s*, bar *d d′*, panel B, and gate A, substantially as described.

81,983.—Jonathan M. Clark, New York, N. Y.—*Steam Generator.*—September 8, 1868.—Tubes are combined with enlarged hollow heads covered externally with cap plates and communicating directly one with the other by orifices in their sides and edges. Said heads are square and have a rubber packing between them and are drawn together by nuts on bolts fastened to one of two adjacent heads.

Claim.—The angular hollow head B, constructed with passages *c* for the circulation of water or steam, secured together by pin projections *g* and nuts *f*, and with removable covers *a*, combined with the tubes A, substantially as shown and described for the purpose set forth.

81,984.—C. H. Cleveland, Selma, Ala.—*Suspender.*—September 8, 1868.—The shoulder straps have a series of eyelets through which a corset lace is inserted for increasing the bracing property of the straps.

Claim.—The suspender or shoulder brace, composed of two single straps, B B, each passing from its attaching strap at the one side over the shoulder to the attaching strap on the reverse side of the body, when shoulder straps are provided with eyelets *d d* and a bracing cord, D, substantially as described and for the purpose specified.

81,985.—James M. Cook, Washington, D. C.—*Car Coupling.*—September 8, 1868.—A spring forces the end of the lever against a shoulder on the lower side of a pivoted link and keeps the link elevated until the draw heads coming in contact, the lever is released and the link drops.

Claim.—The coupling link B, provided with a shoulder, *b′*, the lever C, spring D, and rod F, when the whole are arranged and combined substantially as described, as and for the purposes specified.

81,986.—John H. Crane, Charlestown, Mass.—*Flexible Abrader and Polishing Fabric.*—September 8, 1868.—A central web of flexible material is covered on both sides with the abrading material.

Claim.—As a new article of manufacture, the double-surfaced flexible abrader, substantially as shown and described.

81,987.—William D. Cutler, Philadelphia, Pa.—*Method of Preparing, Desiccating, and Preserving Fish.*—September 8, 1868.—The skin and bones are removed from the fish; it is then put in a grating machine so as to disintegrate the fiber; it is then desiccated by spreading on stone slabs subjected to heat.

Claim.—1. The boned and desiccated fish, as a new manufacture and commercial article.

2. The herein-described process or method of treatment of fish, substantially as set forth and for the purposes specified.

81,988.—John Dillingham, Turner, Me.—*Door and Safe Lock.*—September 8, 1868.

Claim.—1. The peculiar constructed key, having projections or bits *a b c*, substantially as and for the purpose set forth and described.

2. The arrangement of the main bolt, in combination with the plunger *m* and levers *g g*, substantially as described and for the purposes set forth.

3. The form and arrangement of the plunger, in combination with the levers *g g*, acting on the pawls *f f*, substantially as described.

4. The arrangement of the sliding plates, which effectually close the several key-holes, as and for the purposes substantially as described.

81,989.—Thomas Dutton, Port Jervis, N. Y., assignor to himself and **Thomas Maguire**, same place.—*Low-water Detector for Boiler.*—September 8, 1868.—The plug is made of brass and the holes are threaded and countersunk to retain the fusible alloy; it is bell-mouthed, and the interior forms a fire chamber above the crown sheet, the top being so far above it as to melt before the sheet is uncovered by water.

Claim.—The construction of the plug *a*, substantially as herein set forth.

81,990.—Nathaniel Edwards, Newark, Ohio.—*Combined Latch and Lock.*—September 8, 1868.

Claim.—1. The manner of connecting and disconnecting the two knobs, in connection with any opening face plates of locks, by making an indenture, G′, in connection with either one of the knobs, and a corresponding projection, G, in the other, substantially as above described.

2. The plate or tumbler bearer E, in Fig. 5, being a slotted plate, with a projection, P, turned out at one end to hold the tumblers in position, so that the bolt may work as latch, and with another projection *y*, or indenture in such a position as to enter a corresponding indenture *y*′, or projection in the spindle of the knobs, so as to engage with the same when the tumblers are dropped, when constructed substantially as herein shown and described.

3. The lever D, Fig. 7, which has a lifter, *p*, for the joint purpose of raising the tumblers and bracing back the bolt, and in combination with the locking projection *a*, and the stud A, and the projection R, or its equivalent, on the bolt, for the purpose above specified, when made and arranged substantially as above shown and described.

4. The manner of converting the lock from a latch into a night bolt, by raising the tumblers too high to be operated upon by the key, and bracing the bolt in the same operation, by elevating the lifter *p* of the lever D, by the assistance of *x*′, with its connections, and then locking the same in its elevated position, by causing the stud A to engage with the projection *a* by pulling out the tumbler bearer, as above specified.

81,991.—Jeremiah D. Eggleston, Canaan, Conn.—*Means for Securing Springs for Beds and Seats.*—September 8, 1868.—Holes with screw threads are made in the slats, into which the conical end of the spiral spring is made to screw.

Claim.—The screw nut A, combined with the spring B, substantially as and for the purpose set forth.

81,992.—C. E. Fox and **Mary E. Fox**, Gilroy, Cal.—*Dye Stuff.*—September 8, 1868.—The roots of an evergreen shrub "mancineta" are crushed and pulverized, then boiled to extract the coloring matter.

Claim.—The extract or coloring matter of mancineta, as a new article of manufacture, for its various uses as herein specified.

81,993.—Kasson Frazer, Syracuse, N. Y.—*Wedge Buckle for Harness.*—September 8, 1868.

Claim.—1. The wedge W, when made with the transverse slot *i*, hole *m*, and stop *r*; the tongue T, made with the journal *o*, shank *p*, and guard *q*, each substantially in the form and for the purposes described.

2. The same parts, in combination with each other, when connected by a joint, and forming a wedge and tongue, substantially in the manner and for the purposes described.

3. The wedge W and tongue T, when made as aforesaid, in combination with the buckle frame A, having an angular box *x*, as described, all operating in the manner and for the purposes substantially as above set forth.

81,994.—John Gardiner, Philadelphia, Pa.—*Malt Mill.*—September 8, 1868.—The rollers work between vertical cast-iron plates faced with steel which are bolted to the bed plate that supports the rollers.

Claim.—The construction of the cheeks D D with steel plates E E, and the arrangements of the said cheeks with the mashing rollers B C, substantially in the manner hereinbefore described, and for the purpose set forth.

81,995.—Christian Good, Arcanum, Ohio.—*Smoke House.*—September 8, 1868.—A flat roof covers the house and is provided with a trap door for ventilation. This roof is covered by a slanting roof provided with a stationary cap, two sides of which are open and covered with wire netting.

Claim.—A stationary smoke-house, when constructed as described, and provided with a fire pot H, trap door C, in the roof, and with openings in its sides, said openings being covered with wire netting, and closed by means of shutters F F, substantially as and for the purposes herein set forth.

81,996.—Charles T. Grimes, Garrard County, Ky.—*Plow.*—September 8, 1868.—Two distinct plows are connected together by means of adjustable cross-pieces, so that they may be brought together or placed further apart as required.

Claim.—1. The modes of making handles H and K, and so arranging them on beams G and J that they may be used as handles for two turning plows and as helves for two shovel plows, when the turning plows and helves V and S and rods T and W are removed.

2. The mode of combining the handles H and K, and beams G and J, by means of cross-bars A *a* and B *b*, and rods C *c* and D *d*, and rods E *e* and Z *z*, so that the two plows are used by one person.

81,997.—J. P. Grosvenor, Lowell, Mass.—*Molding Machine.*—September 8, 1868.—The mandrel has bearings in a vertically sliding frame, moving in guides. A screw shaft has fixed bearings in the guide frame and screws through a lug on the sliding frame; this screw shaft is suitably geared and connected with a hand wheel placed at the side of the machine. By turning this hand wheel the cutter head is raised or lowered to suit the operator.

Claim.—The described arrangement of the hand wheel J, at the side of the machine, under the edge of the table A, the beveled gearing *h*′ *i*, shaft H, pinion wheels *h* G, screw F, vertically-sliding mandrel frame D, and guides E, as herein set forth, for the purpose specified.

81,998.—William H. Hall and **John R. Clifford**, Boston, Mass.—*Anti-Interfering Band.*—September 8, 1868.—The band is of rubber and is lined with kersey or felt vulcanized in one process in a mold by combining the two together.

Claim.—As an article of manufacture, an interfering rubber guard, when constructed as described, and attached to kersey, as herein shown, and for the purposes set forth.

81,999.—George H. Hawkins, New York, N. Y.—*Construction of Dolls' Heads.*—September 8, 1868.

Claim.—A toy figure head, when composed of a textile fabric, which is previously stiffened with a glutinous material, then pressed in parts between heated dies, and afterward having the edges or seams of such parts joined by means of heated dies, in the manner substantially as herein described.

82,000.—William H. H. Hinds, Groton, Mass. —*Candlestick.*—September 8, 1868.—A cap, perforated for the flame to pass through, is attached to a slide working on the lower part of the candlestick. The candle rests on a cup supported by a spring which can be stiffened by raising the thumb piece on which the spring rests, and which fits in slots in the lower part of the candlestick. The snuffers are operated by mechanism placed on top of the slide.

Claim.—1. The cap *a*, with its support or supports *n*, for the purposes set forth, and substantially as herein described, and as shown in Figs. 1, 2, and 3.

2. The receptacle *g*, and the slide or sleeve *h*, with the catch *p*, for the purposes set forth, and substantially as herein described and shown in Figs. 1 and 3.

3. The snuffers *f f*, supported and operated by means of the cylinder *c* and the collar *d*, substantially as herein described, and as shown in Figs. 1 and 4.

4. The slit *o* and the notches 1 2 3 4 5, together with the thumb piece *z*, for the purpose set forth, substantially as herein described and shown in Figs. 6 and 9.

82,001.—S. L. Hockert, Milwaukee, Wis., assignor to G. W. Perrine, same place.—*Abdominal Supporter.*—September 8, 1868.—A metal stud is secured to each end of the abdominal pad, and has a hook in the center to receive the end of the spring wires.

Claim.—1. Connecting the side springs to the front pad by hooks, in the manner shown.

2. The side or hip pads D, attached loosely to the cylindrical side springs B B by staples F, so that said pads may be perfectly free to move in any direction to adapt themselves to the surface of the body.

3. Securing the cylindrical side springs to the back pads by screwing the ends of said springs into the button studs, in the manner shown.

82,002.—William Holmes, Clarksville, N. Y.—*Horse Hay Rake.*—September 8, 1868.

Claim.—1. The locking bolt M, moving in a guide way on the axle, and operated by means of the lever to hold the teeth down, substantially as set forth.

2. The combination, substantially as set forth, of the lever operated by the foot of the driver, and the devices for depressing and elevating the rake teeth.

82,003.—George Holton, Chicago, Ill.—*Smoke Stack.*—September 8, 1868.—The lower end of a wire netting, made in the form of an inverted frustum of a cone, rests on a funnel-shaped deflector for guiding sparks outwardly, its top being attached to the outside casing.

Claim.—The inverted conical netting D, attached to the top of the double conical case B, arranged with reference to the pipe A and deflector C, the latter being held in position over the pipe A by rods E, and having a flange, G, at its top, for supporting the lower end of said netting, substantially as and for the purpose specified.

82,004.—James M. Johnson and John Herig, Cleveland, Ohio.—*Mortising Machine.*—September 8, 1868.—The chisel holders are provided with projections that fit in a slot in the cross-head, and also with tongues fitting into grooves on the lower side of the cross-head. They are held in place by a bolt passing through the chisel holders and the slot in the cross-head, which is secured by a thumb screw.

Claim.—The chisel holders F F, constructed as described, in combination with the cross-head E, to operate as and for the purpose set forth.

82,005.—Ernest Kaufmann and Antony Weber, Philadelphia, Pa., assignors to Ernest Kaufmann.—*Butter Cooler.*—September 8, 1868.—The drip chamber is made removable and sets on a ring attached half-way round to the lower part of the cooler. Slip collars are used for holding the journals or pivots of the cover in place.

Claim.—1. The construction of the part A with the ring C, and combining the chamber D therewith, substantially in the manner and for the purpose above described.

2. The combination of the slip collars E, journals *a a*, and bearings *b b*, with the part A, and cover B, and spring C, substantially as described and for the purpose set forth.

82,006.—H. A. King, Nevada, Ohio.—*Bee Hive.* —September 8, 1868.—Through the top of the lower honey boxes are slots, at right angles with which latter are placed the guide combs. Slots are formed in the upper of the top bars, between which latter are nailed the comb guides.

Claim.—1. The slots *z*, in connection with a double tier of honey boxes with comb foundations, as specified, and for the purposes set forth.

2. Constructing the close fitting top bars O, with comb guides U, and slots, as specified, and for the purposes set forth.

82,007.—Abraham Kipp, Jr., Sing Sing, N. Y. —*Rotary Steam Engine.*—September 8, 1868.—A stationary disk valve occupies a concentric position to, and bears freely against, the inner face of the drum. A steam opening of segmental form is made through the disk while an exhaust cavity is formed in it on the opposite side of two segmental blocks. Across the face of the drum are radial passages terminating at their outer ends in parts which communicate with the cylinders at the backs of the pistons and at their inner ends in parts covered by the disk valve.

Claim.—1. The combination of double cylinders C C and D D, open at their inner ends to a steam chamber or space, pistons E E and F F, with their rods and yoke G and H, crank I, and valve controlling the flow of steam to and from the backs of the pistons, essentially as herein set forth.

2. The combination of the double cylinders C C and D D, arranged, either pair at right angles, or thereabouts, to each other, and with their inner ends open, as described, and in communication with a central or intermediate steam chamber or space, pistons E E and F F, with their rods *b b*, *c c*, and yokes G H, crank I, and valve controlling the admission and escape of steam to and from the backs of the pistons, substantially as specified.

3. The valve K, when constructed and arranged for operation, in combination with the double cylinders, their pistons and crank, substantially as shown and described.

82,008.—Thomas B. Kirby, Flowerfield, Mich. —*Animal Trap.*—September 8, 1868.—The trap is provided at one end with a bait box partitioned off with wire netting. The bottom of the trap is pivoted so that the animal will drop into water placed below.

Claim.—The combination and arrangement in the rectangular frame A, divided by the partitions C and E, of the valve H, with the perforated bait box K, having a hinged cover, F, substantially as and for the purposes herein set forth.

82,009.—Edmund W. Kittredge, Cincinnati, Ohio.—*Paving Roller.*—September 8, 1868.—One or more cressets or fire baskets are suspended within the roller in such a way as to preserve their proper position during the rotation of the roller.

Claim.—1. The suspension of one or more cressets to the axle, within the revolving cylinder, substantially as and for the purpose set forth.

2. The closing with covers the ends of a revolving roller, within which are suspended one or more cressets for holding fire, substantially as and for the purpose set forth.

3. The arrangement of cylinder A, revolving on a fixed axle, D, from which are suspended one or more cressets J, and to which are secured the perforated heads F F', as and for the purpose set forth.

4. In combination with the elements A, D, J, F, F', one or more doors H, for the purpose explained.

82,010.—Peter Lauster, Allegheny, Pa., assignor to Lang & Lauster, same place.—*Jug Top.*—September 8, 1868.

Claim.—1. The hinge, knob, and lid, made separate and distinct from each other, and united together by making perforations in the hinge and lid, as described, and casting the knob, to unite with them by metal used in producing the knob entering said perforations, to form a rivet, and whereby solder, to establish the junction of said parts, is avoided, and, after riveting of the knob, dispensed with.

2. The combination, with the lid, hinged to rotate from the inside of the body, of the plate or filling *b*, connected with the lower part of the interior flange *a* of the body, substantially as and for the purpose herein set forth.

82,011.—Elijah Lindsley, Neenah, Wis.—*Fanning Mill.*—September 8, 1868.—The sieves are bent at an angle near the center and elevated at their rear ends. A short screen is placed under the sieves and is provided with a spout for carrying the grain.

Claim.—1. The sieves *b* and *c*, when bent as described, and operating as and for the purposes herein set forth.

2. The screen *d*, in combination with the sieves *b* and *c*, when constructed and operating as and for the purposes herein set forth.

82,012.—John M. Losie, Indianapolis, Ind.—*Spring Bed Bottom.*—September 8, 1868.—A piece of rubber is secured between the corrugated ends of two slats which are slotted and fastened to the spring bed bottom.

Claim.—The slotted metallic plates E F, constructed as described, in combination with the elastic gum H, as and for the purpose specified.

82,013.—Henry D. Lyman, Kalamazoo, Mich.—*Horseshoe.*—September 8, 1868.—Pivoted to the heels of a shoe are clips, the outsides of which will come in contact with the inside of the rim of the foot and adjust themselves to the angle of the hoof for the purpose of spreading it.

Claim.—The attachment of adjustable clips B to the heel of a horseshoe, when operating with a pivot, substantially as set forth and shown.

82,014.—Austin Z. Mason and Richard B. Robbins, Adrian, Mich., assignors to Richard B. Robbins.—*Vise.*—September 8, 1868.—Improvement on patent of A. Z. Mason, April 28, 1868. The ring has a short hub to keep it in place on the plate, its center being concave to admit the opposite sides of a spherical bulge, said bulge being provided with ribs which fit into recesses in the ring for allowing a swivel movement. The ring is provided with stops so that it can be turned around a part of the circumference. When used for parallel work a semi-annular ring is placed over and against the stops.

Claim.—1. In combination with the ring C, constructed with the oblique faces *x* and *y*, the recesses *m'* and *n*, and one or more projecting stops *c* and *e*, to prevent it from turning more than one-fourth of a circumference, the whole constructed in the manner substantially as set forth and described.

2. The spherical bilge D, with one or more ribs *m* and *n*, or their equivalents, in combination with the ring C, constructed substantially as set forth and described.

3. The semi-annular ring K, in combination with the ring C and washer plate B, substantially as described.

82,015.—Morris Mattson, New York, N. Y.—*Breast Pump.*—September 8, 1868.—The vacuum glass is made trumpet-shaped at the end, and is provided with a bulb for the reception of the milk. A bulbous exhauster is used, as in his patent of August 13, 1867, and provided with elastic floating valves similar to those described in patent of April 4, 1854.

Claim.—The combination, with a vacuum glass, constructed substantially as described, of an exhausting mechanism or instrument, having a double valvular apparatus operating substantially as and for the purposes set forth.

82,016.—William McFarland and William H. Butler, Williamsburg, N. Y.—*Fire-proof Safe.*—September 8, 1868.

Claim.—1. The insulation of each section or recess of the door, in combination with the air spaces, as and for the purposes herein set forth.

2. The method of forming spaces in the filling of the safe, by inserting patterns of wood, to be withdrawn after the filling substance has set, and supplying said spaces with a vaporizing substance, substantially in the manner as and for the purposes herein described.

3. The manner of securing the separate sections of doors by placing supporting blocks, made of material which is a non or inferior conductor of heat between them, so that there is no continuation of metal or good heat-conducting substance from the outside covering to the inside repository, as herein set forth.

82,017.—William S. McNeil, Springfield, Mass.—*Hammer and Mallet.*—September 8, 1868.—A hammer and mallet are so combined that the mallet can be removed when not used. The pene is placed on the hammer head instead of the opposite end.

Claim.—1. A hammer and mallet combined, in which the mallet B fits in a socket, *a*, constructed in the piece A, having the head C with pene *c*, the parts being combined and arranged substantially as herein shown.

2. The arrangement of the pene *c* upon the head, C, of the hammer, substantially as shown.

82,018.—Henry F. Metzler, New York, N. Y., assignor to Louisa Metzler, same place.—*Swing.*—September 8, 1868.—Seats are placed on a platform resting on cross bars, the latter being pivoted to the suspended bars and extending beyond them, having foot boards placed across their ends, so that the occupant can operate the swing by moving the suspended bars.

Claim.—1. The four suspended vibrating rods or bars, in combination with the pivoted cross bars, for supporting a seat or seats, substantially as and for the purpose described.

2. The four suspended vibrating rods or bars, in combination with the pivoted cross-bars supporting a seat or seats, and the lower pivoted cross-bars and treadle or treadles, substantially as described.

82,019.—Henry Meyer, Richmond, Ind.—*Stove-pipe Drum.*—September 8, 1868.—An arrangement of flanges within the chamber of the drum, in combination with the damper, divert the ascending currents, and by causing them to be delayed produce a greater radiation.

Claim.—The parabolical flues and damper, constructed and arranged in relation to each other and to the casing of the drum, substantially as set forth.

82,020.—Philip Meyercordt, Chicago, Ill., assignor to himself and Henry Winter.—*Sewer Pipe.*—September 8, 1868.—Charcoal and sawdust are mixed with clay and sand for the purpose of making the pipes porous. After being burned they are coated with sulphuric acid diluted with water.

Claim.—The ingredients herein named, when manufactured into pipes, substantially as herein set forth.

82,021.—Reuben C. Mighell, Plano, Ill.—*Gate.*—September 8, 1868.—The lower end of the gate is pivoted and a weighted lever is hinged to its upper end to assist in opening it.

Claim.—1. The lever C, constructed and operating substantially as described.

2. The spring V, in combination with the fulcrum H, for the purposes specified.

3. The combination of the gate A, lever C, hinge D, weight E, roller G, and pivot F, all constructed and operating substantially as described.

82,022.—Willard F. Oliver, Lynn, assignor to Boston Shoe-Stud and Button Company, Boston, Mass.—*Shoe Lacing.*—September 8, 1868.

Claim.—1. A shoe, provided with a series of hooks, or their equivalents, for receiving and holding the string, when arranged substantially as set forth.

2. The catch or clamp *a*, with its arms *c* pivoted to the hook D, and arranged for holding the string, substantially as described.

82,023.—Clark D. Page, Rochester, N. Y.—*Lime Kiln.*—September 8, 1868.—Flues are placed next to the inner edge of the wood binders for the passage of air.

Claim.—1. The combination and arrangement, with the grate bars *g g*, of the cross bars *k i*, the first being fixed, and forming a fulcrum for the leverage of the grate bars in shaking, and the latter being hinged, so as to turn up and down to secure the grates, or allow them to be shaken, as herein set forth.

2. The flues *b*, constructed as described, next to the inner edge of the wooden binders *a* of the kiln, to operate in the manner and for the purpose substantially as described.

82,024.—Charles T. Palmer, Norwich, Conn.—*Spice Box.*—September 8, 1868.—Improvement on his patent of June 23, 1868.

Claim.—In the spice box or can, as made with a series of holes in its cover or end, or as having a disk or cap to cover such holes, the constructing both the cover or end or head of the box and the disk, with an annular groove in the one, and a corresponding annular bead to project from the other, and to fit to or into such groove, in manner substantially as described.

82,025.—Stewart B. Palmer, Syracuse, N. Y.—*Low Water Alarm for Steam Generator.*—September 8, 1868.—The lower ends of metal tubes are connected with a chamber receiving steam from the generator, their upper ends being closed, and pivoted thereto are two arms, the other end being pivoted to a rod connected with a steam whistle.

Claim.—1. The combination of the chamber B, tubes C C, with their surmounting chambers D D, rods E E, links *a a*, and rod H, arranged and operating substantially as shown and described.

2. The arrangement of the rod H, lever I, and spring *b*, with reference to the whistle J and its valve.

82,026.—Charles W. Patton, Exeter, Ill.—*Wheat Drill.*—September 8, 1868.—The seed hopper is divided by a partition having a door at the top. The discharge is regulated by two concavo-convex plates placed in the bottom of the hopper and provided with apertures; the upper plate is stationary, the lower one having a longitudinal movement, and actuated by a lever attached to a shaft having arms which engage with projections on the plate. A projection on the slide comes in contact with a key provided with notches for graduating the openings.

Claim.—1. The hopper, divided into compartments by the partition D and door D′, substantially as and for the purpose set forth.

2. In combination with the perforated plates E and F, the graduated key G, for regulating the amount of grain to be sown, substantially as set forth.

3. The combination of the lever H, shaft H^1, arms H^2, and the sliding plate E with projection E^2, substantially as and for the purpose set forth.

4. The combination of the sliding plate E, key G, stop E^1, and springs I, arranged to operate substantially as described.

5. In combination with the cutters O, and drag bars K, the springs on the rods M, segments N^1, shaft N, and lever N^2, and cord N^3, for raising the cutters and forcing them into the ground substantially as set forth.

6. The combination of the frame, the drag-bars, the rear frame, and vertical guide-rods L, arranged substantially as set forth.

82,027.—Joseph B. Pedrick, Lowell Mills, Ind., assignor to himself and Joseph F. Gent, same place.—*Reciprocating Steam Engine.*—September 8, 1868.—The steam chest consists of a lower and upper chamber, the partition between being provided with a port at its center. A valve with an inclined opening, having the widest part against the partition and the narrowest part resting over and equal to the parts in the valve seat, regulates the admission of steam to the cylinder.

Claim.—The arrangement of the valve K, valve boxes G M, and the pipes B A and C D, substantially as shown and described.

82,028.—George Gilman Percival, Philadelphia, Pa.—*Apothecaries' Labels.*—September 8, 1868.—Ordinary bottles are converted into graduated ones by means of printed graduated labels pasted on them.

Claim.—The combination of a graduated scale with an otherwise ordinary paper label, substantially as above described.

82,029.—William B. Perrie, Horse Head, Md.—*Martingale.*—September 8, 1868.—Designed for fastening the horse without the necessity of unbuckling the rein.

Claim.—1. The loose ring G, in connection with the part D, provided with the stud C, as shown in Figs. 1, 2, 3, 4, and 5, substantially as and for the purpose set forth.

2. A solid ring martingale, D, with the stud C, projecting from its periphery in the direction of its center, substantially as and for the purpose set forth.

82,030.—Oliver E. Pillard, New Britain, Conn., assignor to Frederic H. North, same place.—*Adjustable Tumbler for Permutation Lock.*—September 8, 1868.—Improvement on patent No. 71,640. Relates to that class of locks in which a series of circular tumblers is mounted on a stud, each tumbler being provided with an inner disk and stud for communicating motion to each other in setting them by the dial.

Claim.—The circular tumbler, formed of the plates 1 and 2 and flanges 3 and 4, and divided as at 6, in combination with the link plate *e*, and eccentric *i*, constructed and applied in the manner and for the purposes set forth.

82,031.—Neils Poulson, Washington, D. C.—*Window Shutter.*—September 8, 1868.—Plates of corrugated metal are attached to jointed frames which consist of bars hinged together in pairs, so that when lowered, a corrugated surface will be presented, and when raised the plates will fit in a smaller space.

Claim.—1. The combination of the folding bars A A^2, and corrugated plates B, when said plates are attached rigidly to the inner bars A, as herein described, for the purposes specified.

2. The sliding plates M, in the described combination, with the folding shutter A A^2 B, to mask or protect the vertical edges of the said shutter, substantially as explained.

3. The arrangement of the tenons *b′ b′*, of the plates B, alternately on opposite edges of the bars A, substantially as and for the purposes set forth.

82,032.—Neils Poulson, Washington, D. C.—*Awning.*—September 8, 1868.—Constructed of plates of metal or other material, attached to hinged bars, so as to fold compactly together when not in use, and when in use, present a continuous surface.

Claim.—1. The folding bars D D′, working upon inclined supports, A, and carrying plates or sheets E, attached to the inner bars D, substantially as and for the purposes specified.

2. The tubes B, employed in combination with the awning D E and trough C, both as a means of support and for conducting water, as explained.

82,033.—Edmund W. Quincy, Lacon, Ill., assignor to himself and William H. Copp, same place.—*Wrench.*—September 8, 1868.—The jaws, provided with right and left hand screws, slide over a bar for the purpose of a double leverage, and allowing the handle to slide out of the way of an obstacle in its rotation.

Claim.—A sliding handle, as a constituent element of a hand wrench, substantially as described.

82,034.—William L. Reck, Darke County, Ohio.—*Tile Machine.*—September 8, 1868.—The feed ing box is provided with an air aperture closed by a gate operated by a pivoted rocking frame, which latter is actuated by the snap-bar of the pug-mill, so as to allow the escape of air from the feeding box.

Claim.—The horizontal rocking frame N, actuated by the sweep bar J, and operating the gate M, to open and close alternately the aperture *e* in the feeding box E of my improved machine, substantially as herein set forth.

82,035.—MORGAN L. RICH, Sand Bank, N. Y.—*Bin for Sugars, &c.*—September 8, 1868.—The bins are arranged around a central core, so that the top forms a counter for the scales, which may be readily accessible from all the bins.

Claim.—The bin, constructed as described, consisting of the radial portions C, around the standard B, all inclosed within the case, having inclined sides a^2 and hinged doors a^1, the latter adapted to close against the edge of the top D, which forms a scale support, as herein shown and described.

82,036.—JAMES ROBERTSON, Gosport, Ind.—*Hay and Cotton Press.*—September 8, 1868.—A vertical shaft, to which the platen is secured, has attached to it two tug levers connecting with another lever operated by tackle for raising and lowering it.

Claim.—The combination of the press beam, A, rollers B B, connecting beam C C, lever D, winch and axle G, and rope connecting the axle, the lever D, and the beam A, said parts being arranged in relation to one another, substantially as described.

82,037.—WILLIAM SANGSTER and JOHN BRETZ, Springfield, Ill.—*Brick Mold.*—September 8, 1868.—Partitions pivoted to a frame work of iron are made to fit in grooves in the bottom and sides of the brick mold.

Claim.—The combination of the frame bars B with the bars D pivoted thereto, supporting the partitions C, with the slotted mold box A, handles E, and ledges F, all constructed in the manner described and for the purposes set forth.

82,038.—IRVING W. SCRANTON, West Liberty, Iowa.—*Medical Compound.*—September 8, 1868.—Composed of chloroform, Jamaica ginger, peppermint, cinnamon, compound spirits of lavender, spirits camphor, tinct. opium, sirup and arnica.

Claim.—The above improved compound for the treatment of cholera in any of its stages.

82,039.—NICHOLAS SHOCK, Baltimore, Md.—*Corn Sheller and Cleaner.*—September 8, 1868.—The corn is fed between the serrated disks and the cob and grains of corn fall on an endless apron and are carried to the upper end of an inclined chute; the cob drops off while the grains run down the chute into a chamber from whence they are carried by an elevator to a spout.

Claim.—1. The combination of the serrated disks F F and feed spout G, substantially as shown and described.

2. The combination of the toothed disk C, the revolving apron *m*, and chute board *n*, all as shown and described.

3. The combination of the chute board *n*, the elevator, and the spout *t*, substantially as shown and described.

4. The combination of toothed disk C and the chute board *n*, substantially as shown and described.

82,040.—FRANCIS SMITH, Highgate, Vt.—*Horse Rake.*—September 8, 1868.—A cylindrical bar, having springs pressing upon the bars of the rake teeth, is pivoted to the rear side of the axletree and is operated by a lever. The rake teeth are raised and lowered by a strap secured to their rear ends and to a lever pivoted to the cross brace.

Claim.—The lever H, belt I, pulleys F and G, bar b', arms c', and rake teeth *t*, in combination with the pivoted bar L, bar N, and fingers p', all constructed, arranged, and operated in the manner and for the purpose set forth.

82,041.—ROBERT D. O. SMITH, Washington, D. C.—*Bit Stock.*—September 8, 1868.

Claim.—A bit stock, with the jaws D D, having a parallel movement, and sleeve C, or the equivalents of these parts, constructed so as to hold bit truly centered by seizing it by the cylindrical portion in front of the head thereof.

82,042.—NORMAN C. STILES, Meriden, Conn.—*Device for Turning Shafting.*—September 8, 1868.—Cutters are mounted on a stand radially and moved forward and secured by screws. Centering pieces are pressed outward by springs mounted in a ring made part of the stand, their outer ends being beveled and made to fit against inclined notches in another ring which is provided with a weighted arm and fits over the first ring. A milling tool is fitted to the inner ring for reducing the shaft to an exact size.

Claim.—1. The plate A and cutters B^1 B^2 B^3.

2. The arrangement of the centering device, the cutters, and the milling tool, substantially as and for the purpose herein described.

82,043.—MICHAEL STOLL, Conestoga Township, assignor to himself, BENJAMIN SNAVELY, and ANTHONY ISKE, Lancaster, Pa.—*Potato Plow.*—September 8, 1868.—The shovels are so arranged that when in one position the soil is thrown outward, and when reversed the soil is thrown inward.

Claim.—The arrangement and construction of my shovels 1, 2, and 3, with their respective beams, slots, screw bolts *b*, and countersunk segment G, and adjustable bearings E, in combination, with or without the separate center piece A, Fig. 2, all made in the manner and for the purpose specified.

82,044.—O. H. TAYLOR, Brooklyn, N. Y., assignor to WILLIAM E. PARRISH, New York City.—*Bit Stock.*—September 8, 1868.—The bit stock is provided with a transversely V-shaped opening to receive the bit, which is transversely V-shaped in the longitudinal line of the bit when in position.

Claim.—The socket A, contracted at one side, and adapted for the reception of a shank of a tool which may be secured in the stock by a screw, or its equivalent, so applied as to force the shank into the contracted portion of the socket, substantially as described.

82,045.—W. S. THOMPSON and R. VINCENT LOVE, Montgomery, Ala.—*Method of Fastening Hames.*—September 8, 1868.—The hook is provided with edges and held in place by a latch and button. The curved end of the latch is dovetailed and fits in a slot in the bar so as to relieve the strain on the rivet.

Claim.—1. The bar A, latch B, hook D and button *c*, constructed, operating, and arranged substantially as and for the purpose set forth.

2. The dovetail *d*, in combination with the bar A and latch B, constructed and arranged substantially as and for the purpose described.

3. The hook B, when arranged with the eyes *f f f*, and in combination with the bar A and latch B, substantially as and for the purpose described.

82,046.—THOMAS H. W. UPSHER, M. D., Norfolk, Va.—*Medical Compound.*—September 8, 1868.—Composed of extract of coffee, opium, mixed with simple cerate and hog's lard.

Claim.—A medicine for piles, compounded of the ingredients, in the manner and substantially of the proportions herein specified.

82,047.—JAMES H. VAN NORTWICK, Sturgis, Mich.—*Saw Filing Machine.*—September 8, 1868.—A spring is attached to the file handle in such a manner that when the latter moves back the spring raises the file from the saw. The file makes two strokes in the same tooth at every revolution of the crank, and as it goes back the second time the feed screw is made to revolve by suitable mechanism. The plate in which the file handle slides can be set at any required angle.

Claim.—1. The combination of cam G, secured to the shaft D, arm H, levers I I, connecting rod *d*, pawl *f*, and spring *e*, all constructed as described, and operating for the purpose of turning the feed screw M, by means of the driving wheel K, thereby moving the carriage N, substantially as herein set forth.

2. The arrangement of the shaft D, movable collar

k, wheels O, P, and R, in combination with the pitman *m* and walking beam *u*, all constructed as described. for the purpose of moving the file handle S back and forth, substantially as herein set forth.

3. The combination of the movable plate T, carriage O, and screw U, to turn the file at any angle desired, substantially as herein set forth.

4. The arrangement of the file handle S, connected with the walking beam *u*, and provided with the spring *p*, constructed and operating substantially as and for the purposes herein set forth.

5. The arrangement of the frame A, clamps C C, shaft D, feed screw M, and carriage N, all with their different parts constructed as described, and operating substantially as and for the purposes herein set forth.

82,048.—Henry P. Westcott, Seneca Falls, N. Y., assignor to Seneca Falls Churn Manufacturing Company, same place.—The cover is held by the batting fitting into a socket in the back ear, and is fastened to the front ear, (which is recessed to receive the batting,) by a hasp and staple.

Claim.—The metallic ear C, socketed as described, to contain the bar E, in combination with the said bar, and ear B, with inward projections, as described.

82,049.—David M. Weston, Boston, Mass.—*Self Balancing Centrifugal Machine.*—September 8, 1868.—Improvement on his re-issued patent of January 14, 1868.

Claim.—1. The application of the easily-yielding spring *e*, as the sole support of a centrifugal machine revolving upon an upright shaft resting upon a pivot-bearing at the base, and in combination with the shaft and pivot-bearing, substantially as above described.

2. The flexible spring *e*, in combination with the upright shaft *b*, made of sufficient length to prevent the natural oscillation of the machine at an obtuse angle, substantially as described.

3. The pulley *c*, affixed to the shaft *b*, below the floor or platform *i*, so that the driving power of the machine is wholly applied below the floor.

82,050.—William N. Whiteley, Springfield, Ohio.—*Harvester Reel and Rake.*—September 8, 1868.—The cast-iron head is provided with arms, to which the rake arm is secured, and is made in the form of a tube, its central part being cored out. A hollow pendent stud is formed at the rear of the head to receive the bolt of the friction roller.

Claim.—1. The rake head H with the arms G G, and with a long tube bearing for the joint bolt, in the manner described, independent of the wooden arm F.

2. Attaching the friction roller N to the cast rake head H, by means of a wrought bolt, one end of which forms the journal or bearing of said roller, and the other penetrates through said head, and is secured therein by a screw nut, or the equivalent thereof.

3. The pendent stud M, with a tapered socket for the correspondingly shaped bolt O, which attaches the friction roller to the head H, as set forth and described.

82,051.—Abel Whitlock, Danbury, Conn.—*Lamp.*—September 8, 1868.—A reservoir surrounds a chamber containing the wick, and is provided with a suitable valve for replenishing. A valve in the bottom of the reservoir admits the oil into the wick chamber, and is arranged to close when the replenishing valve is opened.

Claim.—A lamp pot, constructed within the interior chamber B, said chamber communicating with the reservoir A by an orifice, E, which may be closed with a suitable valve while the reservoir is being replenished, in combination with valves G and I, substantially as shown and set forth.

82,052.—Ephraim Whitman, Fitchburg, Mass. —*Flower Pot.*—September 8, 1868.—A wall-inclosed chamber serves as a non-conducting air space and fluid reservoir. The top of the chamber is covered by a cap ring having a lip extending down into it.

Claim.—1. A flower pot, made with inner and outer walls, *a b*, and an intervening water space *c*, the walls *a b* being connected or relatively fixed in position, substantially as shown and described.

2. In combination with the water chamber *c*, the cap ring *i*, substantially as shown and described.

82,053.—Reuben S. Whittier, Dorchester, Mass.—*Window Screen.*—September 8, 1868.—The roll is so arranged within a case that when the bar to which the end of the wire gauze is secured is drawn down a spring is wound up in the roll. The bar is provided with grooved plates, which slide over projections on the window sill, and is held by them. The window being lowered the roll rotates by means of the spring and winds up the gauze. The case is beveled on its inner edge and coming in contact with a bevel on the bar, forces it off the projections.

Claim.—1. The combination and arrangement of the shaft B, bushings C and D, disk F, and spring E, with the body A of the roll, in the manner and for the purpose specified.

2. The plate *a*, provided with a concave bearing, in combination with the square-ended shaft B and its connections, and with the case G, for the purpose and substantially as described.

3. The plate *b*, provided with a slot *p*, when used in combination with the roll A, and with the case G and the screen S, for the purpose and substantially as described.

4. The curved spring plates *d*, slotted as shown and described, in combination with the case G and the screws *c* or holding devices, which connect the case and the roll with the sash, as described.

5. The slotted plates *f*, constructed as described, in combination with the bar H and the screws *e*, for the purpose and substantially as described.

6. The combination, with the sash K, of a case, G, constructed as described, the case serving as a cover and protection to the roll and the screen, and also as a device for detaching the bar H and the screen from the sill, for the purpose and substantially as described.

7. The arrangement and combination of the roll, screen, and case, and the supporting plates, with the sash, and the bar H with the sill M, so that the screen shall more perfectly cover the open space produced by raising the sash, as and for the purpose set forth.

8. The combination of all the operative parts specified, arranged to operate substantially as and for the purpose set forth.

82,054.—C. F. Woodruff, Newbern, Tenn.—*Spur Wheel.*—September 8, 1868.—Improvement on his patent of May 5, 1868. Cogs are formed with shoulders so expanded as to bear against each other all around the rim of the wheel. The outer ends of the spokes are divided for the insertion of the inner ends of the cogs.

Claim.—1. The series of cogs M, the rim A, shoulders *m m*, and pins *e*, constructed and arranged substantially as described.

2. The spokes N N, when formed with the trifurcated end *n n′ n*, substantially as described.

3. The combination of the trifurcated spokes N N with the projecting ends R R of the elongated cogs, substantially as described.

82,055.—John A. Wright, Keene, N. H.—*Mop.* —September 8, 1868.—Improvement on his patent of June 30, 1868.—The jaws are screwed on to a projection on the lower end of a sliding and revolving handle so as to prevent accidental unlocking.

Claim.—1. A sliding and revolving handle A, with its projection *c* and screw thread *d*, in combination with the jaws B C, one or both of which are provided with a screw thread, *h*, substantially as and for the purpose set forth.

2. A mop cloth, sewed substantially as described, to insure the projection *c* catching into and retaining the cloth when it is to be twisted for the purpose of being wrung out.

82,056.—John A. Wroe, Hagerstown, Md.—*Exercising Chair.*—September 8, 1868.

Claim.—A vibratory and exercising chair, when the same is constructed with hollow back, seat, arms, and foot board, and is so supported upon pivots or rockers that the chair can be readily operated by means of springs, or their equivalents, substantially as described, as and for the purpose specified.

82,057.—David Morrison, New York, N. Y.—*Valve for Water Closet.*—September 8, 1868.—The spindle is hollow and is provided with a valve placed in it above the plunger. When the main valve is opened, the said valve opens, from the pressure of the water through the hollow spindle, and when the main valve is closed the said valve also closes but allows the water to flow back slowly through a groove in the hollow spindle, thus preventing sudden jars of the main valve on its seat.

Claim.—1. The plunger D, valve J, and hollow spindle E, with its groove *c*, substantially as shown and described.

2. The combination of the rod K, valves M and N, double valve seat I, plunger D, and spindle E, when arranged and operated substantially in the manner shown and described.

82,058.—Otis Adams and James Hatch, San Francisco, Cal.—*Mortising Chisel.*—September 15, 1868.—The lips are so formed that the chisel, on being withdrawn, clears the mortise of the core or chips.

Claim.—Making the lips beveled from the edge to the main part of the chisel, and with the ends beveled and inclined, as herein set forth.

82,059.—Thomas Adams, Hudson City, N. J., assignor to himself, James L. Romer, and Henry T. McCoun, Brooklyn, N. Y.—*Lamp Burner.*—September 15, 1868.—A lifter acting upon a flat wick in connection with a tube of suitable shape, gives a tubular form to the wick as it is fed up.

Claim.—1. The flattened cone shaped wick tube A, provided with a triangular opening, *f*, for admission of air in front, as it were, of the single wick, to establish a current through the center of the flame, and constructed so that in the passage of the single flat wick through it in a straight line, or thereabouts, from below said wick is made to assume an annular form at its exit from said tube, substantially as specified.

2. The arrangement of the wick lifter or operating device E relatively to the straight or entering portion *e* of the tube A, constructed as described, and for operation in connection with the latter to turn and convert the wick from a flat or straight into a round or annular form, essentially as herein set forth.

3. The base portion of the burner, of globular or enlarged character, as described, and divided, as at *h*, (forming a cap, D,) between the collar screw of the lamp and draught opening or openings to the flame, as and for the purpose herein set forth.

82,060.—A. H. Allison, Charlottesville, Ind.—*Cultivator.*—September 15, 1868.—The yoke is composed of a bar, bowed upward at the middle, but terminating in two straight arms, upon which are loosely fitted the blocks to which the shovel beams are adjustably attached.

Claim.—1. The yoke C, secured to the under side of the tongue, and provided with the adjusting blocks *g g*, in combination with the beams G G, uprights *f f*, provided with adjusting holes, double tree *c*, arms *c′ c′*, and braces, connecting the ends of the yoke with the main frame, all constructed, arranged, and operated in the manner and for the purpose set forth.

2. The beams G G, hinged to the adjusting blocks *g g*, and provided with the shanks *i i* and braces *h h*, in combination with the bails J J and foot pieces Z Z, all constructed, arranged, and operated as set forth.

82,061.—Herbert L. Andrews, Chicago, Ill.—*School Desk.*—September 15, 1868.—A simple noiseless joint is provided, and a guard to prevent the seat striking against the back, the seat arm being secured in place without the use of bolts and nuts.

Claim.—1. The standard, composed of two parts, A B, one provided with the projection *g*, and axle *i*, and the other with the flange *a*, in combination with the arm C, the standards being secured by the screws and nuts, all substantially as specified.

2. The combination and arrangement of the recess *b*, when filled with rubber, or other elastic material, standard, B, and projecting heel, *h*, of the arm C, substantially as and for the purposes specified.

82,062.—Herbert L. Andrews, Chicago, Ill.—*Blackboard.*—September 15, 1868.—A blackboard is provided with arms which can be extended, and with stationary and movable pins or hooks, on which to hang maps and charts.

Claim.—The blackboard A, when provided with the groove *b*, arms *e*, pins or hooks *c*, and supported, constructed, and operating substantially as specified.

82,063.—William R. Andrews and Robert Dingwell, Newark, N. J.—*Leather Stretching Machine.*—September 15, 1868.—The cross slat resting upon a friction roller on the beam operates to stretch the neck in a direction opposite to that of the hide.

Claim.—1. The movable beam B, in combination with the cross slat C, when constructed and operated substantially as and for the purpose set forth.

2. Operating the movable beam B by means of the ratchet bars E E and screws D D, when constructed and arranged as specified, and for the purposes set forth.

82,064.—W. T. Armstrong, Freeland, Ill.—*Stock Pump.*—September 15, 1868.—The compound hinged platform is so arranged as to operate a rod connected with a "bellows pump," and cause the water to be forced up as the animal steps on and off the platform.

Claim.—The box pump E, constructed as described, in combination with the stationary pipe F, rod D, and the compound hinged platform B C, all constructed and arranged to operate substantially as shown and described.

82,065.—John Aston, Pittsburg, assignor to William Smith, Allegheny City, Pa.—*Molding Pipe.*—September 15, 1868.—The nozzle is placed underneath the flask and over one of the flue outlets, the sliding thimble extending an inch or two into the flask. Communication is thus formed between the furnaces and flask, through which latter the heat, &c., from the fire pass in order to dry the mold. The stoppers close the unemployed flue outlets.

Claim.—1. The combined arrangement of the flask G and hinged door Gg, substantially as described.

2. The pit A, furnaces B with their flues C and outlets Cc, ramming-up stools D, stoppers E, nozzle F, and sliding thimble Ff, the bars K and side plates L, when combined and arranged substantially as herein described, and for the purpose set forth.

3. Drying pipe molds by means of passing currents of heated air or gases through them, without removing them from the pit in which the operations of molding and casting are carried on, substantially as described.

82,066.—John E. Atwood, Mansfield, Conn., assignor to himself, A. Sprague, and W. Sprague, Providence, R. I.—*Journal Box.*—September 8, 1868.—The shields prevent the oil from being thrown through the joint between the two parts of the journal box.

Claim.—The annular ribs or collars B*, near each end of the journal, in combination with the caps or shields D* and the chambers C*, provided in the journal box, all arranged substantially as herein set forth, for the purpose specified.

82,067.—James E. Austin, Oswego, N. Y.—*Shingle Machine.*—September 15, 1868.—The tilting table is capable of several adjustments, the chief purpose being to regulate the thickness of the shingles. The dogs automatically release the bolts to allow them to descend to the tilting tables. The movement of the bolt holders on their frame raises them sufficiently to pass over the saw without contact.

Claim.—1. The method of operating the tilting tables F F, namely, the projecting arms *f*, obliquely slotted slide bars H *h*, the hooking connecting rods I *i*, and crank wheels J, having adjustable wrists or crank pins, all arranged and operating as herein shown and described, and for the purpose set forth.

2. In connection with the tables F, the laterally-

adjustable plate and socket block N *l l* M, and vertically-adjustable fulcrum block K L, constructed and operating as herein shown, and for the purpose described.

3. The bolt holders C C, having a horizontal movement on frame D, and provided with wedges, *s s*, for acting on inclined surfaces of said frame D in such manner that all sides of the bolt holders are lifted alike, in connection with tappet lever R and link P, or other suitable device for obtaining the sliding movement of bolt holders on frame D, as and for the purpose described.

82,068.—C. G. Bachelder, Camden, Me.—*Wagon Axle.*—September 15, 1868.—The oil is fed to the wearing surfaces by a wick, which delivers it through a slot in the cap coinciding with the recess in the rib.

Claim.—1. The combination, with an axle provided with an oil recess, *b*, of the cap *g*, arranged oil-tight therein, and provided with a slot for the wick, substantially as and for the purpose described.

2. The recess *b*, provided with the dividing rib *c*, having a recess, *d*, for the wick, communicating with the recess *b* by the holes *e*, substantially as and for the purpose set forth.

82,069.—E. R. Baldwin, Southfield, Mass.—*Wagon Jack.*—September 15, 1868.—The rollers prevent the sliding bracket from cramping.

Claim.—The combination, with the bracket B and stand A of the friction rollers *a* and *b*, when applied and arranged as and for the purpose set forth.

82,070.—T. C. Ball, Bellows Falls, Vt.—*Knob Latch.*—September 15, 1868.—The lock ring is made to engage the annular plates, which are respectively fastened to the door and the knob shank.

Claim.—The combination of the lock ring *h*, slots *c*, and projections *k k*, with and between the plates or escutcheon *b*, and its projections *e* and *e'*, and the ring *g* with its slot *i*, all operating together as and for the purpose set forth.

82,071.—Edward C. Bancroft, Henry M. Bancroft, and Edward H. Bancroft, Syracuse, N. Y.—*Enamel for Window Shades.*—September 15, 1868.—Copal varnish, linseed oil, and benzine, are applied to the shades to protect the paint decorations from soap and water in cleaning.

Claim.—The employment of the within compound in the manufacture of cloth window shades, for the purpose described, substantially as set forth.

82,072.—John Barron, Cincinnati, Ohio.—*Elastic Draft Attachment for Single and Double Harness.*—September 15, 1868.—The draft strain devolves upon the check strap, or equivalent non-elastic device, when the elastic attachment has been extended to its full extent.

Claim.—The combination and arrangement of the India-rubber draft attachment B, adjustable check strap, rods or case C, and coupling G, substantially as and for the purpose herein specified.

82,073.—Thomas L. Bayliss and Edwin Crawley, Richmond, Ind.—*Vise.*—September 15, 1868.—The jaw is first advanced with a rapidity appropriate to the preliminary movement, and when it encounters the object to be clamped, a friction spring loses its power to compel the sleeve to rotate with the handle screw, whereupon the rotation of the sleeve and double screw ceases, and the handle recedes by reason of its rotation upon the smallest pitch threads of the double screw. The sleeve, during the progress of the clamping operation, is held rigidly against rotation by a pawl, which is thrown out of engagement by the shoulder of the handle screw, acting upon a trigger, when a forward movement is given to the latter in releasing the article under pressure.

Claim.—1. The combination of the devices operating automatically, by which the action is changed from the adjusting to the compressing screw or screws, by a continuous turning of lever *a* in one direction, and the action of the screws is reversed by a continuous turning of said lever in the opposite direction, substantially as set forth.

2. The combination of the pins *c* and *c'* and slots *b* and *b'* with the sleeve G and screws F and E, substantially in the manner described and for the purpose set forth.

3. The pawl J and trigger H, in combination with screw E, adjusting screw *f*, and sleeve G, the latter being provided with a ratchet, as specified, and all operating substantially as described and for the purpose set forth.

82,074.—Valentin Bitsch, St. Louis, Mo.—*Plane.*—September 15, 1868.—The forward bit bevels off the top corners of the slat, which is severed from the board and beveled off at the bottom corners by the subsequent action of the open-shank bit.

Claim.—The combination of the bit *a*, having its lower cutting edges to form a re-entering angle, with the open-shank bit *a'*, having its lower cutting edges arranged with beveled corners, acting with the plane stock A to form blind slats, whose narrow edges are chamfered, substantially as set forth.

82,075.—Charles S. Bonney, Penn Yan, N. Y.—*Farm Gate.*—September 15, 1868.—The hinges are so made as to admit of the gate being easily raised and lowered and held at any required height.

Claim.—The hinges D and E, when made and applied as specified, and used in combination with the gate C, substantially as and for the purpose set forth.

82,076.—Wilson Bray, Stockton, N. J.—*Refrigerator.*—September 15, 1868.

Claim.—The forming or producing of a current of air within the provision chamber of a refrigerator, by means of a rotary fan or other mechanical device, so arranged as to impel or force the air through an ice box or water vessel surrounded by a freezing mixture, and also through a vessel containing charcoal or other absorbent of moisture and noxious gases, substantially as shown and described.

82,077.—John Brett, Memphis, Mich.—*Machine for Forming Eaves-troughs.*—September 15, 1868.—The metal is swaged into shape by closing the sectional clamp thereupon. The bead is formed by placing the edge of the metal in the slot of the roller, and giving the latter a turn.

Claim.—The eaves-trough former, constructed, as herein described, of the grooved bed plate A, crimping clamp F, hinged thereto, with its hinged continuation H I and slotted roller D, all arranged and constructed as herein shown and described.

82,078.—P. M. Bristol, Ludington, Mich.—*Saw-Sharpening Device.*—September 15, 1868.—The saw teeth are brought within the rest, and between the latter and the rotary shaft carrying the swaging wheel. The wheel acts in conjunction with a shoulder of the rest, to cut off any surplus length of the teeth.

Claim.—The swaging apparatus, consisting of shaft C, wheel D, and rest E, arranged and combined substantially as described.

82,079.—George H. Bronson, New York, N. Y.—*Manufacture of Artificial Fuel.*—September 15, 1868.

Claim.—The process of making artificial fuel in which pitch or other similar material is used to produce the agglomeration of the particles of the substance or substances which constitute the basis of the fuel, by first heating the coal or other substance, and, while it is heated, introducing among it the pitch or other similar material in a powdered state, substantially as herein described.

82,080.—John W. Brown, Wooster, Ohio.—*Apparatus for Domestic Manufacture of Gas.*—September 15, 1868.—Gas from the retort is conducted to a washer, passing through a body of water in which it is freed of tar; thence it passes through a lime box, from which it is conducted to a holder which is free to rise and fall. If an excess of gas be generated the holder rises and releases a spring-actuated lever, whereupon a cock is closed to arrest the supply of gas to the holder, and another cock opened to permit the surplus gas to be conducted to the fire chamber of the retort. The rake is used to clear the retort of coke.

Claim.—1. The retort D, in combination with a gas apparatus, adapted to domestic use, and as described, constructed substantially as set forth.

2. The arrangement whereby the apparatus is made self-regulating, by the pressure of the gas in the gas-holder, substantially as shown and described.

3. Using the surplus gas as fuel, either under the retort for generating gas, or for other purposes, by the automatic arrangement, substantially as described.

4. In combination with a gas apparatus, the washer and tar receptacle G, and the purifier K, when the same are constructed and arranged substantially as described.

5. The rake *l*, in the retort, substantially as and for the purpose set forth.

82,081.—E. L. Buckingham, Jefferson, Wis.—*Chair Seat.*—September 15, 1868.—Designed as an improvement on the ordinary plan of passing the cane strips through vertical holes.

Claim.—The strips *b*, composing the chair bottom, secured in the rails A by being passed over and under said rails, the ends being inserted in oblique slots *a*, and there retained by the strip C applied to the outer edge of the rails A, all substantially as herein shown and described.

82,082.—Azro Buzzell, West Fairlee, Vt.—*Carriage Spring.*—September 15, 1868.—The two shorter springs are capable of vibration longitudinally with the wagon.

Claim.—My improved arrangement of the three springs A B C, as described, without any connection extending from or about from the middle of one spring, B, to or about to that of the spring C, the whole being as shown in the drawings.

82,083.—Calvin Carpenter, Jr., Astoria, N. Y., assignor to H. H. Wolcott, New York City.—*Lubricating Material.*—September 15, 1868.—Crude petroleum is set on fire in a tank and allowed to burn until the lighter constituents are separated and carried off. The residuum constitutes the lubricant.

Claim.—A lubricating material prepared from crude petroleum, in the manner above set forth.

82,084.—John M. Case, Worthington, Ohio.—*Angular Shaft Coupling.*—September 15, 1868.—An improvement on his patent of March 10, 1868. The coupling adapts itself to any variation in the angle of convergance of the shafts.

Claim.—1. Forming the bars D, upon which the segmental cogs E are cast solid, substantially as herein shown and described, and for the purpose set forth.

2. Forming rims or flanges upon the sides of the segmental cogs E, for the purpose of preventing their lateral movement, and relieving the side pressure upon the connecting bars F, as herein shown and described.

82,085.—Luke Chapman, Collinsville, Conn.—*Wrench.*—September 15, 1868.—The spring ring constitutes a means of connection between the nut and the movable jaw.

Claim.—The combination, with the jaw A, provided with the recess B and annular groove C, of the nut D and the spring ring E, substantially as and for the purpose set forth.

82,086.—W. H. Childe, Gainesville, Ala.—*Car Wheel and Frog.*—September 15, 1868.—Designed for uniting the varying gauges or widths of railroad tracks.

Claim.—Uniting railroads of different gauges by means of a frog, applied at the junction of two or more tracks, and constructed as described, and by railroad wheels, constructed with two or more independent treads, the said frog and wheels being employed together, but the former also permitting wheels with a single tread to pass over it, all substantially as described.

82,087.—Charles Chinnock, Brooklyn, N. Y. —*Measuring Funnel.*—September 15, 1868.—When the stem is released, the valve opens and the contents pass out.

Claim.—The arrangement within the funnel, of the stem B, carrying the valve C at its lower end, whereby the weight of the funnel closes the valve, when the latter is suspended by the stem for filling, substantially as herein set forth.

82,088.—Charles Chinnock, Brooklyn, N. Y., assignor to J. Little Hyde, New York City.—*Feed Bag.*—September 15, 1868.—The bag is self-adjusting and maintains its position, with the mouth upward, so that the feed cannot be wasted by the movements of the horse.

Claim.—The combination of the endless cord *c* and pulleys or slides *b* with the feed bag A, all arranged and operating essentially as set forth.

82,089.—Joseph H. Clifton, Newcastle, Pa.—*Cultivator.*—September 15, 1868.—The knives and spikes break up the soil, and the large wooden teeth on the cross-bar form drills.

Claim.—1. The board A, provided with the knives *a*, &c., and teeth *b*, as and for the purpose set forth.

2. The board A, in combination with the bar *c* and teeth *c'*, as and for the purpose set forth.

82,090.—Nathan Clough, Lowell, Mass., and James Baldwin, Manchester, N. H.—*Shuttle.*—September 15, 1868.—The tip is inclosed and riveted with a cylinder of wood, the whole being driven into an aperture in the end of the shuttle.

Claim.—A shuttle, having its tip shank riveted to the wooden plug, and the plug secured in the shuttle, as herein described.

82,091.—James Corey, Wayne, Mich.—*Buckle.*—September 15, 1868.—The buckle is constructed with two bails and two tongues, so as to hold when pulled in either a forward or backward direction.

Claim.—The arrangement of the tongue C and cross-bar B, in connection with the bails A, in such a manner that each tongue shall operate on its bail without any intermediate bar, substantially as and for the purposes set forth.

82,092.—E. D. Cramer, Hackettstown, N. J.—*Seed Coverer.*—September 15, 1868.—Metal plates are secured to two sides of the frame converging in front, and are capable of adjustment vertically.

Claim.—A pointed seed coverer, consisting of a triangular frame, A B, and of the up-and-down adjustable plates D D, all made and operating substantially as herein shown and described.

82,093.—David Davies, Crumlin, England.—*Forging Apparatus.*—September 15, 1868.

Claim.—1. The steam cylinder and piston, connected with the hammer arm, so as to operate the same, in combination with the horizontal cylinder, arranged so that it can be turned, and in which the steam cylinder is mounted, substantially as described, so that the direction of the blows, relatively to the face of the anvil, can be changed.

2. The steam cylinder and piston, connected with the hammer arm, so as to operate the same, and mounted in the horizontal cylinder, arranged so that it can be turned, to change the direction of the blows relatively to the face of the anvil, substantially as described, in combination with the hydraulic ram, for raising and lowering the same, to adapt it to articles of various thicknesses or height, substantially as described.

3. Connecting the horizontal cylinder with its base, so that it can be turned in a horizontal plane, in combination with the steam cylinder and piston connected with the hammer, substantially as and for the purpose described.

82,094.—W. H. Davis, Brooklyn, N. Y.—*Moulding Bells.*—September 15, 1868.—The projecting lips on the outer and inner casing relieve the loam from all pressure when the casings are brought together. They also act as guides for the sweeps. Two bearing points are arranged on the lower guides of the sweep, to prevent it from tipping over.

Claim.—1. The arrangement on the outer casing

B of a downwardly-projecting lip or rim, *b*, corresponding in size and position to the upwardly-projecting rim or lip *a* on the inner casing A, substantially as and for the purpose described.

2. The arrangement of a guide for the sweep D or D′ on the rim of each casing, in addition to the central guide pin *d*, substantially as and for the purpose set forth.

3. The arrangement of two bearing points on the guide F, substantially as and for the purpose set forth.

4. The additional guide G, catching over a rim, *k*, on the casing, in combination with the guide F, substantially as and for the purpose described.

5. The shank of the jaw E, fitting into a socket in the guide F, and allowing said jaw to accommodate itself to the position of the sweep, substantially as described.

82,095.—Fernando J. Dibble, Chicago, Ill.—*Vise.*—September 15, 1868.—The vise is supported in a socket secured to the bench, so that the vise jaws may be raised or lowered at pleasure. The slide which covers the screw is roof-shaped, so that the filings will slide off.

Claim.—1. The combination and arrangement of the jaws E D, the standard C, and socket B, provided with a set screw, or its equivalent, the whole operating in the manner and for the purposes set forth.

2. The combination of the jaws E D, slide H, screw F, standard C, and socket B, arranged and operating in the manner and for the purposes described.

82,096.—J. Jacob Earley, Fairfield, Ohio.—*Boring and Mortising Machine.*—September 15, 1868.—The auger is inclosed by and revolves within four rectangular chisels, which are kept in close relation with each other. The upper ends of the chisels are guided by adjustable radial arms, secured to circular stays. The chisels are held up by spiral springs against cams placed on the lower face of the wheel driving the auger, and which give a vertical movement to them.

Claim.—1. The adjustable chisels I I, springs N, cams O, and wheel G, when arranged and operated in combination with the auger H, for the purpose specified.

2. The circular stays L, adjustable, radial arms M, for expanding and contracting the shanks of the chisels, in the manner set forth.

82,097.—Julius Elson, Boston, Mass., assignor to Florentine A. Jones, same place.—*Safety Attachment to Watch.*—September 15, 1868.—A small spring, provided with one or more projections, is fitted within the barrel at one side, so that when the mainspring breaks, the stud is forced through the hole in the barrel, and stops its motion.

Claim.—1. The spring D, provided with a stud or projection, *d*, one or more, in combination with the perforated barrel, as and for the purpose specified.

2. The spring D, in combination with the mainspring, for the purpose of equalizing the tension of the latter, as set forth.

3. The stud or projection *d*, in combination with the barrel or mainspring, when used and operating substantially as and for the purposes set forth.

82,098.—Henry English, Wilmington, Del.—*Chimney Top.*—September 15, 1868.—The apertures are sloped upward, causing the wind striking the flue or chimney top to take an upward course, thus increasing the draught.

Claim.—The construction of chimney tops with one or more apertures at the base and upper portion, constructed and arranged as hereinbefore described for the purpose set forth.

82,099.—Enoch S. Farson, Philadelphia, Pa.—*Chamber Commode.*—September 15, 1868; antedated September 1, 1868.—A plate of steel is bent to form an arch across the cover, the ends being bent to catch under the rim of the pot. One end is riveted to the cover; the other slides freely under a hasp. A handle pivoted to the cover has a projection under the spring, so that when the handle is down the ends of the spring are free, and when up, the ends clasp the rim of the pot.

Claim.—The spring-catch bar E, in combination with the cover D, pot C, and adjusting handle F, the said spring-catch bar and handle being constructed and arranged to operate together, substantially as and for the purpose described.

82,100.—William Fontleroy.—New Harmony, Ind.—*Machine for Stuffing Horse Collar.*—September 15, 1868.—The collar board is pivoted centrally on a bench, the leather being stretched and secured to it, with both ends open. The stuffing mandrel, operated by a belt and foot lever, is guided by one hand against the filling, which is inserted by the other hand.

Claim.—1. The combination of the collar board B, pulley E, collar I, and mandrel K, substantially as and for the purpose described.

2. The combination, with the same, of the belt F and treadle G, substantially as and for the purpose described.

82,101.—Orrin Field, Independence, Iowa.—*Bee Hive.*—September 15, 1868.—A fixed comb frame is placed in the center of the hive. The other comb frames are connected to one another by hinged joints and to the fixed frame by detachable joints.

Claim.—The combination, with the central fixed comb frame B, of the detachable hinged comb frames C, all arranged substantially as herein shown and described, for the purpose specified.

82,102.—Richard Foley, New York, N. Y., assignor to himself and Edwin Ferguson, same place.—*Pavement.*—September 15, 1868.—Large blocks of wood, alternating with their strips of flagstone, secured together by cement, are laid upon a foundation consisting of a series of boxes filled with concrete.

Claim.—The combination, in a pavement, of the foundation boxes *a*, filled with concrete, with the surface blocks *b*, and the thin strips of stone *c*, the said blocks *b* and strips *c* being laid in alternation, substantially as and for the purpose described.

82,103.—A. W. Fox, Columbiaville, Mich.—*Device for Pressing, Packing, and Weighing Wool.*—September 15, 1868.—The platform is composed of leaves hinged to a central piece. The wool is laid on the leaves, which are then raised and held in position by notched bars until the package is bound, when they are lowered. A plate, connecting with a spring balance scale, is placed in the central piece and raised by a lever until the package of wool rests upon it.

Claim.—The weighing device, consisting of the circular plate *i*, rod *p*, hinged bar *j*, tube *m*, spring *l*, and lever L, in combination with the hinged parts B B, C C, and fixed part D of the packer, as herein described, for the purpose specified.

82,104.—Cicero R. C. French, Berkley, Mass.—*Permutation Lock.*—September 15, 1868.—The tumblers are so arranged as to indicate the combinations of numbers for locking and unlocking by sound, thus dispensing with any visible marks or numbers.

Claim.—1. The combination, with a series of tumblers and adjustable rings, of an indicating wheel, O, a click, P, and sliding plate C, whereby, the bolt being set at half-lock, the required combination may be formed by turning the tumblers alternately in opposite directions, substantially as set forth.

2. The curved recesses in the bolt B, in combination with the sliding plate C, when operating as and for the purpose specified.

3. The click or bolt P, provided with the projection *i*, in combination with the bolt B, as set forth.

82,105.—Charles A. Geissenhainer and George W. Geissenhainer, Pittsburg, Pa.—*Liquid Meter.*—September 15, 1868.—A box, through which the water passes from the main, has a water wheel so adjusted that when the water rises in the box it presses against the buckets of the wheel and causes it to revolve, the water passing out at an opening in the side of the box.

Claim.—The arrangement, in the air-tight glass chamber A, constructed as herein described, of the straight bucket wheel B, water chamber C, pipes D E, cog wheels B, and indicating devices *g*, all constructed as and for the purposes set forth.

82,106.—Theodore Gennert, New York, N. Y.—*Manufacture of Beet Sugar.*—September 15, 1868.—The odor of beet-root sugar is removed by mixing it with molasses at a temperature of 150° to 180°; it is then separated from the molasses in a centrifugal machine and then exposed to the action of water or steam.

Claim.—1. Treating beet sugar with cane sirup or cane molasses, substantially as and for the purpose described.

2. Treating beet sugar with cane sirup or cane molasses, under the application of heat, substantially as and for the purpose set forth.

3. Exposing the beet sugar to the action of water or steam, after the same has been treated with cane sirup or molasses, substantially as and for the purpose described.

82,107.—H. H. Gillett, Warsaw, Mo.—*Mill Pick.*—September 15, 1868.—A piece of glass is secured in the forward end of the pick for allowing the operator to see his work and to protect his eyes.

Claim.—A mill pick handle, constructed as described, and provided with glass, enabling the operator to see his work, as well as shielding him from any particles of rock flying about, as herein set forth.

82,108.—P. D. F. Goewey, Albany, N. Y.—*Cupboard Catch.*—September 15, 1868.—The pin connecting the bolt and knob has a square shoulder near the knob, which slides in a slot in the tumbler. On turning the knob the tumbler turns and the slot is placed at right angles, thus locking the bolt.

Claim.—The latch, composed of the plate A, the locking tumbler D, in combination with and operated by the doubly moving knob C, all constructed substantially as herein shown and described, and for the purposes specified.

82,109.—Ernst W. Gram, Negaunee, Mich., assignor to himself, Peter Berg, and A. P. Swineford.—*Rock Drilling Machine.*—September 15, 1868.—The drilling apparatus is attached to an oscillating frame suspended in trunnions between posts. A vertical movement is given to the drill by a lifter and a rotary movement by a cam and crown wheel.

Claim.—The combination of the stationary frame A B, oscillating frame C, trunnions D, shaft E, pinions F G H, shaft I, lifters J, rod K, wiper lifter L, spring N, drill O, cam P, plate wheel Q, spring R, and shoulder S, all constructed and arranged substantially as herein described.

82,110.—James H. Gray, Boston, Mass.—*Lubricating Pulley.*—September 15, 1868; antedated September 8, 1868.—A hollow globe, provided with an opening for admitting the oil, has a perforated stem which screws into a hole in the hub of the pulley. A wick feeds the oil to the shaft.

Claim.—An oiling device for loose pulleys, when constructed, applied, and arranged to operate substantially as and for the purpose described.

81,111.—William Green, Holly, Mich.—*Lifting Jack.*—September 15, 1868; antedated September 7, 1868.—A circular pedestal has adjusted loosely in it the circular foot of the post. Catch dogs are held against the teeth on the front and sides in the post by springs, in such a manner that the dogs act as fulcrums for the lever alternately.

Claim.—1. The movable pedestal B, when used in combination with a "lifting jack," the parts being constructed and arranged as and for the purpose specified.

2. The arrangement of the springs *m m* and *j* with the lever C, catch dogs *f f* and *h*, the several parts being used as and for the purpose herein set forth.

82,112.—William W. Green, Jr., Janesville, Wis.—*Gate.*—September 15, 1868.—The upper part of the gate has a pivot, setting in a washer; the lower part is provided with a Y-shaped hinge, bearing against a round post, and having a guard secured to the post above this hinge to keep the gate from being unhinged.

Claim.—1. The combination of the yoke *h k i* and guard *g*, so as to allow the gate to be removed when required, and yet prevent it from being removed by unruly animals, substantially as described.

2. The combination of the elongated rail and cap, *b a*, bonnet *d*, spur *e*, yoke *h k i*, wedge *s*, and block *l′*, substantially as described.

82,113.—J. P. Grosvenor, Lowell, Mass.—*Machine for Planing and Molding.*—September 15, 1868.—The cutter mandrel is supported in a vertically sliding frame, the latter being supported by a laterally sliding frame. The pattern has a rebated periphery, the outer portion of which is smooth, the inner portion having a rack or an elastic perforated band which can be removed; said pattern being actuated by a pinion, one part of which has teeth engaging with the rack, the other part being smooth and in contact with the outer portion of the pattern. Guide rolls direct the motion of the pattern.

Claim.—1. The combination of the swinging mandrel frame with the vertically-adjustable slide E and laterally-adjustable slide I, substantially as described, for the purpose specified.

2. The pattern, constructed as described, with a rebated outer edge, in combination with the perforated rigid or flexible rack *r*, substantially as described, for the purpose specified.

3. The rigid or flexible rack *r*, constructed as described, and adapted to be applied to a pattern to be used in cutting irregular forms, substantially as herein shown and described.

4. A pattern, Q, provided with a rack, *r*, around its outer edge to assist the process of feeding the wood to the cutter head.

5. The feed wheel R R′, when constructed of the two parts R R′, so as to operate, in connection with a pattern having a rebated outer edge, in the manner described.

82,114.—John Haigney and Frank M Hedman, East Boston, Mass.—*Clothes Pin.*—September 15, 1868.—The levers, joined by a link, are connected, in recesses, to a brace with a spring, and a tongue which locks into a catch spring on the opposite side, and thus forms an adjustable clamp for the clothes.

Claim.—1. The combination and arrangement of the brace D and the catch spring F, with the two levers A B, connected together in manner and so as to operate substantially as described.

2. The arrangement and combination of the auxiliary spring E, with the brace D, the catch spring F, and the two levers A B, arranged and combined substantially as explained.

82,115.—Frank Hatch, La Cross, Wis.—*Window Screen.*—September 15, 1868.—The frame of the screen is made in two parts, which slide laterally by each other and are connected by an elastic cord or spring, which holds the outer edges of the frames against the window; thus adapting the screen to windows of different widths.

Claim.—The combination of the two sections or frames A B with a spring *d*, so arranged that the spring will operate to force said sections outward against the window casing, and retain the screen in any desired position, substantially as and for the purpose specified.

82,116.—Daniel Hess, Blandville, Ky.—*Brick Machine.*—September 15, 1868.—The plungers are pivoted to the lower side of an oscillating beam supporting a weighted box, their lower ends being enlarged and slotted to admit the partitions in the mold boxes. Circular mold beds revolve by suitable mechanism on a solid press bed and are provided with molds in which the brick is pressed edgewise.

Claim.—1. The arrangement of a centrally-poised beam B, with its weighted box A, oscillated by the arms J and connecting rod K, in combination with the plungers P, substantially in the manner and for the purpose specified.

2. In combination with my oscillating box A B, the plungers P, with their enlarged base *p p* and slots 1, 2, 3, &c., when operated substantially in the manner set forth.

3. The arrangement of the press bed G and table E, in combination with the revolving mold tables F between them, together with the molds *f* for pressing bricks edgewise, when arranged substantially as set forth.

4. The arrangement of the table E, with its hopper openings S, in combination with the revolving mold beds F and molds 1, 2, 3, arranged in the manner and for the purpose specified.

82,117.—JOHN HEUERMANN, Davenport, Iowa. —*Coupling.*—September 15, 1868.—A hollow cylinder is secured to the end of the shaft inside of which on opposite sides are two slots. At the end of the other shaft is connected a coupling jaw, through which passes an oval bolt into and through a double cross-socket into which latter another oval bolt is secured, the ends of which enter the slots in the iron cylinder.

Claim.—1. The arrangement and combination of such coupling as is shown in drawings, and described in the specifications.

2. The construction of slots extending about two-thirds of the distance from bottom to top or outer end in coupling case, as shown on drawings.

3. The construction of openings in double cross-sockets for oval bolts.

82,118.—ARNOLD HOERMANN, New York, N. Y. —*Screw Cutting Die.*—September 15, 1868; antedated September 4, 1868.—Two or more cutting threads in full sectional relief are presented to the blank, which trace the thread on it by cutting out and removing the metal, like the cutting tool of a planer. A guide prevents the bolt from springing to one side on entering the die.

Claim.—1. A screw cutting die, having a recessed surface, so as to present two or more cutting threads in full sectional relief, as described and shown.

2. The die C, having a recessed surface, so as to present two or more cutting threads in full sectional relief, combined with the slot C′, set in advance of the center of the die, all as set forth.

3. The guide M, in combination with a die having portions of one or more threads entirely removed from the entering face thereof, the several parts being constructed and arranged substantially as and for the purpose herein set forth.

82,119.—WILLIAM HOWELL, JAMES C. FINN, and CHARLES A. DUY, Philadelphia, Pa.—*Floor Covering.*—September 15, 1868.—Two thin layers of veneer laid so that the grain crosses are cemented on cotton, woolen, jute, or paper.

Claim.—A covering for floors, &c., consisting of layers of cloth, paper, and wood, combined as set forth.

82,120.—THOMAS JOHNSON, Tewksbury, assignor to himself and JAMES S. HUTCHINSON, Lawrence, Mass.—*Composition for Sizing or Dressing Warps.*—September 15, 1868.—Raw hide and salt are dissolved in boiling water, then strained and alum added.

Claim.—The above described composition as composed of the before mentioned ingredients, combined by means of water and heat in manner substantially as specified.

82,121.—THOMAS W. JOHNSON, New York, N. Y.—*Extracting Tan Bark.*—September 15, 1868.

Claim.—1. The within described process of extracting tan bark, by softening the bark in chips, passing it through rollers into the saturating tank, exposing it in said tank to the action of beaters, elevating and passing it through a series of leaches, where it is washed repeatedly until all the astringent properties contained therein are taken up by the wash, substantially as set forth.

2. Passing a constantly fresh supply of crushed bark through the saturating tank, and exposing it therein to the action of beaters, substantially as and for the purpose described.

3. Separating the disintegrated bark from the liquid absorbed by it while passing through the saturating tank, by the action of the perforated buckets on the elevator, and by that of the leach which receives the bark as the same is discharged from said elevator, the liquid absorbed by the disintegrated bark being drained off by the perforated elevator buckets, and by the perforated bottom of the receiving leach, and returned to the saturating tank, substantially as set forth.

82,122.—Mrs. R. L. JONES, Sacramento, Cal.—*Composition for Making Designs upon Fabrics.*—September 15, 1868; antedated May 6, 1868.—Composed of pulverized resin and black soot from pine, mixed and perfumed.

Claim.—The composition of rosin and soot, perfumed as above described, and for the purpose set forth.

82,123.—JOHN KAYE, Louisville, Ky.—*Hemp Brake.*—September 15, 1868.—The beaters are placed betweeen short bars and are pivoted near their centers to the frame. Cranks radiating from the center of the shaft, at different angles, work in slots in the ends of the beaters so that the beaters will be made to strike alternately.

Claim.—The combination of the cranks and beaters, when constructed and operating substantially in the manner and for the purpose herein described.

82,124.—PETER KENDRICK, Trenton, N. J.—*Device for Blocking Chains.*—September 15, 1868.—A box, open at its ends and top and mounted on wheels, is provided with a vertical movable partition against which screws bear, and holds the chain while the wooden blocks are driven through the links. The ends of the long links are supported by blocks at the end of the box.

Claim.—The box A, provided with the movable partition C and screws F, in combination with the strips, *a a′*, at the ends of the bottom, a^{x}, of the box, for supporting the long links D at the ends of the box, substantially as and for the purpose specified.

82,125.—THOMAS S. KENNARD, Exeter, N. H.—*Invalid Rest.*—September 15, 1868.—The back of the rest can be inclined at different angles. Card teeth are secured to the lower side of the seat to prevent its sliding when in use.

Claim.—The combination of the brace A, which supports the back of the rest B at different angles, and secured by the thumb screw in the socket C, and at the lower end by the hinge D, with the card teeth E E on the under side of the rest, to prevent its sliding or slipping on the bed when in use, in the manner described.

82,126.—ROBERT J. KING, Lancaster City, Pa. —*Oscillating Steam Engine.*—September 15, 1868.—The eccentric is so arranged, in connection with the arm of the rock shaft, that the valve moves four times as fast when it starts to shut off, until it opens a full port, as it does the balance of the stroke, thus getting a full exhaust at once.

Claim.—1. The arrangement of the connecting rod A, with its slot C and regulating devices D, E, and F, with the rock shaft G and eccentric S, as herein described.

2. The arrangement of the eccentric S, with reference to the parts A, C, D, E, and F, and the shaft T, as herein set forth.

3. The arrangement of the angular pipes M and R with the steam chest N and the trunnions P, as herein set forth.

82,127.—M. A. KOON, Catskill, N. Y.—*Adjustable Carriage Pole.*—September 15, 1868.—Improvement on patent of L. C. Miner, of August 4, 1863. The contiguous faces of the arms of the divided brace are toothed to prevent sliding when once adjusted, and are clamped by means of a screw which also attaches the extension pole to them.

Claim.—1. Making the extension B, through which the arms C C′ of the swinging braces D D′ pass, separate from the pole itself, substantially as herein shown and described.

2. The arms C C′, constructed as described, and attached directly in the pole extension, by means of

a horizontal aperture fitted through, and a screw, *a*, fitted into the same, as set forth.

3. Making the contiguous surfaces of the arms C C′ rough or toothed, as set forth, and forming indentations *b b*, or their equivalents, on the outer face of one of them, substantially as and for the purpose herein shown and described.

82,128.—ANDREW KRIEBEL, Hereford, Pa.—*Lifting Machine.*—September 15, 1868.—Pins are arranged in perforations in a slotted post, which act alternately as fulcrums for the lever. A chain is affixed to the end of the lever and connected with one end of an endless chain horse power so that the latter can be raised to give a proper inclination, and for which it is especially designed.

Claim.—The combination of the slotted perforated post A, two pins B, lever C, and chain D, with each other, said parts being constructed, arranged, and operating substantially as herein shown and described, and for the purpose set forth.

82,129.—JEAN LAMBERT, Jr., New York, N. Y., assignor to himself and CHARLES RUMPFF, same place.—*Aniline Dye.*—September 15, 1868.—It is obtained by the action of bichromate of potash, chloride of lime, or permanganate of potash when in a solution upon a sulphate, chlorohydrate, acetate, or any equivalent salt of aniline.

Claim.—1. The new product or coloring material above described, called by me saffranine red.

2. The process employed by me for producing the said coloring material, saffranine red, substantially as above described.

82,130.—JOHN LANE, Chicago, Ill.—*Plow and Cultivator.*—September 15, 1868.

Claim.—The improvement herein described in the manufacture of plows and cultivators, that is to say, the making of them of metal plates, having a central layer of soft iron or steel, with exterior layers of cast steel, substantially as and for the purposes described.

82,131.—EDWIN E. LAZELL, Philadelphia, Pa., assignor to himself, THEODORE H. PETERS, and FRANCIS KEYSER, same place.—*Centering Device.*—September 15, 1868.—A hollow conical head is provided at its apex with a tubular stem through which the center punch passes. It is also provided on its inside with longitudinal ribs which remove the irregularities from the piece to be centered when it is rotated.

Claim.—The arrangement, with the concave conical milling head D, of the centering pin E, projecting through the head D, in the manner and for the purpose herein specified.

82,132.—JOSEPH S. LEHMAN, Mount Joy, Pa.—*Bag-holding Device and Truck.*—September 15, 1868.—Improvement on his patent of February 11, 1868. An extra bend is given to the holder to form a right angle with beveled sides, in order to slide in a dovetailed slot, made on the inner side of the jaws which embrace the truck.

Claim.—The holder C, constructed as described, and having a short angle, W, with beveled sides, so as to fit into dovetailed slots in the jaws B, all arranged and operated substantially as specified and shown.

82,133.—GEORGE W. LEIGHTON and C. O. COLE, Portland, Me.—*Out-haul for Booms.*—September 15, 1868.—The clew of the sail is secured to a loop attached to a dog, which latter has a pawl engaging with a rack on the boom. A ring is secured to the end of the dog through which a bar can be inserted for tightening the sail.

Claim.—The combination and arrangement of the rack *b* and vessel's boom, dog B, ring *f*, and loop *e*, or their equivalents, as and for the purposes set forth.

82,134.—JOHN J. LEVY, New York, N. Y.—*Playing Cards.*—September 15, 1868.—The edges of the cards are beveled for the purpose of facilitating shuffling.

Claim.—As new articles of manufacture, playing cards provided with beveled edges, substantially as herein shown and described, and for the purpose set forth.

82,135.—A. W. LOCKHART, Sacramento, Cal.—*Device for Conducting Grain to Threshing Machines.*—September 15, 1868.

Claim.—The employment or use of a plurality of endless aprons, H K K, connected with a frame, F, and an adjustable upright pole, A, all arranged in such a manner that the aprons may be adjusted at different degrees of inclination in order to feed grain from stacks or wagons to threshing machines, and the pole rendered capable of always being adjusted in a vertical position, even when placed on uneven or inclined ground, substantially as and for the purpose herein set forth.

82,136.—SHUBAEL K. LUCE, Marion, Mass., assignor to himself and CHARLES O. LUCE, same place.—*Chimney Scraper.*—September 15, 1868.—The scraper is arranged to expand and contract, to suit the size of the chimney.

Claim.—A scraper, composed of the bars I I I I, with slots *i i i i*, the bars H H H H, with bolts *h h h h h h h h*, and the corner bolts L L L L, connected by the expanding springs J J J J J J J J, the collars K K, on the shaft F, the whole being constructed and operating in the manner and for the purpose herein described and set forth.

82,137.—JOHN S. MASON, Coal Run, Ohio.—*Combined Corn Planter and Cultivator.*—September 15, 1868.—The plow beams are pivoted to the cross piece of the frame and are connected by chains to a shaft provided with a lever for raising and lowering said beams. The rear ends of the beams form standards to and are provided with covering shares secured just above the furrow shares.

Claim.—The plow beams K K, attached to the frame A by joints *j*, in connection with the standards *h* and covering plates i^x, crank shaft L, to the cranks *k* of which the beams are connected by chains, and the lever M at one end of the shaft L, substantially as and for the purpose specified.

82,138.—JOSHUA MASON, Paterson, N. J.—*Liquid Meter.*—September 15, 1868.

Claim.—1. The combination, with the measuring cylinder A and its reciprocating piston B, of primary and secondary valves K and P, when arranged for operation in relation to the measuring cylinder, substantially as shown and described.

2. The primary and secondary valves K and P, formed with disks or heads *j j*′, *k k*′ and *n n*′, *r r*′, for operation within valve chambers F F′, in combination with ports and passages $f\ f^1$, *i i*′, inlet passages *g*, branch *e*, passage way H, ports *s s*′, and passage G, with its opening *d*, essentially as specified.

3. The arrangement of the ports or passages which control the ingress and egress of liquid through the secondary valve, and of the passages in connection therewith, in such manner as that the flow of the liquid through the valve acts on the latter in the same direction as that to which it has been last shot, and so that said valve is kept shot or thrown in opposite or reverse positions by the pressure of the fluid on its opposite heads alternately, substantially as herein set forth.

4. The primary valve K, operated by the piston of the measuring cylinder, essentially as described, and having an open tubular stem in open communication with the latter, as and for the purpose specified.

82,139.—GEORGE MATTHEWMAN, Brooklyn, N. Y.—*Press.*—September 15, 1868.

Claim.—Operating the press through the instrumentality of two toggles arranged as represented, that is to say, the arm I operating the arm F through the link H, presenting the several angular relations at the different periods, as specified, and the motion thus transmitted being conveyed to the press rod *b*, and its connections, through the medium of the arms E, and links D, forming a second toggle, all substantially as and for the purposes herein set forth.

82,140.—J. R. MCCONNELL, Marengo, Iowa.—*Sulky Plow.*—September 15, 1868.—A bar projects at right angles from the landside of the beam, its outer end being bent upward and provided with a series of holes and supported by a wheel. The draft pole is pivoted to the upper end of the bar and serves as a fulcrum for a lever, the forward end of which is attached to the plow beam; by means of the lever the plow is raised or lowered.

Claim.—1. The construction and arrangement of the pivoted draft pole K, adjustable side bar E, beam A, and lever L, as herein described, for the purpose specified.

2. The adjustable right-angular bar E, seed bar I, adjustable bar J, brace G, and lever L, in combination with the beam A, pivoted draft pole K, and plow C, all arranged as described, for the purpose specified.

3. The adjustable right-angular bar E, adapted to support the seat and bar H I, the bar J, brace G, and pivoted draft pole K, as herein-described, for the purpose specified.

82,141.—Leander J. McCormick, William R. Baker, and Lambert Erpelding, Chicago, Ill., assignors to C. H. McCormick and Brother, same place.—*Harvester Rake.*—September 15, 1868.—The dropping platform is connected with a lever actuated by a cam so that it drops when the lever enters a recess in the cam and discharges the gavel which has just been swept on it. The cam then lifts the platform and holds it until the next discharge.

Claim.—1. The combination in a harvester, substantially as set forth, of a hinged finger beam, a narrow platform affixed to the finger beam, and a dropping platform hinged to the fixed one, with a series of reel ribs, and a rake revolving over the platform on a horizontal shaft, and mounted on a support secured on the shoe.

2. The combination, substantially as set forth, with the tripping cam, of the vibrating arm U, and oscillating dog, for the purposes set forth.

82,142.—Robert R. McDonald, Syracuse, N. Y.—*Hames Fastener.*—September 15, 1868.—The frame has teeth cut in the upper part and a spring at the lower part. On one end of the tongue are catches and near the same end a thumb screw. The tongue being inserted in the frame the catches are pressed by the spring between the teeth, and on turning the thumb screw are held rigidly.

Claim.—The frame A, the teeth B B, the catches C C, the thumb screw D, the spring E and tongue, when the parts are constructed, combined, and used in the manner as set forth and described.

82,143.—William McKnight, Clearfield, Pa., assignor to himself, John H. Fulford, and Daniel W. McCurdy, same place.—*Tenoning Machine.*—September 15, 1868.—The wood to be cut is adjusted and held in such a manner, that the tenon when cut will be straight or tapered, or the shoulders of the same will be straight or mitered, as desired.

Claim.—The arrangement of the guide C, rest plates *a*, adjustable rest *b*, and sliding rest *d*, upon the bed, to operate in connection with a plane, as herein shown and described.

82,144.—Robert Meginnity and Joseph Dessenger, Detroit, Mich.—*Tobacco Dressing Machine.*—September 15, 1868.—The tobacco is placed on sieves in a cylinder which is oscillated and caused to vibrate. A blast of air is introduced through a tuyere into the tobacco, which loosens the matted fibers, separating the shorts, which fall through the sieves.

Claim.—1. The loosening of the fibers of fine-cut tobacco by a blast of air passing through the same.

2. The oscillating cylinder F, provided with the rock-shaft D, the inclined longitudinal screens O O, the perforated tuyere plate N, the openings S and P, the doors Q, bumper springs R, stirrup T, and step V, when arranged and operating in the manner described, and for the purposes set forth.

3. The fan blower B, driving shaft D, pulley C, crank E, connecting rod G, and rocker arm H, the air-conducting pipe J, oscillating tuyere K, trunnion U, and blast pipes M, when arranged and operating substantially as described, for the purposes specified.

4. The combination and arrangement of the above-named parts with the frame A, substantially as and for the purposes set forth.

82,145.—George Merrill, Newburyport, Mass.—*Carving Machine.*—September 15, 1868.—A frame capable of adjustment vertically has hinged to it two plates; a vertical frame is hinged to the front end of the plates and has sliding in it a plate in which the cutting mandrel revolves and the guide is secured. The block and pattern are secured to a table which slides longitudinally, the guide resting on the pattern.

Claim.—1. The combination, in a machine constructed substantially as described, of the laterally-swinging arms D and the vertically-sliding tool and guide holder *u*, when said parts are arranged to operate substantially as and for the purpose set forth.

2. The combination of the swinging frame and the sliding plate or frame *u*, carrying the cutting tool and guide, arranged with the sliding table B, to operate in connection therewith, substantially as described.

3. The combination of the adjustable frame H, hinged bars D, frame T, having the pulley I mounted thereon, and the sliding plate or frame *u*, when arranged to operate as set forth.

82,146.—T. H. Müller, New York, N. Y.—*Steam Generator.*—September 15, 1868.—A diaphragm extends longitudinally through each tube for preventing the steam from accumulating in the top of the tube, and allowing a flow of water above the diaphragm; the ends of the diaphragm are provided with downwardly-projecting flanges to prevent the steam from obstructing the downward course of the water.

Claim.—1. The construction of the diaphragms G, extending in a longitudinal direction through the tubes B, substantially as described.

2. The construction of the flanges *b* at the ends of the diaphragms G, substantially as set forth.

82,147.—William W. Netterfield, Rochester, N. Y.—*Corset.*—September 15, 1868.—Springs are arranged in such a manner that the contour of the breasts is formed without pads or stuffing, and the shoulders and hips are relieved from undue pressure. Hooks are attached to the corset for suspending the skirts without binding the waist.

Claim.—The arrangement of the stiffeners *h i k*, springs *c c*, diagonal shoulder braces *l l*, straps *a a*, back stiffeners *b b*, hooks or buckles *m m*, and side spring stiffeners *f f*, all as herein described, and for the purpose set forth.

82,148.—Nelson Newman, Springfield, Ill.—*Corn Harvester.*—September 15, 1868.—The fingers are supported by a bar which is held in position by springs in such a manner that if the corn will not come off the stalk readily, the arms yield and the stalk comes in contact with the knives.

Claim.—The yielding bars H, applied to the machine as shown, or in an equivalent way, to operate in connection with the teeth or cutters *e* and fingers *c*, substantially as and for the purpose set forth.

82,149.—Thomas A. Nizer, Hamilton, Ohio.—*Rotary Steam Engine.*—September 15, 1868.—The abutments are raised by inclined planes on the periphery of the cylinder, and forced down by the pressure of steam on a piston (connected with the abutments) working in a cylinder. The cylinders while rotating bear only against an adjustable plate.

Claim.—1. The arrangement of the cylinders *k k*, piston J J, steam-pipes L F, lever arrangement and cock *m*, double abutments E, and partition plate *h*, with relation to each other and the inclined planes C, as herein shown and described.

2. The adjustable packing plate *n*, adapted to conform to the curve O of the inclined planes C, as herein shown and described.

82,150.—John E. Noyes, New Albany, Ind.—*Lamp.*—September 15, 1868.—An opening regulated by a screw is made in the hollow shaft for feeding air to the wick or water into the lamp to elevate the oil.

Claim.—1. The lamp B, provided with tube C, hollow shaft *f*, with opening *i*, and screw regulator *g*, substantially as and for the purposes set forth.

2. The triangular plate, formed into a wick tube, F, with the projecting edges of the wick, in the manner set forth, and used with the lamp B, as constructed, and for the purposes set forth.

82,151.—John E. Noyes, New Albany, Ind.—*Illuminating Oil.*—September 15, 1868.—Composed of coal oil, oil of rhodium, oil of origanum, salts of tartar, salt, and creosote.

Claim.—The within-described burning fluid, compounded and prepared substantially as set forth.

82,152.—James Offineer, Ashland, Ohio.—*Hay Knife.*—September 15, 1868.—A two-edged knife is attached to the end of a rod, which latter has secured to its side three oblong knives, of unequal length, which have a saw-like action when cutting.

Claim.—The knives A, B, C, and D, attached to the iron strip H, when arranged and combined as herein described, for the purpose set forth.

82,153.—R. F. Osgood, Rochester, N. Y.—*Seed Planter.*—September 15, 1868.—The hoppers are adjusted to change the width of the rows, by toggle arms jointed at one end to the hoppers, at the other to a double-acting lever, moving over a segment where it is secured by a pin. The operating parts are mounted on a hinged gate turning vertically under the control of the operator for the purpose of adjusting the depth of the drills.

Claim.—1. So combining and arranging the seeding apparatus, consisting of hoppers E, rollers G, and drill teeth H, with the shaft I, that the lateral adjustment to change the width of the rows shall be effected by simply sliding in the straight continuous shaft, as herein set forth.

2. Combining with the swinging gate, and with the seeding apparatus mounted thereon, the adjusting screws *k k*, or equivalent, whereby the depth of cut of the drill teeth may be increased or lessened, as set forth.

3. The combination, with the gear bar L, and the swinging gate D, of the arm *q*, so arranged that the gate is allowed a range of motion sufficient to adjust the depth of cut of the drill teeth, before the gear is raised to be disengaged, as herein set forth.

82,154.—William M. Page and Emil B. Krausse, St. Louis, Mo.—*Process of Preparing Sulphate of Barytes.*—September 15, 1868.—The "tiff" is boiled in water, to render it more friable; then boiled in an acid solution, to remove impurities, then boiled in a solution of silicate of soda; then placed in a bath of a solution of alum water, to whiten it: then agitated in a bath of distilled water.

Claim.—The process, substantially as described, for heating sulphate of baryta, and producing therefrom the refined product known to the trade as "sulphate of barytes."

82,155.—George F. Partridge, Adrian, Mich.—*Corn Planter.*—September 15, 1868.—The valves are opened and closed by a bell-crank lever connected with a lever pivoted to the frame of the machine, and operated by projections on the wheel; said wheel can be raised from the ground by means of a lever pivoted to the pole.

Claim.—1. The hopper H, horizontal and perpendicular spout I, slide K, valve L, lever N, connecting rod O, bell crank P, arms S, levers T, all being operated by the projections F upon the sides of the wheel D, when constructed and arranged substantially as herein set forth.

2. The lever W, rod X, bars Y, in connection with the bends Z, pole 3, hounds 4, and rod 5, when operating substantially as and for the purpose herein described.

3. The combination and arrangement of the above named parts with wheels A and D, axle B, frame C, parallel bars E, front bar G, standard 6, cultivator teeth 7, scraper 8, lugs 9, when constructed, arranged and operating substantially as and for the purposes herein specified.

82,156.—Everett G. Passmore, Jr., Philadelphia, Pa.—*Harvester.*—September 15, 1868.—Designed for an improvement on his patent of April 10, 1868.

Claim.—1. The combination, substantially as set forth, of the main frame, the driving wheel, the finger beam, arranged in the same vertical plane as the main axle, but on a lower level, the vertically-moving pivoted tongue, the adjusting crank, and the hand lever J, whereby the guards may be tipped at the will of the operator.

2. The combination, substantially as set forth, of the independently-hinged combined reel and rake arms, the double-tracked cam, and the vertically-adjustable guide arms, whereby the beaters are caused to descend into the standing grain in advance of the cutters, and to rise before reaching the cutters, as set forth.

3. The combination, as set forth, of the rake arm, guide, and cam way *s*, with the spring latch *u*, which is lowered to lift the rake, and the latch s^2, which falls to guide it back to the track, whereby the gavel is always removed, unless the rake is lifted by the latch.

4. The combination, in a harvester, substantially as set forth, of a series of independently-hinged rotating rake and reel arms with the double-tracked cam way and connecting guides, when so arranged that the rake descends upon the platform behind the cutters, to sweep off the gavel, while the beaters descend into the grain in advance of the cutters, and rise before reaching them, to lift fallen grain.

82,157.—Ezra Peck, Chicago, Ill.—*Plow.*—September 15, 1868.—A hollow plow beam is provided with flanges to keep it from buckling and serve as a means for riveting on strips which enable the beam to stand a greater cross strain. The inner face of the colter standard is rounded, and its cutting angle is controlled by a clasp which is adjusted by nuts.

Claim.—1. A hollow sheet metal beam, when constructed with the flanges E E, as set forth, and for the purpose specified.

2. Constructing a hollow plow beam by riveting or otherwise properly fastening together the two parts, A and K, or their equivalent, for the purpose specified.

3. Constructing a hollow plow standard and beam, curved and bent in one continuous piece, directly from sheet metal, in the manner and for the purpose specified, as a new article of manufacture.

4. The slotted concave support, in combination with the beam A, and mold board *z*, all arranged as set forth.

5. Rounding or angling the inner bearing or face of the colter standard *u*, when used in connection with the clasp *j*, in the manner and for the purpose specified.

6. The beam A, strip K, flanges E E, slotted support *o*, and mold board *z*, all constructed and arranged as set forth.

82,158.—Theodore P. Peck, Savannah, Ga.—*Smoke Stack.*—September 15, 1868.—The cone box has a perforated upper section and outlets provided with covers in its lower part. An inverted truncated cone-shaped sieve is secured to the stacks and opens into the cone box.

Claim.—1. The cone box B, having perforated upper section, with bonneted outlets or port holes c', substantially as herein described.

2. The inverted truncated cone-shaped sieve F, arranged within the perforated upper section of the cone box B, substantially as and for the purpose herein set forth.

3. The combination of the cone box B, and sieve F, with each other, and with the other parts of a smoke stack, substantially as herein specified.

82,159.—Eliab Perkins, Fond du Lac, Wis.—*Metallic Shutter.*—September 15, 1868.—Two recessed plates are riveted together, a chamber being thus formed. The upper part of the outside plate is slotted and the lower part of the inside plate is perforated to allow a current of air to enter from the outside. A receptacle for water is placed in the recess, so that in case of fire the steam escaping from the openings keeps the wood-work from burning.

Claim.—1. A metal shutter, formed of two plates recessed and riveted together, in the manner substantially as described.

2. A metallic shutter, constructed substantially as herein described, and provided with a water reservoir, substantially as set forth.

82,160.—EDWARD R. PLAYLE, Great Bend, Pa. —*Furnace for Melting Steel, Iron, &c.*—September 15, 1868.—The furnace is set on trunnions and is tipped by a gear wheel and pinion.

Claim.—The furnace A, when suspended on trunnions with power gear attached, for the purpose herein described.

82,161.—JOSHUA REGESTER, Baltimore, Md.—*Stop Cock.*—September 15, 1868.—Both the screw cap and valve stem are packed with an elastic diaphragm.

Claim.—1. The valve F, constructed with a flange, i, and embraced by an elastic packing, h, which is applied between the collar and cap of the stop cock, substantially as described.

2. A right and left screw valve stem D D', a valve F, and the packing h, combined and adapted to operate substantially as described.

82,162.—JAMES SELBY, Peoria, Ill.—*Corn Planter.*—September 15, 1868.—The seed slide is supported at its rear by a roller on a projecting arm, and operates a cranked rod provided with a valve at its lower end, so as to close alternately two holes in the lower part of the tube, separated by a partition.

Claim.—1. The combination, with the slide C, of the roller h and arm or support D, when arranged to operate substantially as described.

2. The lever L, having its lower end resting in a socket or rest connected to the seed slide, for the purpose of holding the slide down while operating it, as set forth.

3. The seed tube B, provided with the vertical partition I, and horizontal partition f, with the holes o therein, substantially as described.

4. The valve rod b', with the valve n attached thereto, said rod b' being located in the seed tube B, and operated by the slide C, substantially as shown and described.

82,163.—JACOB B. SIEGFRIED, Pittsburg, Pa.—*Howel and Croze.*—September 15, 1868.—The howel and croze are so combined that the work of both may be done with one tool, the edge of the bit corresponding to the curves of the working faces of the howel, and the cutters of the croze being so adjusted in a box in the case of the howeling tool that this latter may be used without the croze.

Claim.—1. In the case of a howel, or of a howel and croze, the opposite working faces a a', made substantially as described, and either with or without the flat face a'', for the purposes set forth.

2. A howeling bit c, made with two or more curved edges, x x', to correspond to the shape of the working faces a a' of a howel case, substantially as above described.

3. The construction of a combined howel and croze, the cutting bits of the croze being placed at or a little forward of the center of the working face of the howel, and the howeling bit just back of the center, substantially as and for the purposes set forth.

4. The frame f, as a box or case for the crozing chisels, hung in the combined tool by a ball and socket or hinge joint, or other equivalent device, and operated substantially as and for the purposes above set forth.

82,164.—EVAN SKELLY, Plaquemine, La.—*Apparatus for Impregnating Cane-juice and other Liquids with Sulphurous Acid Gas.*—September 15, 1868.—The gas is drawn from the furnace by the wheel with draught nozzles, submerged in the water chamber, and, having passed through the water, enters into the juice trough, where it is incorporated with the juice, which is acted on by a wheel between partition plates, that throw it against a valve controlling a damper and register. There being no excess or deficiency, sugar of uniform grade is produced.

Claim.—1. The register K, and valve J, in connection with the wheel O and pendent valve L, all arranged as shown, or in an equivalent way, to admit of the supply of gas to the cane-juice being automatically regulated by the quantity of juice passing through the juice trough, substantially as set forth.

2. The wheel O in the juice trough M, in combination with the pendent partition plates N N and recesses e e, all arranged as shown, for the mixing of the gas with the cane-juice, and the prevention of the escape of gas from the juice trough, substantially as shown and described.

3. The wheel F, provided with the draught nozzles a, and submerged in the chamber E, in combination with the pipes B B' B'', and furnace A, all constructed and arranged as shown, for the purpose of drawing the gas from the chamber through the water in E, substantially as set forth.

82,165.—FREDERICK P. SMITH, Petaluma, Cal. —*Gang Plow.*—September 15, 1868.—The furrow and land wheels are adjusted through the operation of the caster wheel held by the forked arm, with the nuts, bolts, and slots of the bar attached to the tongue.

Claim.—1. The arrangement of the devices and means herein recited for raising and lowering the frame and plows.

2. The bars, with spaces on the end of the beam, and on the tongue, with the bolts and nuts for the adjustment of the land wheel axle, and the caster wheel's arm, as herein set forth.

82,166.—F. P. SMITH, Petaluma, Cal.—*Gang Plow.*—September 15, 1868.—The plow beams are connected by chains to the bent lever resting on a frame and attached to a rod pivoted to the hand lever, while their front ends are pivoted to the cranks of the shaft attached to the axle.

Claim.—The combination of the several means and devices herein set forth, for raising and lowering the plows.

82,167.—HENRY SMITH and JAMES EMERY, Buffalo, N. Y.—*Twine Box.*—September 15, 1868.—The screw-shank portion of the knife, which is attached to the twine box outside, passes through the box and fastens both the knife and bottom to the box.

Claim.—1. The adjustable and removable knife B, having a screw shank, C, and set screw C', in combination with the twine box A, substantially as described.

2. The extended screw shank C and set screw C', as a means of connecting and securing both the knife B and removable bottom D to the main body of the twine box A, substantially as herein described.

82,168.—ISAAC B. SMITH and HENRY C. BURR, Springfield, Vt.—*Hames.*—September 15, 1868.

Claim.—1. The combination of the post A, double post B, and bolt E, arranged and constructed substantially as and for the purpose described.

2. In combination with the bolt E, the washers J and K, arranged upon it, substantially as set forth.

82,169.—HENRY D. SNYDER, Carbondale, Pa.—*Coal Stove.*—September 15, 1868.—The air is supplied through the fire box and cylinder, and rising into the inner cylinder is deflected into the burning fuel, while a radiator at the top of the stove radiates the heated air into the room.

Claim.—A stove composed essentially of the wall A, formed of the system of doors as above described, the grate D, supported as described, the cylinders C and G, the upright shaft I, the centering plate i, and the radiating box J, all the said being constructed and put together as described.

82,170.—HENRY SPENDELOW and ROBERT HENRAGE, Buffalo, N. Y.—*Grain Drier.*—September 15, 1868.—Air is made to pass horizontally through the chambers between the disks, instead of vertically.

Claim.—1. The arrangement, in combination with the closed chambers, of the disk plates k, and raised flanges h, in the manner and for the purpose herein set forth.

2. The combination, with the arms l l, of the

spreaders *p p p*, arranged as described and operating in the manner and for the purpose specified.

3. The arrangement, in combination with the drying floors C, and arms *l l*, of the series of slots *m m*, receding in position, so as to leave a closed surface in the succeeding floor below each slot, as herein set forth.

82,171.—G. W. STAATS, Newcastle, Pa.—*Guide for Scroll Saw.*—September 15, 1868.—The guide plate is let into the saw table, and has an oval part, inclosing the saw, projecting upward, the pattern on which the board is laid resting on the guide. For greater curves, the guide is placed with its base upward, and the work passes under it.

Claim.—1. The guide A *a*, substantially as described, in combination with a scroll saw and a pattern, all as and for the purpose set forth.

2. The auxiliary guide plates *h h′*, links *i i*, and suitable accessory plates *k j k* and screw *l*, for giving the proper curvature to the plates *h h′*, all substantially as shown and described, in combination with the guide plate A′ *a′* and a scroll saw, all as set forth.

82,172. — FRANK STANLEY, Austin, Texas.—*Joining and Fitting Hoof Hooks.*—September 15, 1868.

Claim.—The fitting of the hoof hook or cleaner into the back of the ordinary horse brush, and the mechanism above described, by which it is confined in its sheath or thrown out at pleasure, or any similar arrangement answering the same purpose.

82,173.—CHARLES STODDARD and AMOS STODDARD, Naples, N. Y.—*Cooking Stove Ventilator.*—September 15, 1868.—A sliding sleeve on the stovepipe has a small pipe connected with an inverted dish for conveying into the stove pipe the odors and steam from the stove.

Claim.—The sleeve *a*, as arranged and combined with stovepipe A, pipes B and D, and metallic dish C, substantially in the manner and for the purpose herein set forth.

82,174.—JOSEPH D. STRATTON and THOMAS WILSON, Mackinaw, Ill., assignors to JOSEPH D. STRATTON. — *Cheese Press.*—September 15, 1868.—A cam between the pressure rollers serves to impart a constant and uniform pressure on the lower side of the substance pressed.

Claim.—A cheese press having attached thereto the cam H, lever K, rollers E and G, and sliding beams P, constructed and arranged substantially as specified.

82,175.—HOOPER B. STRAUT, Greenleaf, Minn. *Wash Board.*—September 15, 1868.

Claim.—In combination, the construction of the rubbing board D within frame C, and the mode of attaching the same thus constructed to a common washing board, substantially as and for the purposes described.

82,176.—SENECA A. SWALM and CHARLES C. SCHMITT, New York, N. Y.—*Fire Escape.*—September 15, 1868.—The ladder is provided with tubular rungs screwed in the side ropes, and folds in a box which has a swinging bottom near its inner edge, extending out and below the window frame, being upheld by a latch while attached to the top and inside.

Claim.—1. A fire-escape ladder, attached at the upper part of the window, inside the building, in combination with a box or receptacle for holding such ladder when folded, and a swinging bottom and latch, applied substantially as set forth, to cause the ladder to pass outside the building as it is unfolded for use, as specified.

2. The tubular rungs for the ladder, formed with right and left-hand screws at their ends, in combination with the links *n*, that connect with the ropes or chains, substantially as set forth.

82,177.—GEORGE TANNER, Freetown, N. Y.—*Fruit Gatherer.*—September 15, 1868.—The saw is detachable, and when not used the hook and back of the knife serve as clamp upon a branch.

Claim.—1. The combination of the rod C, with its hook E, and the rod A with its cross head piece, to form an adjustable clamp for the uses and purposes set forth.

2. In combination with the above, the saw F, when arranged to operate as described.

82,178. — WILLIAM H. TAPPEY, WILLIAM C. LUMSDEN, and ALEXANDER STEEL, Petersburg, Va. —*Cotton Press.*—September 15, 1868.—The ratchet wheel turns the shaft, and bringing the beam and follow block down on the cotton, it being again raised by means of the endless chain and the grooved pulley keyed on the shaft.

Claim.—The shaft G, wheel P, rack B, wheel H, pawls *e* and *d*, double arms Q, rod *k*, lever M, and roller *f*, all arranged, constructed, and operated substantially as described, in combination with the follow block C and beam A of an upright press, as set forth.

82,179.—JOHN W. THOMPSON and FRANCIS M. THOMPSON, Greenfield, Mass.—*Bit Stock.*—September 15, 1868.—The socket piece is slidden longitudinally in the bit-shank by turning a sleeve or tubular nut, so as to center and secure or release the tool shank by pivoted gripers resting in a concave at the end of the socket and actuated by the socket piece.

Claim.—A bit stock or tool holder constructed and arranged so as to operate substantially as described.

82,180.—THOMAS THORLEY, Southfield, Mich.—*Cultivator.*—September 15, 1868.—The draught is attached to the widest part of the machine. Braces or "levers" are attached to the forward ends of the hinged plow beam, and to a rod in a slotted plate, to admit of the plows being adjusted to a greater or less width.

Claim.—1. The quadrant I, provided with flanges J, when attached, and operating substantially as and for the purposes herein described.

2. The levers K, the bolt and hand nut L and the plate N, provided with the slot N, when arranged and operating substantially as and for the purposes herein shown.

3. The combination of the beam A, the vertical standard C, the teeth D and H, the handles E and arms F, the standards G, the quadrant I, the flanges J, the levers K, the bolt and hand nut L, the slot M, and plate N, when constructed, arranged, and operating substantially as and for the purposes herein set forth, described and shown.

82,181.—WILLIAM M. TILESTON, New York, N Y.—*Paper Fastener.*—September 15, 1868.

Claim. — Corrugating, fluting, or grooving the points and arms, for punching the holes as described.

82,182.—RICHARD H. TRADENICK, Pittsburg, Pa.—*Lubricator.*—September 15, 1868.—The top of a column in the oil cup forms a seat for a ball which is confined by a set screw above. The column is pierced by an oil passage leading to the crank pin, and the oil is fed through the same by the play of the ball when the engine is in motion.

Claim.—The oil cup C, having the column E, oil passage G, ball F, top K, and set screw L, when constructed and operating substantially as and for the purpose set forth.

82,183.—JOHN D. VANDUZER, Tyrone, N. Y.—*Sewing Machine.*—September 15, 1868.—The cam wheel connected to the arm actuating the needle bar, also actuates the shuttle propeller. The crank, and eccentric wheel fastened to the shaft, the arm being slotted, its position, and that of the connection held in place by means of the pendulous frame, may be changed to adjust the throw. The lever for feeding the cloth being also connected to the frame and the eccentric, the adjustment of the various parts allow the distance the needle moves to be increased or lessened at will.

Claim.—1. The arrangement of the cam wheel C, connection D, lever E, and pendulous frame I, when constructed and operating substantially as and for the purpose set forth.

2. The eccentric H, bar N, and pivoted lever O, in combination, when constructed as described, and arranged to give motion to the cloth, substantially as herein set forth.

82,184.—C. W. Wailey, New Orleans, La., assignor to The New Orleans Pneumatic Propelling Company.—*Cut-off Valve Gear for Steam Engine.*—September 15, 1868.—At the end of the piston stroke the toggle is bent from a straight line and raises the induction valve, while the sliding bar opens the eduction valves the instant the piston changes its motion for the return strokes.

Claim.—1. The arrangement of the toggle joints D D′ D″ D‴, with reference to the induction and eduction valves, when those parts are constructed substantially as herein described.

2. The arrangement of the toggle joints D D′ D″ D‴ with the bars E and E′, substantially as herein described.

82,185.—Jacob M. Walter and Samuel Shank, Springfield, Ohio.—*Post Hole Borer.*—September 15, 1868.—Pivoted uprights support the boring and lifting mechanism, and are made to vibrate in contact with semi-circular plates affixed to the bed frame, which serve to adjust the uprights and auger shaft in a vertical position for boring a hole on the side of a hill.

Claim.—1. The arrangement, within the frame G J K, hinged at L to the main frame, of the jointed shaft *f f*, bearing the auger, the arm *q*, and beveled gear wheel *k*, adapted to turn with and move longitudinally on said shaft, pinion *l*, on crank shaft H, windlass I, cords *p*, ratchet wheel *n*, pawl *o*, and crank M, all constructed and arranged to operate in the manner and for the purpose herein set forth and shown.

2. The hollow blocks C, fixed to frame A, and adapted to receive the head, *b*, of axle *a*, on which the wheel B is held by means of nut *d*, as herein shown and described, for the purpose specified.

82,186.—Eli G. Warner, Union Township, Ohio.—*Rail Fence.*—September 15, 1868.

Claim.—The construction of a fence with a triangular frame, A B C, in which the rails are laid obliquely, in the manner and for the purpose as above stated.

82,187.—Charles S. Westland and John B. Allen, Providence, R. I.—*Kitchen Implement.*—September 15, 1868.—A stove plate lifter has a widened shank provided with slots for holding spoons, knives, &c., below which is a chamber for catching grease from said spoon, &c.

Claim.—A kitchen implement, constructed substantially as described, and for the purpose set forth.

82,188.—Margeannah White, Providence, R. I.—*Shoe Lacing.*—September 15, 1868.—A single piece of wire having an eye at the center and curved at each end.

Claim.—The eye A, in connection with its fastening B and C, when constructed and applied to a shoe, substantially as set forth and for the purpose specified.

82,189.—Charles E. Wilson, Palmyra, assignor to himself, Putnam Wilson, Jr., and Philip Wilson, of East Newport, Me.—*Attachment for Plow.*—September 15, 1868.

Claim.—The spring B. adjustable roller head D, and roller C, as an attachment for a plow, all constructed and operating substantially in the manner and for the purposes shown and described.

82,190.—Furman R. Wilson, Philadelphia, Pa.—*Valve Gear for Steam Engine.*—September 15, 1868.—The cams on the upper piston rod are adjustable, so as to cause the steam ports to open at any desired length of stroke. A working lever for operating the valves is provided with a roller on the end of each arm, and is actuated by the alternate movement of an elliptical and a conical cam, one above the other, on the same piston rod.

Claim.—1. The arrangement of the adjustable cams C′ C′, composed, as described, with reference to the screw thread *b* on the piston rod I′, and the key *e* and key slot *d*, substantially as herein shown and described, and for the purpose set forth.

2. The lever O O O, with its two short arms, having the rollers *h* and *i* arranged with reference to the valve rods M M and cams T and S, upon the piston rod I, substantially as herein described, and for the purpose set forth.

3. The cams S and T, being both arranged on one piston rod, in combination with the lever O O O, substantially as described, and for the purpose set forth.

82,191.—J. A. Woodward, S. S. Woodward, and Thomas Mason, Sandwich, Ill.—*Cultivator.*—September 15, 1868.—Arms, to which the axles are secured, are hinged to the frame and balance the same on the axle. A seat is hinged at the rear, so that when used for a riding cultivator the wheels are thrown back and the seat folded on top. Handles are pivoted to the standards of the shovels, so that their upper ends may be adjusted, for tilling the row.

Claim.—1. The reversible axle joints H H, pivoted to the frame A B, and arranged to balance the same, substantially as set forth.

2. The combination of the above-described axle joints with the frame A B and folding seat L, as and for the purpose herein described.

3. The handles D D, pivoted to the standards E E, and made adjustable to or from each other by means of the slotted plates F F and set screws I I, as described and shown.

82,192.—Linus Yale, Jr., Shelburne Falls, Mass.—*Permutation Lock.*—September 15, 1868.—Bearing screws at each corner of the lock are turned until they bear against the door, and bring the lock in such relation to it that the spindle will work freely. The lock is then secured by fastening screws

Claim.—1. The method of adjusting the lock to and connecting it with the door by means of the steady pins and bearing screws, substantially as described, in combination with the fastening screws, or the equivalent fastening, as and for the purpose described.

2. In combination with the lock bolt, two sets of rotating tumblers and their appendages, each set operated by one spindle, which also acts upon the bolt and the racks connected with the fence of the tumblers, and capable of being thrown separately in and out of gear with the pinion on the lock bolt, substantially as and for the purpose specified.

3. The rack, or its equivalent, to stop or liberate the lock bolt, when combined with the fence of the tumblers, by means of an interposed spring, or equivalent, substantially as and for the purpose specified.

4. Combining the eccentric roller, which is acted upon by a wheel or equivalent on the spindle, with the fence of the tumblers by a vibrating lever, or equivalent therefor, having a spring or equivalent interposed between it and the fence, substantially as described, and for the purpose set forth.

5. Balancing the tumblers, or, as the equivalent thereof, disconcerting the preponderating weight relatively to the slots for the fence, substantially as and for the purpose specified.

6. A sliding and rotating spindle, which both shoots the bolt and revolves the tumblers, as described, and is provided with a cylindrical cavity, as specified, in combination with a stationary arbor of greater length than the space occupied by the pack of tumblers, and projecting into the cylindrical cavity of the spindle, the combination being substantially such as hereinbefore set forth.

7. Combining with the case which contains the tumblers, and which is fitted to the tubular projection from the lock frame, so that it can be inserted therein and removed therefrom for the purpose of changing the combination, a spring bolt or latch, controlled by a separate lock, substantially as and for the purpose described.

8. Making the knob hollow and threaded on the inside to receive the threaded portion of the spindle to such an extent that it can be fitted to doors of various thicknesses, and then prevented from turning, the one on the other, by a feather key, as described.

82,193.—James Armstrong, Bucyrus, Ohio.—*Apparatus for Tolling Grain.*—September 15, 1868.—Partitions of glass are placed obliquely across the box, which distributes the grain evenly as it falls upon them. A spout narrower than the box is placed under the end of the lowest partition and is divided, the upper part being hinged and acting as a gauge.

Claim.—The combination of the box A with partitions or chutes *e f g*, the spout *k*, and the gauge *l*, when constructed and arranged as and for the purpose herein set forth.

72,194.—Haydn M. Baker, Harlem, N. Y.—*Process of Refining Cast Iron.*—September 15, 1868.

Claim.—The use of soluble and fusible insoluble silicates of soda, potash, and other bases, consisting of silicate of lime, magnesia, barytes, strontian, lead and bismuth, or mixtures of same, for the purpose of removing silica, sulphur, carbon and metallic oxides from iron at very elevated temperatures, in the manner herein described and for the purposes fully set forth.

82,195.—William M. Bartram, Philadelphia, Pa.—*Vapor Condenser for Lard-rendering Kettles.*—September 15, 1868.—Air forced into the cap above the fire partly condenses the vapor, which is then forced through an inclined condenser and then through a vertical condenser, from whence the uncondensed vapor escapes into the chimney.

Claim.—1. The employment of the air tube *g*, through which air is forced by a bellows, or other equivalent means, into the cap D, above the fire, in combination with the goose neck E, condensers F and G, and pipe S, leading into the chimney, whereby a part of the vapor is condensed, and the uncondensed vapor is carried up the chimney, substantially as set forth.

2. The arrangement of the kettle C, cap D, air tube *g*, condensers F and G, pipes I J N *k*, conduit pipe *m*, discharge pipes *t t'* L, and pipe S, all constructed and operated in the manner and for the purpose set forth.

82,196.—John Bellerjeau, Philadelphia, Pa.—*Lamp.*—September 15, 1868.—An annular plate sets over the burner and has attached to it three pendent springs terminating in rests. The springs expand when the chimney is placed over them, and bear against the bulging part of the chimney and hold it firmly.

Claim.—Pendent springs B, terminating in hooks or rests C, when attached to the lower side of an annular plate, F, having an annular hole, A, in its center, substantially as and for the purpose herein shown and described.

82,197.—P. R. Bennett, Jr., Urbana, Ohio.—*Watch.*—September 15, 1868.—The jewel is suspended centrally within a cavity made in the cap, and has an elastic bearing on every side.

Claim.—Suspending the jewel or bush of a watch by means of lateral springs placed about the same, substantially in the manner and for the purpose herein set forth.

82,198.—Auguste Léon Bezy and Isidore Agnan Desnoyers, Paris, France.—*Steam Generator.*—September 15, 1868.—The casings being arranged eccentrically to each other, the water is heated faster on one side than on the other, thus creating a current and preventing any deposit of sediment.

Claim.—1. The arrangement of the inner and outer casings of a steam boiler eccentrically to each other, for the purpose set forth.

2. A boiler, the outer shell of which consists of two or more flanged sections, constructed and so secured together by screw bolts as to be detachable from each other, substantially as herein set forth for the purpose described.

82,199.—H. S. Blood, Jefferson, La.—*Railway Safety Attachment.*—September 15, 1868.—Two drums are supported by a frame upon a revolving shaft in such a manner that their perimeters may be kept in contact with the perimeters of the fore wheels of the car, and by this means being made to revolve in an opposite direction, will throw any obstacle off the track.

Claim.—The combination of a railroad car with the fender wheels A A, the shaft 1, and the frame B, when these parts are constructed, arranged, and operate substantially as herein described for the purpose set forth.

82,200.—Amos Bond, Chicopee, Mass., assignor to himself and A. D. Moore, same place.—*Feather Renovator.*—September 15, 1868.—A cylindrical holder provided with perforated partitions, incloses a steaming apparatus, composed of a drying cylinder extending lengthwise through the feather holder and inclosing a steam chest from which steam passes into the holder through pipes covered with sawn caps like gas burners. Steam is admitted into the steam chest by suitable rotary valves.

Claim.—1. The combination of the revolving feather holder A, drier C, steam chest D, tubes I, valve seat E, two-way valve F, valve seat H, blow-off pipe G, exhaust valve G', reservoir K, and pipe J, substantially as and for the purpose described.

2. The removable partition P, applied to the revolving feather holder A, to form compartments therein, substantially as described.

3. The slotted or sawn caps, applied to the outer ends of the tubes I, when the latter are applied to the steam chest D and drier C, substantially as and for the purpose set forth.

82,201.—Joseph Bourke, Curraghleagh, Ireland.—*Skate.*—September 15, 1868.—The sole clamp and heel clamp are connected together at any desired distance asunder by means of a hook, secured to a nut sliding in the heel plate, and a perforated plate secured to the heel clamp, which latter slides over the runner.

Claim.—The combination of the perforated plate C and hooked rod D' with the movable sole plate B, lips *b' b'*, and heel plates E E^2, all arranged to operate substantially as and for the purpose herein described.

82,202.—William K. Boyle, Brookville, Md.—*Manufacture of Artificial Stone.*—September 15, 1868; antedated September 7, 1868.—Stone formed of sand and gravel, combined with soluble silicate of potash, is submitted to the action of a hot solution of the nitrate of lime.

Claim.—1. The herein-described process of manufacturing artificial stone, by means of which the insoluble silicate of lime is formed, by the double decomposition of the silicate of potash and nitrate of lime, substantially as herein set forth and described.

2. As a secondary result, the utilization of the nitrate of potash, as a waste material, in the manufacture of artificial stone, as herein set forth and described.

82,203.—F. A. Bradley, New Haven, Conn., assignor to himself, James G. English, and E. F. Mersick, same place.—*Top Prop for Carriage.*—September 15, 1868.—A piece of metal covers the screws, which secure the stud to the bow. The ends of the braces fit on a sleeve having a flange on the outer edge. Said sleeve fits over the stud, and is held against the metal cover by a nut.

Claim.—1. In combination with a stud, A, of other than cylindrical form, the sleeve F, formed with the flange *a* and the nut G, arranged so as to bear against the said flange, substantially as herein set forth.

2. In combination with the stud A formed upon the plate B, the covering plate D, with its neck or projection E, when constructed and arranged so as to cover the plate B, substantially in the manner herein set forth.

82,204.—H. K. Bugbee, Williamstown, N. J.—*Portable Platform Scale.*—September 15, 1868.—The platform rests on levers having their fulcra on plates secured to racks, which slide in standards resting on the surface of the ground. The wagon is placed over the bars, and the racks are raised until the wheels are free.

Claim.—1. The levers G and H, having their fulcrums on plates J, which rest upon adjustable standards A and A', or directly upon the surface of the ground or floor, in combination with a graduated scale beam, and the within-described appliances, (or their equivalents,) connected therewith, all substantially as and for the purpose set forth.

2. In combination with the above, the bars L or platform M, for the purpose specified.

3. The frame D, with its fixed and movable arms *h* and *h'*, for the purpose specified.

82,205.—A. J. Carver and E. P. Horn, Greenhill, Tenn.—*Hog Cholera Medicine.*—September 15, 1868.—Composed of May-apple root, rhubarb, and columbo.

Claim.—The aforesaid medicinal compound for the cure and prevention of hog cholera.

82,206.—William Chesley, Cincinnati, Ohio.—*Globe Valve.*—September 15, 1868.—The detachable seat is held in position by a bolt. The valve is made of cast iron, with a groove on its periphery, and depressions, which hold the brass that is cast over the portion which comes in contact with the seat.

Claim.—1. The bolt D, screwed into the disk *e* of the seat B, and drawing said seat in the direction of the pressure of the valve, as and for the purpose specified.

2. The valve C with groove G, depressions I I, and lining L, of brass or any other suitable material, substantially as and for the purpose described.

82,207.—Holley M. Clark, Brewer, Me.—*Hand Rake.*—September 15, 1868.—The operator is behind the rake, and presses it forward. The wheel acts as a fulcrum for raising the revolving rake when it is loaded with hay.

Claim.—The shafts A B, wheel D, tie C, crossbeam E, and arms F F F F, in combination with the rotating rake G *d d d*, all constructed and operating substantially in the manner and for the purposes shown and described.

82,208.—Paul Conday, Philadelphia, Pa., assignor to himself and Charles F. Leisen.—*Apparatus for Brewing Malt Liquor.*—September 15, 1868.

Claim.—An apparatus so constructed that the steam rising from the brewing boiler during the process of brewing may be used for the purpose of heating and preparing the wort for each succeeding brewing, as described.

82,209.—Thomas B. De Forrest, Birmingham, Conn.—*Busk or Stay for Corset.*—September 15, 1868.—The stay is formed of paper, in which is inserted a flat strip of steel, to give the required elasticity.

Claim.—A dress or corset busk of paper, or similar fibrous material, having inserted longitudinally therein a metallic spring, substantially as set forth, as a new article of manufacture.

82,210.—W. B. Farwell, New York, assignor to himself and Charles R. Abbott, Elmira, N. Y.—*Railroad Car Heater.*—September 15, 1868.

Claim.—1. The universal joints D D, and the pipes B B and C, applied to the permanent or fixed pipes A^x of the cars, for the purpose of forming a steam-tight connection between the pipes of the cars, and admitting of a free, vertical, lateral, and longitudinal play or movement of the latter, substantially as set forth.

2. The placing of the coiled or sinuous portion of the steam pipes A^x in inclined positions, with water receptacles G, communicating with them at their connecting points, said receptacles being provided with valves or siphons, so arranged as to admit of the discharge of the water of condensation at proper intervals, without permitting the escape of steam, substantially as set forth.

82,211.—Samuel Fawcett, Rochester, N. Y.—*Cutter Head.*—September 15, 1868.—The wings are grooved, and slide over projections on the cutter head, and are held by set screws.

Claim.—The rotary cutter head, having one or more wings for holding the knives, made adjustable longitudinally, constructed to operate substantially as described.

82,212.—Heinrich Fedder, Lancaster, N. Y.—*Liniment.*—September 15, 1868.—Composed of butter oil, juniper berries, and beech-nut oil.

Claim.—The liniment, made of the ingredients, and in the manner substantially as herein described.

82,213.—Horace B. Ferren, Batavia, N. Y.—*Device for Measuring the Feet of Horses.*—September 15, 1868.—Slotted slides placed between two plates radiate from the center in the proper direction to take the requisite measurements, and are held by a screw. A double slotted slide is placed between tongues on the plates, and held by a screw passing through the slots, and is used to ascertain the measure for placing the flanges on a "Tyrrell" horseshoe.

Claim.—1. In combination with a device, as above described, for taking an accurate measure of the form of a horse's hoof, the arrangement of the index-headed screw E, center screw *a*, and point *e*, in a straight line, so as to certainly adjust the measure to the center of the foot, as described.

2. In combination with a device for measuring the hoof of a horse, the slides G, constructed as described, the index-headed bolt E and wheel F, arranged and operating as described.

82,214.—Horace B. Ferren, Batavia, N. Y.—*Device for Measuring the Feet of Horses.*—September 15, 1868.—Slotted slides are held between two plates in a proper direction to take measurements by a screw rod around which they rotate.

Claim.—In combination with the slides F F, the adjustable slide C, and the adjustable heel slides D D, as described, all secured to the one center screw B, as and for the purpose described.

82,215.—Horace B. Ferren, Batavia, N. Y.—*Device for Attaching Shoes to Horses' Feet.*—September 15, 1868—A "Tyrrell" horseshoe is secured to the horse's foot by spring bands.

Claim.—1. In combination with a shoe provided with an upward projecting flange at the heel, as shown in the patent to Tyrrell, one or more spring bands, D, fastened by nuts, or their equivalents, to said flanges, substantially as set forth.

2. The bars C C, constructed as described, with a screw at the lower end to be inserted in a horseshoe, and a loop, or its equivalent, at the upper end, for the purpose of holding a band, so that the shoe may be attached to a horse's foot by the same, substantially as herein set forth.

82,216.—Elliot H. Funk, Newark, Ohio.—*Churn Dasher.*—September 15, 1868.—Wings are pivoted between perforated dash boards, which are secured to a cross piece attached to the end of the dash rod. Two perforated boards are secured to the dash rod above the boards and incline outwardly, so as to break the current caused by the wings when the rod descends.

Claim.—The pivoted swinging wings *g g*, in combination with the break boards *h h* and dash boards *d d*, all arranged substantially in the manner and for the purpose set forth.

82,217.—George Gabriel, Pittsburg, Pa., assignor to himself and Philip Wisenberger, same place.—*Apparatus for Detaching Horses from Carriages.*—September 15, 1868.—The singletree and long trace are dispensed with, the harness being attached to bars which are secured to the shafts in such a manner as to be easily disconnected from them in case of accident.

Claim.—1. The plate C, having the lock E, pin *h*, and eyes *a a' a''*, substantially as described.

2. The combination of the plate C, the bars D and F, constructed and operating substantially as described.

82,218.—George L. Gerard, New Haven, Conn.—*Bed Bottom.*—September 15, 1868.—The spring is fastened to the lower slat by a pivoted button and secured to the upper slat by a stationary strip of metal and a pivoted button.

Claim.—The arrangement of the plate or strip *d* and buttons *f* and *g*, with the spring C and slats A and B, the parts being made and used as and for the purpose specified.

82,219.—T. P. GIBBONS, Baltimore, Md.—*Lamp Feeder.*—September 15, 1868.—A valve is placed near the base of the chimney through which the nozzle of the can is inserted, said nozzle being provided with a pipe in its upper part for conveying off the gas generated in the lamp.

Claim.—1. The lamp feeder D, when constructed with the tube J extending from the end of the nozzle around to the rear side of the body of the can, near its top, and thence through the wall of the can into its interior, and operating substantially as described.

2. The combination of the cock N, having the orifice *o*, with the nozzle d^3, having the two passages $n\ n'$, by which, at the same time that the liquid is delivered from the can D to the lamp A, the gas in the latter is conveyed to the upper part of the can, without escaping around the nozzle, and in the manner described.

82,220.—JOSEPH JOHN HARRISON and EDWARD HARRISON, Broughton, England.—*Brake for Yarn Beam of Looms.*—September 15, 1868.—The tension of the warp is regulated by chains, wound around each end of the drum, one end of the chain being secured to a spiral spring, the other end to a bar connected with a lever which is held down by a spiral spring, the tension of which can be regulated by a thumb screw.

Claim.—1. The chains or bands *f*, bearing on the ends of the warp roller, and secured to a bar, *m*, in combination with the within-described devices, or their equivalents, for adjusting the bar, and securing it after adjustment, for the purpose specified.

2. The combination of the above and the springs *l*, connected to the bands or chains *f*, for the purpose described.

82,221.—SHUBAEL E. HEWES, Albany, N. Y.—*Step-ladder Joint.*—September 15, 1868.—The ends of one section are slotted, and are also provided with buttons. The ends fit over a round and the buttons in sockets on the other section.

Claim.—The joint, composed of the foot *c c*, the round *s*, the button B B, and the matrix *a a*, substantially in the manner and for the purpose above described.

82,222.—GEORGE M. HOPKINS, Albion, N. Y.—*Low Water Indicator.*—September 15, 1868.—A vessel is suspended in such a position by swivel joints between two pipes, which connect with the boiler, the lower one resting on a spring, so as to be full of water, when the water is at a proper level in the boiler. The water falling in the boiler empties the vessel, and the spring raising it opens the feed-water cock with which it is connected and also operates a steam whistle.

Claim.—1. The vessel A, in combination with the pipes B B and C C, and the swivel joints D D, and E F, operating in the manner substantially as shown and described.

2. The stop cocks I and O, having the spring catches L L, in combination with the vessel A, arranged to operate substantially as shown and described.

3. The vessel A in combination with the whistle P and intermediate devices for giving alarm, and regulating the supply of water, as above set forth.

82,223.—CHARLES L. HORN, Jr., and LEONARD MANCY, St. Morgan Ill., assignors to LEONARD MANCY.—*Gang Plow.*—September 15, 1868.—The furrow wheel is affixed to an adjustable post, so as to be set at any height for plowing deep or shallow; it is also arranged so that the plow can be thrown forward to lessen the draught.

Claim.—1. The frame $A\ A^1\ A^2$, the wheels B and B^1, adjustable arm $b\ b^1$, post B^2, and brace B^3, when combined and arranged as herein shown and described.

2. The plow beams C, their posts C^1, and the frame beam A^2, when constructed substantially as herein shown and described, and for the purpose set forth.

3. The beams C, post D, and seat D′, when constructed and arranged as herein shown and described.

4. The arrangement of the beams C, rod E, and lever E′, in the manner and for the purpose herein described and set forth.

82,224.—GEORGE HOWELL and WILLIAM SMITH Philadelphia, Pa., assignors to GEORGE HOWELL.—*Device for Filling Marshes.*—September 15, 1868.—Improvement on GEORGE HOWELL'S patent of March 31, 1868. An iron case is lowered from a scow by suitable mechanism until it rests on the bed of the river. The mud from a dredging scow is dumped into it and is removed to the land to be reclaimed by a pump connecting with a perforated pipe placed in the bottom of the case.

Claim.—1. The combination and arrangement of the case B, constructed as described, with the scow A, substantially in the manner hereinbefore described, and for the purpose set forth.

2. The combination of the perforated pipes J with the case B, substantially as and for the purpose above described.

82,225.—JOHN HOYT, Hughsonville, N. Y.—*Water Wheel.*—September 15, 1868.—The convex sides of the buckets are vertical, the concave sides are beveled; the central portion being cone-shaped, divides the water centrally, so that the pressure acts equally on all the beveled wings. The water operating centrally on the under side of the wheel supports it, thus dispensing with a step at the bottom.

Claim.—An outward-discharge water wheel, constructed as described, namely, having a top plate B, inverted cone F, buckets *d d*, and rim D, all constructed and arranged in relation to each other, substantially as herein described.

82,226.—JENKINS JONES and T. G. EISWALD, Providence, R. I.—*Railway Snow Plow.*—September 15, 1868.—An endless apron receiving motion from the axle facilitates the passage of the snow up the incline. A deflector made in the form of a wedge and pivoted so as to be adjusted, divides the snow and throws it off equally on both sides.

Claim.—The arrangement of the frame A, constructed as above described, with the apron G and the deflector E, substantially as herein set forth.

82,227.—TIMOTHY KENNEDY, Mount Carmel, Conn.—*Belt Fastening.*—September 15, 1868.—A plate on the upper side of the belt and two bars imbedded on the under side of the belt, are held together by screws.

Claim.—The springs or bars D D, constructed with a convex or ridge surface, so as to be embedded in the surface of the belt, and combined with the plate A upon the opposite side or surface of the belt, the plate and bars secured together through the belt, substantially as set forth.

82,228.—JOHN H. KEYSER, New York, N. Y.—*Illuminating Damper.*—September 15, 1868.

Claim.—1. The door A, constructed with openings *h* and mica-holding ribs $g\ g'$, substantially as described.

2. The mica-holding plate D, interposed between door A and plate B, substantially as described.

3. Providing an illuminating door or window for a stove with fixed mica lights *d*, and movable mica lights d', substantially as described and shown.

82,229.—JOHN H. KING, Smithfield, Ind.—*Gate.*—September 15, 1868.—The hinges are placed out of line so that the front end of the gate raises as it is opened, and when opened is held in place by a prop. A bolt held by a spring in a recess in the post, and operated by a lever, fastens the gate.

Claim.—1. The combination and arrangement of the pins $d^1\ d^2$, plates *d*, sliding bolt E, concealed spring F, and the weighted lever G, when constructed and operating as described.

2. The combination of pins $d^1\ d^2$, plates *d*, sliding bolt E, concealed spring F, weighted lever G, hinged prop H, and catch *g*, arranged and operating as described.

82,230.—JOHN KLEE, Dayton, Ohio.—*Bottle Stopper.*—September 15, 1868.—The stopper is made of wood tapering at both ends, and has a rubber washer affixed by a tack to the end that enters the bottle.

Claim.—The stopper or slug B, made conical or tapering at both ends, and provided at one end with the rubber packing disk A, arranged as described, and secured by a tack, F, all as and for the purpose herein set forth.

82,231.—Julius Kopp, Hoboken, N. J.—*Attachment for Gas Burner.*—September 15, 1868.—A cap of wire gauze, provided with flanges for holding it in place, fits over the ordinary burner.

Claim.—An adjustable cap A, constructed of woven or perforated metals, with flanges A″ A″ A″, substantially as and for the purpose set forth, as an article of manufacture.

82,232.—B. F. Kraft, Reading, Pa.—*Faucet.*—September 15, 1868.—The valve is held against a triangular block by a spiral spring; said block is secured to the rod to which the handle is attached and turns with it, opening and closing the valve.

Claim.—The combination and arrangement of the induction passage *a*, valve *b*, spring *d*, handle D, three-cornered piece E, and eduction passage *i*, the whole being constructed and operated as set forth.

82,233.—M. F. Lanning, White House, N. J.—*Whiffle-tree Swivel.*—September 15, 1868.—The swivel maintains its position by its own weight, after the trace is secured, and prevents the latter from becoming accidently detached.

Claim.—The movable swivel D, constructed as described, with one end longer than the other, and pivoted to the end of the iron B, for the purpose of attaching trace to a whiffle-tree, substantially as herein set forth.

82,234.—John W. L. Letherbury, Sandoval, Ill.—*Tree Box.*—September 15, 1868.—A series of slats are united together to form a folding frame capable of being enlarged or diminished as required.

Claim.—A tree wrapper, constructed and operating substantially as described.

82,235.—Henry Laber, Bellfair Mills, Va.—*Churn.*—September 15, 1868.

Claim.—The herein-described triangular form of paddles, arranged in alternate ranks, in opposite position, as relates to their angles upon the shaft, as herein shown and described.

82,236.—Miles Mayall, Roxbury, Mass., assignor, by mesne assignment, to George W. Mayall.—*Carpet Lining.*—September 15, 1868; antedated June 27, 1868.

Claim.—As an article of manufacture, an under lining for a carpet, constructed from an elastic fibrous material, placed between the surfaces, one of paper and the other of a thin open woven fabric, and having perforations through the whole, substantially as described.

82,237.—Josiah F. Melcher, Bloomington, Ill.—*Machine for Bending Wood.*—September 15, 1868.—A table or former of the desired curve is placed upon a cross beam, and a frame, consisting of two parallel bars, is forced down upon the interposed material to be bent.

Claim.—The construction and arrangement of the cross beam C, tables F F′, and frame D D′, substantially as shown and described.

82,238.—John G. Moxey, Philadelphia, Pa., assignor to himself, Henry C. Carey, and Abraham Hart, same place.—*Process of Debranning Wheat.*—September 15, 1868.—Designed as an improvement on the process described in the patent granted to Sam'l Bentz, Feb. 11, 1862.

Claim.—The within-described improved process of debranning wheat, that is to say, subjecting the grain, without the use of steam, and while in a dry state, to the action of the blades, in the manner described.

82,239.—Joseph Nason, New York, N. Y., assignor to himself, Charles H. James, and Frank Millward, Cincinnati, Ohio.—*Drop Tube Steam Generator.*—September 15, 1868.—The extension of the outer tube is designed to provide against any conflict of the ascending and descending currents at or near the top of the drop tubes, and also for taking water into the internal tubes from the spaces between the tops of the main tubes.

Claim.—1. The within-described extension of the drop tube upward above the upper surface of the tube sheet A, and the provision for allowing a current of water to enter through the side of such extension, and descend through an inclosed passage or tube, *d*, combined and arranged substantially as and for the purpose herein set forth.

2. In connection with the above, making the extended top D′ in a separate piece from the main drop tube D, and adapted to serve, relatively to the other parts, substantially in the manner and for the purposes herein specified.

82,240.—A. M. Newman, Terre Haute, Ind.—*Saw-sharpening Device.*—September 15, 1868.—Two files are placed within an adjustable frame, so arranged as to accommodate files of different sizes, and have all the saw teeth filed at the same pitch.

Claim.—1. The adjustable standards B B, provided with heads C C, and washers *e e*, for the purpose of securing the files, and adapting the machine to different-sized files, substantially as and for the purposes herein set forth.

2. The combination of the slotted bar A, standards B B, handles D D, rod *d*, and guides *i i*, constructed and operating substantially as and for the purposes herein set forth.

82,241.—Nelson B. Norton, Burlington, Wis.—*Four-wheel Plow.*—September 15, 1868.—A lever for raising and lowering the plow is connected with the plow beam and pivoted to the frame. The depth of the plow in the ground is regulated by a rod in the cap of the parallel posts and is operated by means of a nut.

Claim.—1. The arrangement of the lever H, jaws I, and metallic straps K, with the plow beam F, frame C, post or standard L, straps M, and catch *h*, when constructed and used as and for the purpose set forth.

2. The adjustable rod *g*, in combination with the frame C, and plow beam F, when arranged as and for the purpose specified.

82,242.—William C. Pettijohn, St. Louis, Mo.—*Lime Kiln.*—September 15, 1868.—The kiln is fed from the top with stone and fuel, the ashes and refuse matter is discharged at the bottom; the burnt stone is drawn off through an aperture at the side of the kiln. The operation is performed continuously.

Claim.—The arrangement of the kiln A, having the chamber A′, grate *a*, ash pit B, side aperture *a′*, metallic dome D, constructed in two parts, and having the smoke exit d^2, all combined substantially as herein set forth.

82,243.—Seth G. Pitts, Leominster, Mass., assignor to himself and Wilford L. Palmer, same place.—*Machine for Forming Buttons.*—September 15, 1868.—Over the space between the two sets of mandrels are two ways or rails upon one of which slides a toothed rack. Below the rails are two clamps which hold the sheet of horn or steel from which the buttons are cut.

Claim.—The combination of as well as the arrangement of one or two sets of mandrels A B, the toothed rack or carrier L, and its supporting rail K, and the clamps M M, the whole being provided with mechanism for operating the rack, mandrels, and clamps, substantially as described.

82,244.—John T. Plass and Reuben H. Plass, New York, N. Y.—*Apparatus for Carbureting Air.*—September 15, 1868.—The liquid is discharged into a trough which is presented to both chambers; orifices near the bottom of the trough in the partitions allow the liquid to flow freely into the chambers but prevent the air from entering.

Claim.—1. The gate E, in combination with the fluid trap c^2, constructed as described, for regulating the supply of hydrocarbon to the evaporating chamber, and returning the surplus to the reserve chamber, substantially as set forth.

2. The tubular stem of the hollow cone valve G, for the insertion of shot or other suitable weights, for adjusting the pressure in the gasometer, substantially as set forth.

82,245.—R. B. Prindle, Norwich, N. Y.—*Blind Hinge.*—September 15, 1868.—The upper leaf has a conical bearing fitting into a seat in the lower one; a pin is secured to the upper one, which fits in a slot in the lower one. A shoulder on the lower leaf engages with a projection on the upper leaf when the shutter is opened; by pushing against the shutter the pin slides back in the slot and the projections are disengaged.

Claim.—A self-locking blind hinge, formed by combining the pin G (with its conical base, and a corresponding seat in the disk F) with the shoulder H, engaging the leaf D, in the manner and for the purpose substantially as herein shown and described.

82,246.—Henry W. Prouty, Boston, Mass., assignor to himself and Howard Tilden, same place.—*Animal Trap.*—September 15, 1868.—Two arms drawn together by springs are pivoted to two sides of a frame and have spears projecting across the end of the frame nearly meeting in front of a hole in which the bait is placed. They are set by being opened and their ends placed in contact with a bent lever catch which connects with the bait.

Claim.—The arrangement of the arms D D, spears K K, bait rod L, and bait cup C, in combination with the spring F and catch G, the whole being constructed and arranged upon a block or frame, substantially as described and for the purpose set forth.

82,247.—Jane C. Putnam, Worcester, Mass.—*Table.*—September 15, 1868.—The sides of the table are grooved and the top tongued so that it can be drawn out and used as an ironing board. The body of the table is provided with drawers and used as a refrigerator.

Claim.—1. The construction of the top B, the pieces C C, for supporting the top, in connection with the slide R, substantially as set forth and described.

2. The combination of the movable legs, leaves, drawer or drawers, and a fastening mechanism that holds both drawer and leaves, substantially as set forth and described.

82,248.—S. D. Rader, Williamsport, Pa.—*Brick Kiln.*—September 15, 1868.—A series of furnaces are constructed along the sides of the kiln and one at each end, provided with proper communication and air openings.

Claim.—The arrangement of the kiln A, end furnaces C, and long side furnaces B, composed of a series of small fireplaces *o o o*, and provided with draught holes *i i*, at the side and ends, all constructed substantially as and for the purposes herein set forth.

82,249.—John T. Rich, Philadelphia, Pa.—*Gas-Burning Furnace for Steam Generators.*—September 15, 1868; antedated July 8, 1868.

Claim.—1. So arranging a furnace that the coal shall be subjected to distillation before it enters the fire box, and at the same time so arranging the draught or blast that the gases thus evolved shall be thoroughly mingled with atmospheric air, or air and steam, within the furnace, but before entering the fire box or combustion chamber to be consumed, substantially as described.

2. The chute C extending in the form of a tube into the fire chamber and serving as a retort, for the purpose of distilling the coal retained in the tube, by means of the heat of the fire box, in combination with a draught pipe F F′, substantially as set forth.

3. The steam blast F, so arranged in relation to the tube or retort in which the coal is subjected to distillation, that the wet steam and atmospheric air shall be mingled with the gaseous products of the coal before entering the fire box, substantially as set forth.

4. The arches or diaphragms G, when constructed of a refractory substance, and extended entirely across the fire box, and perforated with openings K, substantially as and for the purpose set forth.

5. Double perforated arches or diaphragms G, in combination with intermediate openings P through the external walls.

6. The combination of the chute C, extending into the fire box, to act as a retort in the distillation of the coals, and arches or diaphragms G, so located within the fire box as to reflect the heat upon such retort, substantially as set forth.

7. The steam blower, constructed with concentric funnels N, extending successively from the center, one beyond the other, and discharging the currents passing between them into a tubular extension, F′, of the outer case F, substantially as set forth.

82,250.—M. H. Ripley and William N. Temple, Minneapolis, Minn.—*Combined Corn Sheller and Apple Grinder.*—September 15, 1868.

Claim.—The combination of the tapering and concaved-toothed cylinder B, guide F, springs G, gears D E, and frame A, with its spouts I J, when the several parts are constructed and arranged in the manner specified.

82,251.—Clemens B. Rose, Sunderland, Mass.—*Bit Stock.*—September 15, 1868.—The handle is formed of two pieces, and secured in the stock by means of ferrules.

Claim.—The handle A, constructed of the two pieces applied to the stock B, as described, and secured by the ferrules C, all substantially as herein set forth.

82,252.—John Schuessler and John Kennedy, La Fayette, Ind., assignors to John Schuessler.—*Machine for Threading Bolts.*—September 15, 1868.—The heads of the cutters fit in converging grooves in an outside collar which receives a longitudinal movement by means of a lever connected thereto and moving over a graduated quadrant.

Claim.—1. The arrangement, herein described, of the hollow-slotted mandrel B, the grooved reciprocating head E, and the cutters C.

2. The combination of the devices set forth in the foregoing clause, with the lever F and graduated quadrant M, substantially as set forth.

82,253.—Thompson C. Sebring, Milford, Mich., assignor to Ira A. Hebbard, of Rochester, N. Y.—*Harvester.*—September 15, 1868.—The frame is made in a circular form with a conical or funnel-shaped bottom, and serves to inclose the gearing and to form bearings for the same.

Claim.—1. The employment, in grass and grain harvesters, of a round cast-iron main frame, F, constructed substantially in the manner and for the purposes herein shown and described.

2. In combination with the main frame F, the cover or cap C, substantially as shown and described, for the purpose of entirely encasing the gearing of the machine, and protecting it from dust and dirt.

3. In combination with the horizontal bevel wheel W, the box or step *s* and adjusting screw *v*.

4. The annular pawl *p*, provided with the inclined plane *e*, arranged and operating substantially in the manner and for the purposes herein shown and described.

5. The arrangement of the spring *f*, as shown, and operating in the manner and for the purposes described.

6. The hand lever Y, pivoted to the head H, of the cutter bar, and operating substantially in the manner and for the purposes herein shown and described.

7. Pivoting the rear end h'' of the cutter bar head H in the shoe S, with a spherical joint, to permit any necessary vertical change in the elevation of the outer end of the cutter bar, and also of the front side, substantially in the manner and for the purposes herein shown and described.

8. The adjustable gate r'', secured to the standard J'' of the shoe S, arranged to operate as herein described.

82,254.—Jacob Sheller, Wilmington, Del.—*Composition for Stuffing and Filling Wood.*—September 15, 1868.—Composed of starch, concentrated ammonia, linseed oil, Japan varnish, and sugar of lead.

Claim.—The combination of the within-named ingredients, when mixed in the several quantities and proportions, as herein described and for the purpose set forth.

82,255.—Thomas Simmons, Brooklyn, N. Y.—*Filter.*—September 15, 1868.—Improvement on his patent of April 11, 1865, and consists in the use of a single coil in the filter frame, dispensing with the jointed spring and double flange. The movable head and pipes admit of the filter being reversed for cleansing.

Claim.—1. The case A, provided with a movable head, and each of its heads being provided with the pipes D D, upon which screw threads are formed, so that the filter can be reversed and cleansed, substantially as set forth.

2. The frame C, as constructed and combined with the case A and pipes D D and G, when used with a force pump, as and for the purpose set forth.

82,256.—Henry L. Stillson, Plattsburg, N. Y.—*Combined Clothes Horse.*—September 15, 1868.—The parts are so constructed as to admit of being readily converted into a quilting frame, a clothes horse, or an ironing table.

Claim.—1. The four-armed rollers D D, constructed as described, with a series of holes through one of the arms, and provided with ratchet wheels E and journals *n n*, which revolve between the side pieces A A, substantially as and for the purposes herein set forth.

2. The combination of the grooved supports A A with the top B, and board G, and rails F, when they are adjustable, and all constructed as and for the purposes herein set forth.

82,257.—Hiram Thompson, Worcester, Mass., assignor to R. Hall & Co., same place.—*Sawing Machine.*—September 15, 1868.—The saw arbors are supported in revolving disks which are supported by stationary disks, the purpose being to bring either saw above the top of the table. A binding pulley is arranged to take up the slack of the belt.

Claim.—1. The combination and arrangement, with the saw arbors E E, or either, and the stationary disks K K, of the movable disks F F, substantially as and for the purposes set forth.

2. The arrangement of the binding pulley U, in relation to the belt N, pulley O, and saw arbors E E, substantially as and for the purposes set forth.

82,258.—F. Alexander Thuer, East Hartford, assignor to Colt's Fire-arms Manufacturing Company, Hartford, Conn.—*Revolving Fire-arm.*—September 15, 1868.—A laterally moving firing-pin holder is placed between the hammer and the rotating-chambered cylinder as a safety device; the ejecting mechanism is made to act by blows of the hammer.

Claim.—1. The laterally-movable piece *g*, containing the firing pin *i*, in combination with the rotating-chambered breech and the hammer of a revolver, substantially as described, and for a safety device.

2. A laterally-movable plate, located between the hammer and cylinder of a revolver, and bearing the shell ejector, substantially as and for the purpose hereinbefore set forth.

3. The combination of a movable piece, supporting both the firing pin and an ejector, with the hammer of a revolver, and with a rotating breech, having chambers open at the rear, when arranged to permit the use at will of the hammer either as a means of igniting the charges or of expelling the empty shells from the chambers, substantially as hereinbefore specified.

82,259.—Josiah Webb, Spartansburg, Pa.—*Clothes Wringer.*—September 15, 1868.—A square shaft fits tightly in a corresponding opening in a wooden cylinder, the periphery of which is corrugated. A strip of rubber is wound spirally around and fastened to the cylinder by a cement of pitch.

Claim.—Constructing the rolls B B′ of the wooden cylinder D, the coating of pitch and sand *m*, and the spirally-wound coil of rubber *o*, arranged in the manner and for the purposes specified.

82,260.—Demetry Mindeleff, Washington, D. C.—*Manufacture of Artificial Stone.*—September 15, 1868.—The block, after being removed from the mold, is placed in a solution of some metallic salt, the metal then extracted and deposited in the stone by magneto-electricity.

Claim.—The herein described improvement in artificial stone.

82,261.—Charles Wilson, Clinton, Pa.—*Cider Mill.*—September 15, 1868; antedated September 4, 1868.—The endless roller belt moves upon and against an upright circular frame, and presses the apples against the revolving bottom.

Claim.—The combination and arrangement of the endless roller belt C, hopper A, revolving bottom D, and circular upright frame G, when constructed, arranged, combined, and operated as herein described, and for the purposes set forth.

82,262.—Christoph Wintergerst, Mobile, Ala.—*Vapor Burner.*—September 15, 1868.

Claim.—The arrangement of the reservoir A, curved tube B, burner C, screws G F, ring E, and plate D, whereby a light is produced and so divided that a larger and brighter flame is formed, all as herein specified.

82,263.—J. E. Winants, Brooklyn, and John F. Griffen, New York, N. Y.—*Still for Turpentine.*—September 15, 1868.—Conical barrel-supporters extend upward from the steam case, the heat from the cones being made to penetrate the contents of the barrels, which contents being gradually melted, are discharged into the rotating cylinder.

Claim.—1. The process, substantially as described, of distilling the crude material and extracting the fumes at a low temperature, and carrying them off from the lower portion of the still, as and for the purposes set forth.

2. The employment, in combination with the chamber or case of the still, of a steam-heated rotating agitator cylinder, into and through which the crude material passes during the process of distillation, substantially as described.

3. The employment, in combination with the melting chamber, of one or more heated barrel-supporters, F, adapted to hold and melt out the contents of the barrels, substantially as hereinbefore described.

4. The employment of steam tubes so perforated as to eject the live steam on to those surfaces which are required to radiate the greatest quantity of heat, substantially as herein set forth.

82,264.—C. F. Woodruff, Newbern, Tenn.—*Water Elevator.*—September 15, 1868.—Designed as an improvement on his patent of February 4, 1868. A hollow cylinder is provided with tubular bearings and revolves on a shaft, one end of which is placed against a spring in one of the bearings. The shaft is provided with a clutch which engages with apertures in a partition which is secured to the cylinder.

Claim.—1. The cylinder C, constructed with the central partition or wall C′, when employed in combination with the sliding shaft F and the tubular bearings *e e*, substantially as described.

2. The arrangement of the spring *s*, tubular bearings *e e*, shaft F, clutch *m*, partition C′, and cylinder, C, substantially as described and shown.

82,265.—Oscar C. Moore, Corunna, Mich., administrator of the estate of Samuel Yarion, deceased.—*Sawing Machine.*—September 15, 1868.—The saw shaft works on guides forming a part of a wheel. By turning the wheel the saw is raised or lowered.

Claim.—The guides *b*, affixed to or forming part of a wheel, R, or its equivalent, in combination with a saw shaft, P, operating substantially as described, for the purpose specified.

82,266.—John B. Mayer, Niagara Falls, N. Y.—*Clock.*—September 15, 1868.—The spur wheel, pinion, and escapement wheel take the place of the train of five wheels and four pinions comprising the ordinary running gear of clocks.

Claim.—1. The arrangement of the wheel A, pinion E, escapement wheel D, with the hour, minute, and second hands upon the axis of said escapement wheel, substantially as herein described.

2. In combination therewith, the ratchet wheels

k l, revolving tooth *i'*, pin *i*, and wheel G, operating substantially as and for the purpose described.

82,267.—John B. Mayer, Niagara Falls, assignor to himself and Tobias Witmer, Williamsville, N. Y.—*Striking Mechanism for Clocks.*—September 15, 1868.—The notches and projections on the locking plate of the hour bell actuate a lever which transfers the action of the pin wheel from the quarter hammer to the hour hammer at the instant the quarter bell has sounded the four quarters.

Claim.—1. The spur wheel D, in combination with the pins *v v v* and the pinion F', the tumbler wheel E, the spur wheel F, the pinion and fly wheel G, in combination with the hammer tails o^1 p^1, in order to effect the striking of quarters and hours on separate bells, as set forth.

2. The combination of locking plates B and C and locking wheel A, for controlling the action of the hour and quarter-hour hammers on two or more separate bells.

3. The combination and arrangement of the sliding shafts O and P, lever *q*, hammer tails o^1 and p^1, springs o^2 and p^2, and pin wheel D, for the purpose and substantially as herein described.

4. The lever R, in combination with the locking plate C and sliding-hammer shaft P, for the purpose of shifting the said hammer shaft, and alternating the action of the hammers on the bells.

82,268.—Rogers A. Abbott, Worcester, Mass., assignor to himself and Gustavus W. Ingalls, same place.—*Reed for Melodeon.*—September 22, 1868.—To prevent vibration of the head on the plate when riveted thereto.

Claim.—The improved reed, as made with an arched head, as and for the purpose specified.

82,269.—Abel A. Adams, Felchville, assignor to Russell W. Pinney and Forrest L. Pinney, Bridgewater, Vt.—*Head Block.*—September 22, 1868.—By means of the sector with its adjustable stop, hinged pawl, and the abutment, the vibration of the lever is regulated so as to effect equal movements of the head block, the gear being operated in either direction by means of the lever and its working pawl.

Claim.—The combination of the sector *s*, its adjustable stop *u*, and hinged stop pawl *x*, with the gear *o*, its operating lever *p*, working pawl *q*, and abutment *y*, the same being applied to the bed and to the shaft of the rack pinion of the main head block, substantially in manner and for the purpose or objects as set forth.

82,270.—Edward H. Ashcroft, Lynn, Mass.—*Steam Safety Valve.*—September 22, 1868.—An alloy of pure copper, nickel, and aluminum is used for the contact parts of the valve and its seat. Aluminum alone or alloys of gold and silver may also be used.

Claim.—The construction of the valve *b*, with its alloy *t*, with reference to its seat *s*, as an article of manufacture, substantially as herein set forth.

82,271.—William B. Atkinson, Pittsburg, Pa.—*Clamp for Railroad Rail.*—September 22, 1868; antedated September 9, 1868.—The bolt passes between the two rails through a plate below, and bears against the lower flanges of the two rails.

Claim.—The T-headed bolt or pin D, plate C, and wedge or key F, combined and applied to the securing of a guard rail, substantially as herein set forth.

82,272.—Samuel Ayres, Danville, Ky.—*Pencil Sheath.*—September 22, 1868.—A sheath for holding a pencil to be attached by a pin or wings to any convenient part of the dress.

Claim.—1. The combination of the slotted funnel-shaped holder A, spring C, and friction roller D, the perforated wings E, and the adjustable protecting tube G, having the perforated diaphragm g^2 all constructed and arranged as described, for the purpose specified.

2. In combination with the slotted funnel-shaped holder A, roller D, and protecting tube G, the adjustable stop F upon the pencil, as herein described, for the purpose specified.

3. The combination of the protecting tube G with the holder A, constructed substantially as herein shown and described, and for the purpose set forth.

82,273.—Arthur Barbarin, New Orleans, La.—*Production of Gas, and Illuminating Street and other Cars.*—September 22, 1868.—An air-tight carbureter has a pipe for the hydrocarbon, its end being immersed in the liquid. A compressed air pipe, with perforations at its end, and another for the carbureted air extending to the top and carrying burners with V-shaped slits, is used in cars or other conveyances.

Claim.—1. The method of generating illuminating gas on railway or street cars, or other conveyances, by the use, in such conveyances, of one or more reservoirs or tanks of compressed air, operating in connection with a carburreting vessel and burners, for the consumption of the carbureted air, substantially in the manner herein set forth.

2. A burner for carbureted air, the slit or opening in which for the discharge of said air is formed substantially as shown and described.

82,274.—Thomas J. Barnes, Cambridge, Ill.—*Horse Yoke.*—September 8, 1868.—An improvement on his patent of November 5, 1867.

Claim.—1. Connecting the parts A and B of the yoke to the hames F, by means of the clips G, constructed and attached to said hames, substantially as herein shown and described.

2. Forming holes or slots in the ends of the parts A and B of the yoke, to adapt them to the clips G, substantially as herein shown and described.

3. Bending or curving the curved portions of the parts A and B downward, as they leave the clips G, substantially as herein shown and described, and for the purpose set forth.

4. Bending or curving the straight portion of the part A or B, which is below the other, at an angle of said part, and at the point where it leaves the clip G, substantially as herein shown and described, and for the purpose set forth.

5. Connecting the short chains C and equalizing bar D to the eyes of the parts A and B by means of hooks, substantially as herein shown and described, and for the purpose set forth.

6. The single draught chain E attached to the center of the equalizing bar D, when said chain is used between the horses, as and for the purpose specified.

82,275.—Henry P. Beardsley and George Wilcox, Corunna, Mich.—*Burglar Alarm.*—September 22, 1868.—A cylinder provided with perforations on one portion of its periphery, and containing water, is arranged to throw a spray of water upon a person asleep in case a door or window is opened by a burglar.

Claim.—1. The water cylinder N, provided with the opening O, and the perforations P, in connection with the clock-work C.

2. The casing R, provided with openings S, when operating with the water chamber, substantially as described, for the purposes specified.

3. The combination and arrangement of the bedplate A, standard B, cord or cords V, loop U, springs L and M, rod J, cord G, loop I, lever H, rock shaft D, weighted lever T, dog E and catch F, with the clock-work C, water cylinder N, and casings R and K, all operating in the manner specified, and for the purposes set forth.

82,276.—Julien François Belleville, Paris, France.—*Regulator for Steam Engine.*—September 22, 1868.—An improvement on his patent of June 18, 1867.—The tube of the cylinder transmits, through a fluid from the boiler, a pressure beyond that of the atmosphere, to the spring disks arranged on the rod connected with the object to be operated on, so that the transmission of movement and reaction of the springs, causing the valve to open, is in accordance with the increase or decrease of the steam.

Claim.—The arrangement, in the cylinder F, provided with steam admission and discharging openings, as described, of the spindle C, and annular spring disks, A, mounted upon the said spindle, and united or riveted together in the manner specified, and provided at the points where their outer and inner edges are in contact with a packing, B, as set forth.

82,277.—Walter C. Benn, San Francisco, Cal., assignor to himself, L. L. Baker, and R. Hamilton, same place.—*Spark Arrester for Steam Generator.*—September 22, 1868.—The curved top of the chimney causes the sparks to fall into the conical water tank, which is provided with supply and discharge pipes, while any sparks that may escape in the smoke are arrested by the cap of the stack moving on standards, and fall into the trough below.

Claim.—1. The stack or chimney A with the curve *a*, as shown, and the water vessel C, together with the supply and discharge pipes *b b* and *d*, the whole constructed and arranged substantially as herein described.

2. The secondary bonnet D, and the annular water trough E, as arranged, for more completely extinguishing the sparks, substantially as described.

3. The conical vessel C and bonnet D, movable in the slides *c c′*, *e*, for regulating the draught, the whole constructed and arranged substantially as herein described.

82,278.—Walter C. Benn, San Francisco, Cal., assignor to himself, Livingston L. Baker, and Robert Hamilton, same place. — *Millstone Balance.*—September 22, 1868.—Weights, placed opposite to the driving point, and to each other, at the four quarters of the stone, are moved in ways by set screws, operated from the outside on the band, and, being properly adjusted, the true balance is obtained.

Claim.—The combination of the adjustable weights D D, and their ways C C, together with the operating screws E E, and the elevating screws *b b*, or an equivalent device, when used for balancing millstones, the whole constructed and arranged substantially as herein described.

82,279. — Charles E. Billings, Springfield, Mass.—*Combined Pistol and Sword.*—September 22, 1868.—The barrel and operative parts of a breech-loader are inclosed within the handle of a sword or knife, while a sliding piece pushed against a catch spring lever unlocks it for loading, and another spring bearing on the barrel swings it out.

Claim.—1. The construction of the lower guard of the sword hilt and the pistol barrel in one and the same piece, and pivoting the same to the extreme forward end of the handle, substantially as and for the purposes set forth.

2. The combination of the main lock spring C of the pistol with the shank of the knife, when the former is secured in a slot in the latter, as and for the purpose described.

3. The arrangement, with the knife handle and pistol hammer, of the trigger lever D, extending the length of the handle, and having a thumb trigger at its forward end, all substantially as shown and described.

82,280. — Josiah B. Blood, Lynn, Mass. — *Clothes Drier.*—September 22, 1868; antedated September 12, 1868.—The six main, side, and wing strips are so connected and arranged as to form a quadrilateral frame moving at the point of junction.

Claim.—The combination of the strips A B, C D, E F, forming the frames in the manner and for the purpose substantially as above set forth.

82,281.—Benjamin Bollinger and George G. Nodle, New Berlin, Ohio.—*Knitting Machine.*—September 22, 1868.—Improvement on Isaac W. Lamb's patents, September 15, 1863, and October 10, 1865.—The spring, with its bent part bearing on the needle, when in use, works with it to bring it down into a position to be operated upon by the cams, and to keep it out of the way when not in use.

Claim. — The spring K N, constructed as described, in combination with a needle of a knitting machine, substantially in the manner and for the purpose herein specified.

82,282.—Wesley L. Bower, Joliet, Ill.—*Land Marker.* — September 22, 1828.—The portion of the frame carrying each outside wheel is hinged to the main center pieces, and support the uprights that carry the driver's seat.

Claim.—The combination of the swing seat *m* and upright frame *i* with the hinged frame *c*, all arranged and operating as and for the purposes set forth.

82,283.—H. G. Brooks, New York, N. Y.—*Steam Generator.*—September 22, 1868.—A pipe supplies water thrown through nozzles in a spray into the fire-brick perforations to intensify the combustion.

Claim.—1. The arrangement, in the fire box of a locomotive or other boiler, of perforated fire-brick walls, extending upwards divergingly from the contracted grate surface to the walls of the fire box, substantially as set forth.

2. The arrangement, in the upper part or mouth of the combustion chamber or fire box, of arched or hollow perforated fire-brick, or castings of fire-clay, communicating with air conduits in the manner described, so that the atmospheric air received through such conduits may be highly heated within said brick or castings, and then discharged from the same into the combustion chamber at the point of contraction and concentration of the combustible gases evolved from the fuel in the fire box.

3. The combination, with the perforated fire-brick, of a water-supply pipe, communicating with the boiler, and provided with a series of nozzles or sprayers, arranged partly within the perforations in the fire brick, substantially as set forth.

82,284.—Charles F. Brown, Warren, R. I.—*Projectile.*—September 22, 1868.—When the projectile, on being discharged, strikes an object, the shock throws forward the plunger and, uncovering the apertures, the powder falls upon the red-hot wire and explodes the shell.

Claim.—1. The tube B and plunger C, arranged within the hollow projectile A, the plunger serving to separate the powder in the shell from the fuse in the tube, while the shell is undisturbed in its motion, as specified.

2. The wire *b*, formed on the plunger, for the purpose of becoming heated by the ignited fuse, and for igniting the powder or other explosive matter in the shell, as soon as the latter strikes an obstacle, as specified.

3. The tube B, fitted into the hollow shell A, and provided with apertures *c*, with a perforated plug *d*, or its equivalent, and with a fuse *g*, all arranged in combination with the plunger C, which carries the wire *b*, and all made and operating substantially as herein shown and described, for the purpose specified.

4. The perforated cap E, fitted over the rear end of the tube B, substantially as herein shown and described.

5. The combination of the shell A, tube B, plunger C, and wire *b*, with the case D, cap E, and apertures K, all made, arranged, and operating substantially as and for the purpose herein shown and described.

6. The rod *i*, in combination with the tube B, plunger C, and wire *b*, all made and operating substantially as herein shown and described.

82,285.—Arthur W. Browne, Brooklyn, N. Y., assignor to Charles R. Squire, New York, N. Y.—*Rotary Steam Engine.*—September 22, 1868.—Steam is admitted through one of the cocks on either side and passes out through the opposite cock and acts upon the pistons, the other ends of the piston being acted upon by steam in the pressure chamber.

Claim.—1. The arrangement of the abutment E E′, pressure chamber C, and the cocks D and D′.

2. The pistons G, when constructed as set forth.

3. The construction of the segment H H′, forming the chamber through which the piston passes while being acted upon by the steam, as herein set forth.

4. The arrangement in the shell of the rotary engine of the abutments E E′, pressure chamber C, and segments H H′, substantially as set forth.

82,286.—John David Browne, Cincinnati, Ohio.—*Mop Head.*—September 22, 1868.—The fixed serrated jaw has cast in it a screw-threaded socket with a nut, which latter is also grooved for the ends of the sliding jaws to move in.

Claim.—1. The fixed jaw A, having the grooves or recesses *c c* on the socket B, in combination with the loose jaw D *d d* and nut C, substantially as and for the purpose described.

2. In combination with the above, the serrated edges *a*, on the jaw A, as set forth.

82,287.—John David Browne, Cincinnati, Ohio.—*Sash Pulley.*—September 22, 1868.—The side plates are fixed to the lugs cast on the face plate by means of rivets in recesses formed by projections on the lugs, and which overhang the slot through which the roller passes.

Claim.—The recessed lugs *a* of the face plate A, in combination with the holding pins or rivets of the case plate B, in the manner substantially as described, and for the purpose set forth.

82,288.—Stephen Brownell, Irving, N. Y.—*Hay Rack.*—September 22, 1868.—The angular cross pieces, side rails, and center board are laid one over another, and on the bed plates, being fastened by pins projecting above so as to form stakes to hold the hay.

Claim.—The combination of the separate bed plates A, with projecting pins *a a* secured thereto, separate angular cross pieces B B, with projecting pins *b b* secured thereto, separate side rails C, and separate center board D, the parts being built up one over another, and connected together, and adapted to operate as herein represented and described.

82,289.—Benjamin F. Burgess, Norvell, Mich. —*Saw.*—September 22, 1868.

Claim.—Making a saw that is to cut one way only, with the cutting teeth B and C, and the clearing tooth D forward of each section, and the space E, when constructed and all arranged as specified.

82.290. — Lawrence Campbell, Marengo, Mich.—*Pruning and Hedge Shears.*—September 22, 1868.

Claim.—The cutting blades C and J, the latter provided with cutting hook K, when constructed as described, and operating in combination with the handles B and E and connecting arm F, substantially as and for the purposes set forth.

82,291.—Francis Clausen, San Francisco, Cal. —*Belt Buckle.*—September 22, 1868.—The belt is held fast by means of a catch or lip passing through a slotted bar turning on a shaft.

Claim.—In a belt buckle, the beveled projecting lip B, in combination with the slotted bar C, rotating on its axis, as shown, and operating the lever *b*, the whole constructed and arranged substantially as and for the purpose described.

82,292.—William H. Cook, Bridgehampton, N. Y.—*Horse Rake.*—September 22, 1868.—By lowering the lever, the teeth will be inclined toward the ground, and on its being pushed back the shoe slips off the ends of the teeth, the rake head revolves, and the hay is deposited.

Claim.—The combination of the standard H, lever I, and perforated shoe K, with the rake head F G, substantially as herein shown and described, and for the purpose set forth.

82,293.—John Cothron, Illiopolis, Ill., assignor to himself and D. J. Mayes, same place.—*Post-hole Borer.*—September 22, 1868.—When the point of the shaft and the knife on its lower end enters and loosens the earth, the buckets, on the belt passing over the spur wheel, carry up the dirt and empty it on the chute, the borers being raised by the windlass and a pawl preventing its falling.

Claim.—The shaft *k*, knife M, belt N, with its buckets, gears *o m p*, and their shafts, and frame to which they are attached, wheel *a*, windlass *b*, with its connecting rope *g*, frames E and A of a post-hole borer, all constructed, arranged, and operated substantially as and for the purpose specified.

82,294.—William W. Crane, Philadelphia, Pa. —*Door for Furnace.*—September 22, 1868.—A rim on the door plate conforms to the inner surface of a rim on the door, the top and bottom being so fitted and arranged as to make the door air tight.

Claim.—The door plate B, rim or elevation A, and the door C, when constructed and arranged substantially as and for the purpose shown and described.

82,295.—Augustus Day, Detroit, Mich.—*Windlass.*—September 22, 1868; antedated September 16, 1868.—Friction bands pass around the cylinder and are secured at one end to the rear ends of the pawls. Dogs, provided with a counterpoise, hold the cylinder when the pawl and ratchets have acted to turn them.

Claim.—1. The friction bands G, in conjunction with the pawls F, the rod heretofore described, and the cylinder B, when operating substantially as and for the purposes set forth.

2. The dogs H, rod I, and counterpoise J, when arranged and operating substantially as herein described.

3. The combination and arrangement of the above mentioned parts with the frame A, the cylinder B, the sockets C, the handles or levers D, the ratchets E, and the chain or rope K, when constructed and operating substantially as herein specified, set forth, and described.

82,296.—Jacob G. Deshler, Allentown, Pa.—*Machine for Converting Reciprocating into Rotary Motion.*—September 22, 1868.

Claim.—The combination, in a man-power machine, of the vibrating foot board A, the trunnions of which have rectilinear bearings, substantially as described, with the pitman beams B, pitman D, and crank shaft *b*, all arranged and combined substantially as shown and described for the purpose set forth.

82,297.—Anthony M. Duburn, Chicago, Ill.—*Lantern.*—September 22, 1868.

Claim.—1. The sheet metal rim A, when formed in the shape shown and described, and for the purpose herein set forth.

2. The wire rim B, when used as a stiffening, in combination with the sheet metal rim A and corrugations or loops *c c c c c c*.

82,298.—George Eason, Lyons, N. Y.—*Bee Hive.*—September 22, 1868.

Claim.—1. The box A, provided with the porch B, swinging side E, comb frames C, and division board D, all as and for the purpose set forth.

2. The arrangement of the ventilating passages N, L, and *b*, the latter being covered with a wire screen, as and for the purpose described.

82,299.—James E. Emerson, Trenton, N. Y.—*Hand Saw.*—September 22, 1868.—The screw bolt has shoulders on opposite sides of its head, which take respectively into the sides of the saw plate, and prevent the bolt from turning, when drawn up as the nut is turned.

Claim.—A shouldered and headed screw bolt for holding a saw to its handle, so that said screw bolt may be held from turning under the action of the nut, and constructed to operate as and for the purpose herein described and represented.

82,300.—James W. Evans, New York, N Y.—*Car Spring.*—September 22, 1868.

Claim.—The spiral spring A, the elastic tube B, and the closed air chamber confining the column of air D, constructed and combined, substantially as and for the purposes specified.

82,301. — Owen V. Evans, Ripley, Ohio, assignor to himself and James Reynolds, same place. —*Concrete Block-making Machine.*—September 22, 1868.—The table revolves in a horizontal plane, and receives intermittent motion by means of a segment, with a pawl and disk attached to its shaft, the segment being operated by a pinion rod and lever, while the slide moves the vertical presses.

Claim.—1. The combination, with the table B, of the disk O and slide F, oscillating toothed segment M, pinion P, and rack Q, substantially as and for the purpose described.

2. The combination of the mechanism for operat-

ing the sliding pistons D, with the mechanism for rotating the table B, when the same are arranged to operate relatively to each other, substantially as and for the purpose described.

82,302.—FREDERICK FLANDERS, Franklin, N. H.—*Whip Goad.*—September 22, 1868.

Claim.—The whip stock A, metallic tip B, hollow screw C, spur *c*, and screw D, when combined and arranged as and for the purpose described.

82,303.—M. R. FORY, New York, N. Y.—*Machine for Felling Trees.*—September 22, 1868.—The augers are connected by means of pinions, cog band, and cog-wheel gearing to the shafts on a frame, which slides on the truck, and the augers being nearly in contact with each other, when they are moved up to the tree, cut in it a continuous slot.

Claim.—The frame B, carrying a series of permanent and a series of detachable augers, and constructed and adapted to the truck A, as and for the purpose described.

82,304.—FREDERICK A. GEISLER, Bristol, R. I. —*Baby Walker.*—September 22, 1868.

Claim.—The oscillating yoke G, made in two parts, *a b*, the former pivoted by the bolt *d* to the curved arm F, and provided with a socket, in which the shank of the arm *b* is adjusted by the set screw *e*, as herein described, for the purpose specified.

82,305.—CHARLES M. GILBERT, Philadelphia, Pa.—*Bedstead Fastening.*—September 22, 1868.—The movable bolt, screwed to the post and connected with a tube having an opening to correspond with its head, has a slot, in which a flanged wedge works, while a spring operates to adjust it.

Claim.—The combination of a key or wedge, 2, with the bolt 1, tube or barrel 5, spring 3, slotted rail 4, and post 6, as hereinabove described.

82,306.—WASHINGTON L. GILROY, Philadelphia, Pa.—*Knife for Cutting Green Corn from the Cob.*—September 22, 1868.—The blade is provided with transverse cutters, and a cylindrical bar by which the pulp is forced out of the divided kernels, leaving the hulls on the cob.

Claim.—1. A green-corn knife for table use, having a blade, A, provided with a series of transverse cutting edges, *a' a'*, substantially as described.

2. In combination with a blade, A, and cutters *a' a'*, arranged as described, the bar B, arranged to operate substantially as and for the purpose described.

82,307.—BENJAMIN H. GOODALE, Newburyport, Mass.—*Wind Wheel.*—September 22, 1868.—Sails are suspended from the outer ends of horizontal arms on a vertical shaft. Friction brakes are made to act on projecting rims of drums on the shaft, and arrest their motion, which causes cords, carried around by the arms, to wind on the drums and fold the sails.

Claim.—The combination, with the hinged wings, of means, substantially as described, for folding the sails, as and for the purpose described.

82,308.—JOHN M. GROH, Benevola, Md.—*Mat.* —September 22, 1868.—Husks or other material are fastened to wooden or metal bars and inserted into a frame, by means of flanges, notched to admit their ends.

Claim.—The mat, constructed as described, consisting of the wooden block A, having an interior groove adapted to receive the filled bars through the notch C in the flange of said block, as herein described, for the purpose specified.

82,309.—GUSTAVE A. HAGEMANN, Natrona, Pa.—*Manufacture of Bromine from Bittern.*—September 22, 1868.

Claim.—1. The use, in the manufacture of bromine, of a sandstone trough or vessel, furnished with a bore, C, for the introduction of steam, so as to dispense with the insertion into the liquor of metallic pipes.

2. The use, in the process of extracting bromine from bittern or mother water, of naked steam, introduced into the body of the liquor under treatment, for the purpose of combining the mechanical action of the steam with the physical effects of its heat, to produce the desired effect.

82,310.—JOHN W. C. HASKELL and JOSEPH E. HASKELL, Chicago, Ill.—*Trunk Caster.*—September 22, 1868; antedated September 11, 1868.—A plate of metal bent at right angles has a hole to receive the ball, and over it is fixed another plate with a chamber which covers the ball.

Claim.—The plate A *a*, provided with the hole *d*, for the projection of a caster ball, and made angular, so as to form a guard for the trunk corners, in combination with the plate *b c* and ball *e*, substantially as specified.

82,311.—JOSEPH P. HAYES, Philadelphia, Pa.—*Range.*—September 22, 1868; antedated September 8, 1868.—A passage or "tunnel" projecting from the front lower end of the fuel cylinder communicates with the air-heating chamber above and the ash pit below, and is fitted with a detachable sliding plate provided with horizontal and upright grate bars. An air-heating flue is arranged to conduct pure warm air into the oven.

Claim.—1. The construction and arrangement of the tunnel B, in its relation to the cylinder A and the air-heating chamber C, whereby the air for the combustion of the fuel in the cylinder can at any time be drawn from the air-heating chamber C, substantially as and for the purposes described.

2. The construction and arrangement, in relation to each other, of the tunnel B, the detachable sliding grate E, and the adjustable opening *c'''*, in the plate *c'*, into the ash pit D, substantially as and for the purposes described.

3. The construction and arrangement of the air-heating flue F, in relation to the cylinder A, the air-heating chamber C, the cold-air space M, and the oven G, substantially as and for the purpose described.

82,312.—B. F. HAYWARD, Nebraska City, Nebraska.—*Hens' Nest.*—September 22, 1868.—The nest box is arranged to close and open automatically as the hen gets upon or off her nest.

Claim.—The nest box C, pivoted bottom board D, link *b*, levers E, and grating *d*, all constructed and operating substantially as described, within a box, A, all as set forth.

82,313.—JOHN HEATLEY, Etna, Pa.—*Furnace for Working Iron.*—September 22, 1868.—The air passes from the rear under the bottom plate to the ash pit, the dampers admitting it to the fire at any desired point, it also passing through a finely perforated plate between the fire grate and bottom of the ash pit, and by means of hot-air flues reaches the fire.

Claim.—1. An air chamber, *g*, under the bottom plate of a heating or puddling or boiling furnace, provided with such communications as to receive air from without, heat it, and discharge it into the furnace, fire space, or ash pit, substantially as and for the purposes hereinbefore set forth.

2. The use of two or more dampers, *h i*, so arranged, relatively to the air chamber *g* and lower grate *c*, as to admit heated air either above or below such grate *c*, or both above and below, substantially as and for the purposes above expressed.

3. A perforated plate or finely divided grate, *c*, at any desirable point below the fire grate *a*, and above the bottom of the ash pit, arranged and used substantially as and for the purposes hereinbefore set forth.

4. The series of flues *e e'* extending along the face of or through the lining or walls of a heating, puddling, or boiling furnace, arranged and used substantially as and for the purposes described.

5. A fire box, *o*, covering the tap hole *n* of a furnace, constructed and operated substantially in the manner and for the purposes hereinbefore set forth.

82,314.—S. S. HEPWORTH, Boston, Mass.—*Centrifugal Machine.*—September 22, 1868.—This invention is designed to obviate the injurious effects of gyrating vibration in centrifugal machines used, in this instance, in refining sugar. The curb is so suspended as to partake equally of the gyrating motion and thereby remain concentric with the shaft and the sugar basket.

Claim.—1. The suspension of the shaft B, and curb A, of a centrifugal machine, from a sleeve, *a*, or other equivalent device, substantially as shown and described, and for the purposes set forth.

2. Supporting the sleeve *a* by the spherical surfaces *a′* and *l′*, or surfaces approximating to a spherical surface, for the purpose of supporting and permitting the vibration or gyration of the basket shaft B of a centrifugal machine, all as set forth.

3. Supporting the sleeve *l*, or its equivalent, by a bolt, *d*, or the equivalent thereof, substantially as shown and described, when these said parts conduce to the support of the basket shaft B of a centrifugal machine, all as set forth.

4. The bolt *d* and cam link *h*, or their equivalent, in combination with the sleeve *l* and sleeve *m*, all substantially as shown and described, and for the purpose of indirectly supporting the weight of the basket shaft B of a centrifugal machine, and elevating the said shaft to produce the contact of the breaking surfaces *c* and *m′*, all as set forth.

5. Employing the pulley C and lower end of the sleeve *m* as friction surfaces, for the purpose of retarding and stopping the revolution of the basket, shaft B of a centrifugal machine, all as set forth.

6. Making the surfaces *c* and *m′* spherical, for the purpose of permitting the gyration of the basket shaft B, all substantially as shown and described.

7. Two or more rods, E, or the equivalent thereof, substantially as shown and described, in combination with arms G and curb A, for the purpose of supporting the curb A, and thereby enabling it to maintain its concentricity with the shaft B, all as set forth.

8. The gudgeon *b*, affixed rigidly to the cross bar *f*, or other equivalent bottom part of the curb A, substantially as shown and described, in combination with a roller, *r*, and cup J, or its equivalent, as and for the purpose set forth.

9. The employment of an elastic roller, *r*, substantially as shown and described, in combination with the fixed gudgeon *b*, or other equivalent device, and cup J, or its equivalent, all as and for the purpose set forth.

82,315.—George P. B. Hill, Virginia City, Nevada.—*Process of Extracting Precious Metals from Ores.*—September 22, 1868.—The calcined sulphates of copper and of iron are separately pulverized, laid on iron plates over a fire, and mixed while roasting till finely powdered.

Claim.—The ingredients above enumerated, mixed or compounded and added to the ores, pulp, tailings, and slimes, in about the proportions herein specified for the purpose set forth.

82,316.—William H. Hiteshew, Perrysburg, Ind.—*Hay Raker and Loader.*—September 22, 1868.—The rake teeth rest on small wheels journaled in projecting arms so that their points may be held a proper distance above the ground.

Claim.—The teeth D, constructed with arm *d′* and wheels E, and operating substantially as herein shown and described, and for the purpose set forth.

82,317.—Luther W. Holmes, Grand Ledge, Mich.—*Arrangement of Mechanism for Operating Punches.*—September 22, 1868.—The sliding stirrup is forced down by the cam lever moving upon the roller to operate the punch.

Claim.—The construction and arrangement of frame or standard A, with its guide pieces D and E, sliding stirrup C, with sliding pin G, cam lever L H, roller I, and bed plate, in the manner as shown and described and for the purpose set forth.

82,318.—Nicholas Hotz, Green Point, N. Y.—*Still.*—September 22, 1868.—The upper and lower mash expels feed, one into the other, separating chambers being between them connected by pipes with the worms in the upper, while an overflow pipe connects the separators and the column connecting the lower boiler with the worm in the upper vessel.

Claim.—1. The process, substantially as herein described, of effecting continuous redistillation within a still, through, it may be, the action of a single heater or generator, by causing the vapor rising from the one distillation to be condensed within the mash through a worm or worms, or their equivalents arranged therein, and afterward returned for distillation over again, thus separating the more from the less highly volatile portions, and at the same time heating the mash.

2. The combination of the mash-receiving chamber or vessel A with the mash vessels D, G, and H, and pipes C, F, and J, provided with suitable plugs or valves for passage of the mash to each of the lower vessels in succession, substantially as specified.

3. The combination, with any desired number of mash chambers or vessels, A, D, and G, and mash receiver or generator H, of two or more distilling chambers or separators, N, K, arranged to connect by pipes with worms or other condensing devices, located in the mash vessels A, D, and G, for operation, essentially as described.

4. The connection of the distilling vessels or separators N and K, by means of an overflow pipe or or pipes *n* and *r*, substantially as and for the purpose or purposes set forth.

5. The combination, with the mash-boiling vessel or generator H, of the column L, arranged to connect with a worm, or its equivalent, in an upper mash vessel, essentially as herein set forth.

82,319.—David Hunt, Jr., Worcester, Mass.—*Velocipede.*—September 22, 1868.—The seat rests on standards in a curved frame journaled on the shaft, and is connected by a rod with the crank on the shaft, the ears of a piece fixed to the under side of the chair being also pivoted to the standards. Motion is imparted to the wheels by a simple back-and-forth or rocking movement of the chair seat.

Claim.—1. The combination of the seat G with the braces or standards H H and the crank or supporting shaft A, substantially as and for the purposes set forth.

2. The peculiarly-constructed frame D, in combination with the cap E, axle A, and chair G, substantially as and for the purposes set forth.

3. The combination of the standards H H and piece P, having ears *a a*, with the chair seat G and frame D, substantially as and for the purposes set forth.

4. A velocipede, the parts of which are constructed and combined together substantially as shown and described.

82,320.—David Woodwell Hunt, San Francisco, Cal.—*Wood Pavement.*—September 22, 1868.—A space is left around each block near its center, and connected with the surface of the pavement by means of openings which are filled with asphaltum.

Claim.—A pavement, the blocks of which are secured in position by means of cement run into horizontal grooves or recesses cut around each block, the blocks and grooves being formed and arranged substantially as described.

82,321.—Edwin Hurd, Virginia City, Nevada.—*Oil Cup.*—September 22, 1868.—The cylinder has an opening at the top corresponding with one from the receiving cup when in one position, and one at the bottom, and as it rotates in the frame it is connected with either, for receiving the oil from the cup above or letting it flow out below.

Claim.—The arrangement of the frame E, the hollow cylinder *a*, pivoted within it, and having passages for the reception of oil, for the escape of air, and for the delivery of the oil through the pivots on which it turns, substantially as described.

82,322.—J. Rienzi Jenness, Norwich, Conn.—*Heating Apparatus.*—September 22, 1868.—The vessel or table is made with double partitions, the pans with covers being separated by a double jacket, leaving a space for steam to enter and pass around a pipe in each end at the bottom.

Claim.—1. The steam space or spaces D, between the several chambers and dishes B B, substantially as described and for the purposes set forth.

2. The vessel or table A, chambers C, and space

D, with induction and eduction pipes, pans B, and covers O, when combined and arranged substantially as described, and for the purposes set forth.

82,323.—ASA JOHNSON, Brooklyn, N. Y.—*Neck Tie.*—September 22, 1868; antedated September 11, 1868.

Claim.—A neck tie formed of wire cloth or gauze, substantially as described, as a new article of manufacture.

82,324.—GEORGE NEWTON JONES, Oshkosh, Wis.—*Car Brake.*—September 22, 1868.

Claim.—1. The combination, with the friction pulleys, of the shaft P, connected from car to car, as described, and slides L, connected to the sliding pulleys by a cord and lever, for actuating them, substantially as and for the purpose described.

2. The combination of the slides L, actuating shaft, and means for allowing the slides to pass out of action, with the shafts, when the brakes are brought into action, substantially as and for the purpose described.

3. The combination, with the slide L, of the collar P, lever *a*, slide U, and catches C and C′, substantially as and for the purpose described.

82,325.—JÜRGEN L. JÜRGENS, New Orleans, La.—*Fire Escape.*—September 22, 1868.—The car moves up and down, and from one window to another, on ways outside of the house, the wheels and axles being adjusted nearer or further apart by means of a screw-threaded shaft.

Claim.—The carriage A, provided with the adjustable-grooved pulleys B, and operating shaft D, in combination with the inclined ways E E, substantially as and for the purpose described.

82,326.—WILLIAM KEARNEY, Union Township, N. J.—*Hydrant.*—September 22, 1868.—The valve passes over an orifice which is connected with the discharge pipe, the water being admitted or shut off by means of a screw stem attached to the back of the valve, while a cavity on the lower edge opens a communication between the discharge and waste pipes.

Claim.—The arrangement and operation, in the case A, of the sliding disk valve C, perforated at S, and the sliding waste pipe J, as herein shown and described.

82,327.—JOHN H. KEYSER, New York, N. Y.—*Stove.*—September 22, 1868.

Claim.—1. The combination of sections A and B, the latter constituting the fire chamber, and the former an illuminating and heat-retaining top section for B, substantially as described.

2. The construction of section A with an internal downwardly-contracted wall, C, with inclined illuminating windows *d*, and with a downwardly-contracted base portion, *a*, said parts being adapted to fit upon a fire pot section, B, substantially as described.

82,328.—W. A. L. KIRK, Hamilton, Ohio.—*Head Block.*—September 22, 1868.—A polygonal index roller, provided with scales on its faces, over which an index hand secured to the knee moves, is attached to the side of the slide.

Claim.—The index roller D, constructed substantially as herein shown and described, in combination with the head block B C of a saw mill, as and for the purpose set forth.

82,329.—JAMES KIRKLEY, Chicago, Ill., assignor to himself and HUGH GRAY.—*Car Brake Attachment.*—September 22, 1868.—The pawl or other releasing and arresting device is inclosed in a case or box, and is operated by a treadle, all so arranged as to prevent accident from exposure of the pawl. The pawl is automatically arrested and held in a position free from the ratchet until the brake standard is turned to wind up the brake chain.

Claim.—1. A guard box F, adapted for inclosing the pawl and ratchet of a brake standard, substantially as described.

2. The combination of a treadle, E, pawl H, and ratchet wheel D, substantially as described.

3. Fitting the treadle E to the guard box F, substantially as described.

4. A spring latch g^2, a pawl, H, ratchet wheel D, a treadle, E, and means, substantially as described, for releasing the latch g^2, by the act of turning said ratchet wheel.

82,330.—JESSE B. LEWIS, Lincoln, Ohio.—*Skimmer for Sorghum Evaporator.*—September 22, 1868.—A plate attached to the lid inclines upward and is provided with small holes and pipes so arranged that the juice, as it rises, flows over the edge, down the plate, and leaving its scum flows back through the holes into the pan.

Claim.—1. The automatic skimmer lid B, formed by attaching the perforated metallic plate b^1, constructed as described, and having pipes b^2 inserted in it to the wooden frame of said lid, substantially as and for the purpose set forth.

2. The combination of the automatic skimmer lid B, constructed as described, with an ordinary evaporating pan, A, substantially as and for the purpose set forth.

82,331.—SAMUEL LOCKARD, Lagrange, Ind.—*Piston Rod Packing.*—September 22, 1868.—The packing rings are surrounded by a follower around which is a spiral spring bearing against a collar, the inner ring fitting the piston rod, as does the lower part of the outer one, on which the follower is fitted.

Claim.—The arrangement within the chamber K of the conical split packing rings *e f*, flanged follower *g*, and spring *d*, as herein shown and described.

82,332.—J. AUGUSTUS LYNCH and REUBEN K. HUNTOON, Boston, Mass.—*Governor for Steam Engine.*—September 22, 1868.—In the event of the breaking of the belt, the weight on the arm attached to the shaft, which is made to operate the rotary valve, becomes disconnected from and slides off the said arm, and being connected by a chain to an auxiliary arm extending from the rear of the said weighted arm, will suddenly revolve the shaft and cause the throttle valve to close.

Claim.—1. The combination of the hydraulic governor and a mechanism, substantially as explained, for effecting the closing of the main valve of the engine, in case of breakage of the driving belt of the governor, such mechanism consisting principally or in substance not merely of the auxiliary arm L′, the catch *m*, and chain N′, but also of the slide or disengager *n*, the spring *r*, lever catch *s*, and the arm *z*, provided with the bolt c^2, or such bolt and the spring b^2, the whole being applied to the said arm K^1, the governor case, and the weight W, substantially in manner and so as to operate as specified.

2. The combination of the hydraulic governor and the relay or reinforcing engine applied to the main valve S of the induction pipe of a steam engine, as set forth, with the described mechanism for effecting the closing of the said main valve in case of breakage of the driving belt of the governor.

82,333.—MAHLON R. MARGERUM, Trenton, N. J.—*Coffin.*—September 22, 1868; antedated September 9, 1868.

Claim.—The forming and constructing the side and rounded head of wooden coffins with two entire pieces of wood, and bending the same so as to form the coffin, substantially as above described and herein set forth.

82,334.—J. P. MCGEE, Trenton, Tenn.—*Lamp Burner.*—September 22, 1868.—The slotted base of the burner extends below the cylinder, and has a rib around it, which is pressed in when the cylinder is forced down into the lamp, and thrown out by the recoil of the tongues, acting as springs.

Claim.—The burner B, having its lower end slitted, to form a series of springs, *g*, provided with a head, *h*, which is adapted to press in the springs when the burner is inserted in the cylinder *f*, the expansion of said springs forcing the head under the lower edge of the cylinder, when it has cleared the same, thereby holding the burner in place, as herein shown and described.

82,335.—John L. McIntosh, Boston, Mass., assignor to himself, James Blenkinsop, and William H. Vaughn.—*Pinking Tool.*—September 22, 1868; antedated September 7, 1868.

Claim.—A machine or device for pinking leather, cloth, &c., consisting of a lever, armed at one end with a tool and a tool-bearing socket, (the latter so arranged as that the pinking tool may be changed at pleasure,) in combination with the revolving block, when the same is supported and made adjustable by a spring beneath, all substantially as and for the purpose described.

82,336.—A. W. Meek, Waterloo City, Ind.—*Gate.*—September 22, 1868.—The gate is drawn back by means of a rack bar with a toothed wheel, and the action of pulleys with their cords and weight.

Claim.—The rack K, pulleys *d* and *e*, and weight *l*, in combination with the gate G, substantially as and for the purpose described.

82,337.—John C. Miller, Danville, Ky.—*Side-Saddle Tree.*—September 22, 1868.

Claim.—1. As a new article of manufacture, a side-saddle tree, in which the front or pommel *c'* is formed at the same time and of a similar material to the body of the tree, substantially as and for the purpose specified.

2. The combined off horn and pommel C, formed from wood, with the grain lengthwise, by cutting, steaming, and bending, and attached, substantially in the manner described.

82,338.—P. H. Mills, Green's Landing, Me.—*Row Lock.*—September 22, 1868.—The pin of the row lock enters and works in a roller, which is pivoted to two ears attached to the gunwale.

Claim.—The row lock D and roller C, constructed and operating in combination with each other, substantially as herein shown and described and for the purpose set forth.

82,339.—R. M. Mitchell, Fort Atkinson, Wis. —*Grain Storer.*—September 22, 1868.

Claim.—1. The arrangement of the bins A in a vertical column, said bins being connected by means of a tube, B, provided with receiving and discharging orifices E F, respectively, substantially as described, for the purpose specified.

2. The tube B, passing through the series of bins A, and provided with receiving and discharge orifices, communicating with each bin, said orifices being provided with valves which are adapted to be operated by means of cords D, or their equivalents, in the manner and for the purpose substantially as herein set forth.

82,340.—John H. Nale and John W. Rogers, Decatur, Ill.—*Spring for Wagon Seat.*—September 22, 1868.

Claim.—A spring seat for wagons, composed of reversible cross-spring braces, supported by, and in turn supporting, the seat by a bridge piece at or near their points of crossing, substantially as herein described and represented.

82,341.—J. S. Nicholson, Anamosa, Iowa.—*Clothes Press.*—September 22, 1868.—A series of winged or swinging bars is inclosed in a frame provided with a door, and having a cloth covering in front and rear.

Claim.—In a clothes press, the combination and arrangement of the frames A and B, uprights 1 and 2, cross piece 3, shelf 4, the coverings 5 and *j*, the arms *a*, *b*, and *c*, the bars *e*, *f*, and *g*, and rest *h*, as and for the purpose specified.

82,342.—Charles H. Overton and D. B. Overton, Dover, N. J.—*Valve Gear for Oscillating Engine.*—September 22, 1868.—Consists in applying a slide valve to an oscillating cylinder.

Claim.—The arrangement of the hoop G, reciprocating plate E, and guide plate *d*, with reference to the trunnion *a* of an oscillating cylinder, substantially as shown and described.

82,343.—Alvah Pate and Edgar Wilber Pate, Naukin, Mich.—*Wagon.*—September 22, 1868.—The lighter ends of the springs are fixed to the axles, and are connected with a semicircular frame, which moves on a roller journaled in a hanger from the center sill, and fixed above it is the circle which supports the fifth wheel.

Claim.—The construction of a wagon or carriage, combining the springs D, body E, semicircular frame H, roller I, hanger J, circle K, "fifth wheel" L, and king bolt M, or their equivalents, with any suitable axles, B, and wheels A, when arranged, connected and operating substantially as and for the purposes herein set forth, shown, and described.

82,344.—David Philips, Cordova, Ill.—*Wagon Brake.*—September 22, 1868.—A shaft with rub blocks revolving on it is connected with a lever, at one end pivoted to a rod screwed to the hind bolster, and at the other to a rod connected by a ring with a bar pivoted to a plate bolted to the body, thus forming a toggle joint.

Claim.—A brake, consisting of the shaft D, having rub blocks attached, held in by the rods F, and operated by the lever C and H, connected by the rod G, all substantially as described.

82,345.—C. H. Poage, Perry, Mo.—*Horse Rake.*—September 22, 1868.—A staple and ring are used for connecting the flexible draft chains to the head of a rake.

Claim.—The combination of the staples *e'* and rings *e* with the rake *a b c d*, and the flexible draft chains or cores or straps *g g*, substantially in the manner and for the purpose described.

82,346.—Denis Poulot, Paris, France.—*Machine for Cutting Screw Threads.*—September 22, 1868.—A grooved plate having slide pieces, to which are pivoted the disk jaws, with corresponding dies made on their edges, is secured to a hollow shaft connected with guide rods, on which moves the carriage for the cutters, which are adjusted by a hand wheel. In front of the frame is a trough for receiving the oil and shavings.

Claim.—1. The arrangement, herein described, of the perforated, rotating, and sliding jaws D, plate C, and the hollow shaft B, with mechanism for rotating the same.

2. In combination with the above-specified mechanism, the guide rods *i* and sliding-die carriage H, constructed and operating substantially as described.

3. The arrangement, in the die carriage, of the cutting dies *k* and sliding blocks *l*, in combination with the screws, gearing shaft, and hand wheel, for operating the same, so that said dies can be moved simultaneously either toward or away from each other, as set forth.

4. The inclined and projecting trough or receptacle, located beneath the cutting mechanism, and arranged to receive the shavings or chips and lubricating oil and to conduct the latter to a separate receptacle, as herein shown and described.

82,347.—E. K. Powers, Grand Rapids, Mich. —*Machine for Molding Candy.*—September 22, 1868. —Consists in a means for forming the candy into sticks of proper size, and then compressing the same.

Claim.—1. The movable molds B, constructed each of a bottom piece *a*, and a vertical side strip *b*, sharpened at its upper edge, in combination with the roller G and the mold's receptacle A, all of which may be constructed of wood or any other material, and arranged substantially in the manner as and for the purpose set forth.

2. The press, composed of the bars K K', arranged and operated substantially as shown, in combination with the plunger or follower L, box M, the slide N and spring stop O, all arranged for joint operation, substantially in the manner as and for the purpose specified.

82,348.—J. W. Rist, Rochester, N. Y., assignor to himself and Ira A. Hebbard, same place.—*Knitting Machine.*—September 22, 1868; antedated September 9, 1868.—The needle bed is made so as to be readily detached and replaced by another, and the yarn carrier, lock, and loop mechanisms are operated by mechanism so as to adjust the grades of yarn and length of the stitch.

Claim.—1. The needle bed, composed of the division plates d and spacing plates t, when connected together, substantially in the manner and for the purposes herein shown and described.

2. The gib G, in combination with the bed A′ and removable needle bed, as and for the purposes set forth.

3. The arrangement of the locking spring N, constructed as described, attached rigidly to the lock plate P, and operating upon the V-shaped cam M, on the reversing plate H, substantially as and for the purposes set forth.

4. The arrangement of the cam Q with the pivoted lever R and stud g of the wing cam D, on that end of the lock, substantially in the manner and for the purposes herein shown and described.

5. The arrangement of the cam O upon the reversing slide, in connection with the stud g of the wing cam, the parts all operating substantially in the manner and for the purposes shown and described.

6. The reactionary spring l, in combination with the stud g and wing cam D, substantially as shown and described, and for the purposes set forth.

7. The combination, with the lock plate P, of the needle adjuster T, constructed, arranged, and operating substantially in the manner and for the purposes set forth.

8. The combination, with the lock plate P, of the cam and needle guides or adjusters E, substantially in the manner and for the purposes set forth.

9. In combination with the wing cams D and their studs g, the cams O and Q and latch R, or their equivalents, whereby said cams D are moved upward simultaneously with the closing of the V-cam C, for the purposes described.

10. The combination of the plates p and studs g with the set nut B, index hand y, and scale S′, for the purposes set forth.

11. In combination with the scales S′, for gauging the tension or length of the loop, the pivoted lever index y, arranged and operating substantially as and for the purposes shown and described.

12. The pivoted yarn carrier Y, in combination with the friction traveler q and the rod W, all constructed, arranged, and operating as shown and described.

13. The yarn carrier or guide Y, slotted as shown and described, and for the purposes set forth.

82,349.—Alvah Rittenhouse, M. D., Philadelphia, Pa.—*Female Syringe Bed Pan.*—September 22, 1868.

Claim.—1. The bed pan or vessel J, capsular vulva H, right angle suction tube K, substantially as set forth.

2. The vaginal extension tube N O, metallic valve tube P, right angle suction tube K, rubber bulb R, vessel J, capsular vulva H, strainer L, all combined and arranged substantially in the manner and for the purpose as herein set forth and described.

82,350.—William Davidson Robertson, San Francisco, Cal. — *Track-laying Machine for Railroads.*—September 22, 1868.—The ties and rails are loaded on common platform cars, the loads being hauled forward from one car to another and up to the rear end of the machine, and the material is passed from the rear of the machine to its place forward.

Claim.—1. As a new application to construction trains, for supplying power to carry forward, from the rear car to the place of deposit, the rails and ties, the engines a a, mounted on the central car, substantially as described.

2. The shaft f, with the screw g, actuating the trucks b b, by the beveled gear k' l', or their equivalents, substantially as described.

3. The pulley u, on the rear truck axle of the engine, for driving the friction rollers, which carry the ties to the incline trough beneath the boiler of the engine, substantially as described.

4. The friction rollers t and u, in combination with the channel or trough v, substantially as and for the purpose specified.

5. The pulleys g' and the belts w and w''', or equivalent devices, for actuating the cutters, substantially as described.

6. Carrying the rails forward at each side of the boiler, and lowering them to the road bed, by the davits A A, substantially as described.

7. The rollers $q\ q'\ r\ r'\ s\ s'\ s''\ s'''$, the endless chains $p\ p'$, or equivalent device, for pressing down and holding the ties while the cutters trim them, substantially as described.

8. The cutters $v'\ v''$, for leveling and trimming the ties to receive the rails, constructed and operating substantially as described.

82,351.—Clark Robinson, Fox Lake, Wis.—*Miter Box.*—September 22, 1868.—Angular plates are fixed on the bottom of the box, to serve as bearings for the guides, and to hold the molding. At the under side of the box are a pinion and racks by which the guides are made to move on trucks and carry the frames, and thus give the required angle to the molding.

Claim.—The plates B C D, in combination with the frames J J, guides H H, having racks F F, standards L O, and pinion G, the whole being constructed and arranged substantially as and for the purpose herein specified.

82,352.—Anthony J. Robrecht, Newark, N. J.—*Carpet Bag.*—September 22, 1868.—Partitions are so arranged as to be instantly detached and replaced at pleasure.

Claim.—1. The combination of one or more partitions with a traveling bag, valise, or trunk, produced by means of hooks and eyes, constructed to be employed in the manner and for the purpose specified.

2. The combination of the metallic band f with the partition e, and also the combination of said band with hooks or eyes, employed in the manner and for the purpose specified.

82,353.—N. W. Russell, Cedar Falls, Iowa.—*Mold for Casting Sleigh Shoe.*—September 22, 1868.—The upper section is constructed with transverse bars at intermediate points, and in the lower section are a number of channels to form molds for the shoes; the said channels being covered by thin metal strips in preparing the mold for casting, so as to prevent the sand from filling the channels.

Claim.—1. The sand flask or cope A, and metallic mold section B, constructed substantially as described, when used in combination with each other for the production of sleigh shoes, as set forth.

2. The covering plates J, in combination with the channeled metal section B and sand cope A, substantially in the manner and for the purpose described.

82,354.—Dennis Savery, Wheeling, W. Va.—*Device for Holding Cut Nails while being Headed.*—September 22, 1868.—One end of a U-shaped spring is fixed to the cam end of the griper, its other end bearing on the side of the cam shaft opposite, thus holding and actuating the griper against the shaft as soon as the cam has passed the tappet on the griper.

Claim.—The arrangement of the lever C, tappet a, spring D, plate b, pad e, cam B, and shaft A, in the manner and for the purpose specified.

82,355.—George W. Schermerhorn, East Limington, Me.—*Cork Puller.*—September 22, 1868.

Claim.—The instrument for removing corks from bottles, consisting of the handle A, having the stem B and spring loop D at right angles to each other, and provided respectively with the sliding disks C and E, all constructed and arranged to operate as described, whereby the cork is first pushed into the bottle by the stem B, and afterward withdrawn by the loop D, the disks C E in both operations serving to prevent the contents of the bottle from spattering out, as herein shown and described.

82,356.—Jacob Shaw and W. A. Shaw, Hinkley, Ohio.—*Churn.*—September 22, 1868.—A hollow journal has an enlarged stem forming a valve to let air in or out of the churn. The lid is secured by a cross-bar placed beneath inclined curved rods.

Claim.—1. So hanging a rectangular or nearly rectangular churn box or case that its axis of rotation shall be diagonal to its sides, in the manner and for the purpose substantially as set forth.

2. The curved inclined rods and cross-bar, in combination with the cap and churn, substantially as and for the purpose set forth.

3. The hollow journal and valve, in combination with the churn, arranged as and for the purpose substantially as herein specified.

82,357.—Edwin Sheppard, Philadelphia, Pa.—*Automatic Boiler Feeder.*—September 22, 1868.—An arrangement of cylinders and casings applied to a steam boiler and communicating with each other and with the interior of the boiler; the said cylinders being provided with suitable pistons, floats, and piston rods, so connected with the valve lever of a water pipe as to regulate the supply of water to the boiler.

Claim.—An automatic boiler-feeder, consisting of a cylinder, B, with its float D, cylinder F, with its pistons *i i′*, operated by the float D, and cylinder G, with its piston *m′*, the cylinder F communicating with the cylinder G, and the cylinder B with the cylinder F, and the whole being arranged and applied to a steam boiler to regulate the flow of water to the same, substantially as described.

82,358.—George Skinner, Brooklyn, N. Y.—*Fire-escape Ladder.*—September 22, 1868.—A cross-bar, secured to the lower part of the ladder, is provided with extension arms for convenience in handling the ladder. The upper end of a frame is pivoted to a brace on the ladder, the lower end is pivoted to the standard which supports a caster wheel; a rope, secured to the lower end of the frame, is attached to a shaft having bearings in the lower part of the ladder.

Claim.—1. The peculiar arrangement and combination of the pivoted frame K, caster wheel M, rope or chain O, and shaft P, with each other, and with the ladder C, axle B, and wheels A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the frame D and leg d^2 with the ladder C, axle B, and wheels A, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the extension cross-bar E and *e′ e′* with the ladder C, axle B, and wheels A, substantially as herein shown and described, and for the purpose set forth.

82,359.—Henry Slatter, Covington, Ky.—*Carbureter.*—September 22, 1868.—The air is caused to traverse a stratum of water below the gasoline for the purpose of insulating the gas from contact with the atmosphere and saturating it with aqueous vapor. The pressure in the tank created by the receiver operates to elevate a doctor or gasometer whose pressure in turn maintains the flow of gas for another change of air.

Claim.—1. The arrangement of the water tanks A and B, principal and auxiliary receivers C and D, pipes F, H, and R, and tank E, for the purpose set forth.

2. The tank E, adapted to contain both water and gasoline, and provided with the pipes R, H, K, and M, and cocks L L′, as and for the purpose designated.

3. In combination with the subject-matter of claims 1 and 2, the auxiliary carbureting chamber O, or its equivalent.

82,360.—William Smith, Cincinnati, Ohio.—*Folding Table.*—September 22, 1868.—The legs are hinged to the table and held by braces which are hinged to slides moving in grooves on the lower side of the table top; said slides being held by spring bolts.

Claim.—The combination, substantially as described, of the table A, hinged frames *a* B C D E, legs F, hinged braces G *g d d′ e e′*, slides H, undercut grooves I *i*, stops J, and spring bolts or catches K, or their mechanical equivalents, for the object explained.

82,361.—James A. Sutherland, Elmwood, Ill.—*Horse Collar.*—September 22, 1868.—The collar is made in sections, curved to rest upon the withers and breast of the horse. An iron strap extends around the lower section, to one end of which the upper section is hinged, the other end being slotted and fitting over a hook on the upper section. The hames are dispensed with.

Claim.—A horse collar, made of wood, when constructed substantially as above described.

82,362.—Samuel Swesey, Malta, Ohio.—*Quartz Mill.*—September 22, 1868.

Claim.—1. Suspending the stone C above the bed stone by means of the swiveled connections F and screws *h*, in combination with the shaft D and stone C, for the purpose of adjusting the grinding face of the stone C parallel to the grinding face of the bed stone B, as herein shown and described, for the purpose specified.

2. The arrangement of the hopper K upon the yoke E, whereby said hopper is revolved with the stone C, as herein shown and described, for the purpose specified.

82,363.—James Tallman, Clayton, Ill.—*Bee-Hive.*—September 22, 1868.—The hives may be placed in one house and made to communicate with each other to multiply colonies, or they may be separated for swarming.

Claim.—1. The arrangement and combination of a series of hives provided with inclined bottoms, and resting on inclined bars, *a*, within a frame, in such a manner that the several hives may be made to communicate with or cut off from each as may be desired, substantially as shown and described.

2. The house, composed of the frame A and box C, the latter being provided with doors, *f*, and with a lid or detachable top, F, when said house, thus constructed, is used in connection with a plurality of hives, B, adapted to the house or frame, in the manner substantially as and for the purpose set forth.

82,364.—George W. Thompson, Brooklyn, N. Y.—*Sweats for Hats.*—September 22, 1868.—Paper, made in imitation of leather, rendered water-proof and then embossed, is used for head lining in hats.

Claim.—As a new article of manufacture, a sweat band for hats, formed of paper, coated with Japan or other water-proof compound, and finished by embossing, substantially as described.

82,365.—John A. Thompson, Auburn, N. Y.—*Refrigerator and Sideboard.*—September 22, 1868.

Claim.—The construction of refrigerators and household preservatories of angle wood, skeleton frames, with their entire walls of trunk board, or its equivalent, filled with a concrete of plaster of Paris and granulated carbon, or other suitable material securing the same effects, all as specified and set forth.

82,366.—Jeptha A. Wagener, New York, N. Y.—*Sewing Machine.*—September 22, 1868.—The cloth plate, the bracket arm, and all the working parts of the machine are sustained on the bed frame by elastic bearings, to prevent noise when operating. An opening is made through the cloth plate beneath the needle bar, and is covered by a bridge provided with an oblong slot through which the needle works. The feeding bar is provided with two rows of projections which operate on each side of the bridge. The presser foot is provided with slots in which the projections work.

Claim.—1. The feeding device J, furnished with points on each side of an open slot, and a point or points in range with said slots, the said feeding points being applied, arranged, and operating substantially as described.

2. The combination of the bridge *u*, plate I, and feeding device J $t\ t^1$, the said bridge slotted, and the feeding device being forked and furnished with central and side points, substantially as and for the purpose described.

3. The bridge *u*, when slotted and provided with a forked or V-shape at one end, and a bevel and shoulder at the other end, in combination with the recessed removable plate I, substantially as shown, and so that by one screw the bridge is confined in position.

4. The bridge *u*, constructed as shown in Figs. 13 and 14, for the purpose described.

5. The combination of the looper H, the feed lever J, with its central and lateral feeding points, slotted bridge, triple-slotted presser foot, and upper needle, the said parts being constructed and arranged as described, and operated by a cam pulley, constructed as described.

6. The cam pulleys E F, constructed and arranged as described, in combination with the levers E^1 F^1, rod K, looper H, looper guide *p*, lever C C^6, needle *c*, feed arm J, bridge *u*, and presser foot V, all constructed and arranged and operating as described.

7. The arrangement of a front elastic support, a^2, for the cloth plate B, forward of and centrally between the two rear-hinging elastic supports a^2 a^2, substantially in the manner and for the purpose described.

8. The rear elastic sleeve bearings a^2, fitted in the hinging studs a^1, in combination with the hollow bearing boxes a^7, formed in the cloth plate B, in the manner described.

9. The gimbal joint *g*, with the levers E^1 F^1 applied to it, as shown in Fig. 15, in combination with the feeding arm J, looper guide *p*, and the looper or lower needle H, all constructed, arranged, and operating as described.

10. The cloth plate B, cast with a horizontal portion forward of the axis of the needle arm C, and with a semicircular portion, B^1, in rear of the horizontal portion, and also with a bracket, B^2, and hollow bearing boxes a^7, all substantially in the manner shown and described and for the purpose set forth.

11. The slotted cloth presser V, in combination with the elevated bridge *u*, and feeding points working on both sides of said bridge, substantially as de- described.

82,367.—John B. Waterman, Summit, Mich.—*Hames and Strap Fastener.*—September 22, 1868.—A plate provided with a pawl acts as a guide for another having a rack. A spring holds the latch and pawl in position.

Claim.—The arrangement, in a hames fastener constructed as herein described, of the latch D, having a forked end, E, and operating in combination with the spring C and ratchet bar F, all constructed and operating as herein described and shown.

82,368.—G. Waters, Cincinnati, Ohio.—*Lubricator.*—September 22, 1868.—The tubular discharge pipe is provided with a screw having a groove made larger at the bottom than at the top on its outside.

Claim.—A lubricator, constructed with a graduating screw or plug, in which is formed a gradually-tapering slot or groove for regulating and controlling the discharge of oil, as described.

82,369.—Samuel Wesson, Worcester, Mass.—*Corn Husker.*—September 22, 1868.—The stalks are drawn through between a roller and revolving bars which break off the ears, which drop upon an ear guide constructed to feed them to two pair of rollers. Adjustable auxiliary rolls tapering toward their upper end, to prevent the husks being caught in a bunch by the rolls, are placed by the side of the husking rolls.

Claim.—1. The hinged guard or separating plate Z, in combination with the separating roll X′ and bars V, substantially as and for the purposes stated.

2. The combination, with the guard or hinged separating plate Z, of the adjusting screws 12 12 and stands 14 14, as and for the purposes set forth.

3. The combination of the shield 15 with separating roll X′ and bars V, substantially as and for the purposes set forth.

4. The combination with two or more sets of husking rolls, of a hinged ear-covering plate arranged as described, so as to retain the ears in proper contact with the rolls, and provided with one or more dividing pieces or partitions, extending between each two contiguous or adjoining sets of rolls, in the manner and for the purposes shown and set forth.

5. The combination with each set of husking rolls E F, of an auxiliary adjustable roll, H, arranged, with relation to the exterior or lower roll E of each set, in the manner and for the purposes shown and specified.

6. The combination, with each set of husking rolls, of an adjustable auxiliary roll, H, made tapering at its upper end, substantially as and for the purposes set forth.

7. The combination, with two or more sets of husking rolls and adjustable auxiliary rolls, of the removable ear-covering plate and guide I M, the ear guide K, and chutes or ways L, for delivering the ears to the auxiliary rolls, the whole being arranged to operate substantially in the manner and for the purposes shown and set forth.

8. The combination, with two or more sets of husking rolls, of a continuous ear cover or shield I, with its division piece or pieces M, substantially as and for the purposes set forth.

82,370.—William H. Wilson, Providence, R. I.—*Game.*—September 22, 1868.—A revolving index hand moves over a disk, on which numbers or words are marked, the said hand having an arm which is exposed to the action of a ball thrown by the player.

Claim.—A game, consisting of a combination of the pointer D and plate or disk C, of which one is movable, and the other stationary, the movable part being set by means of a ball propelled by the player, as set forth.

82,371.—Samuel Woodruff and H. B. Beach, Hartford, Conn.—*Pump.*—September 22, 1868.—Designed as an improvement on patent granted to William Wright, Nov. 15, 1869, and consists in the substitution of a series of valves for the double beat valves shown therein.

Claim.—The arrangement of the series of valves D and E in relation to cylinder B, annular chamber *a*, and chamber F, substantially as described, for the purpose specified.

82,372.—Valentine Zimmerman, Morris, Ill.—*Bee Hive.*—September 22, 1868.—The slatted partition is so arranged as to allow it to be withdrawn. The comb frames are supported at one end by hooks on the slatted partition, and at the other by pins fitting in holes in the rear of the hive. Slides are provided to vary the size of the entrance and are secured in position by springs.

Claim.—1. The slatted partition E, arranged to support the frames F and the front ends of the lower frames G, as herein shown and described.

2. The securing of the lower comb frames G in position by means of the pins *i*, and hooks *k*, substantially as shown and described.

3. The slides C C, applied to the box or case, in connection with the springs D, in the manner substantially as and for the purpose set forth.

82,373.—William A. Allen, Medina, N. Y.—*Car Stove.*—September 22, 1868.—The door is made of two plates perforated for air, and having a wire screen inclosed between the plates. A screen is placed in the flue.

Claim.—The combination of the above-described double door, having plates, H and B, and screen E, and provided with a lock, D, with the body of the stove and the flue, with the screen F therein, all being constructed and arranged substantially in the manner set forth.

82,374.—John G. Baker and Henry Asbury, Philadelphia, Pa.—*Bung Borer.*—September 22, 1868.—Designed as an improvement on English patent to John Grist, July 25, 1853. The lower part of the cutting blade is rounded to form a gouging and boring edge by means of which the boring and reaming are done at one operation.

Claim.—The combination of the tapering tubular stock A, its boring edge *x*, reaming edge *x*′, and tapering screw *b*, the whole being constructed and arranged substantially as and for the purpose herein set forth.

82,375.—E. H. Bloebaum and C. H. Nagle, St. Charles, Mo.—*Dining Table.*—September 22, 1868.—An annular rim sustains the plates, and has resting on it a revolving center piece which supports the viands. The top is made in four pieces, hinged so as to fold up to fit in a corner of a room. The legs are attached to a frame and can also be folded out of the way.

Claim.—1. The central board A, when composed of the pieces a a^1 a^2 a^3, and the annular rim B, when composed of the pieces b b^1 b^2 b^3, when the said parts are united and arranged, substantially as herein shown and described, and for the purpose set forth.

2. The arrangement of the frame D and legs d d^1 d^2 d^3 d^4 d^5 d^6, herein shown and described.

82,376.—Albert Boschke, Boston, Mass.—*Dredging Machine.*—September 22, 1868.—A hood-shaped plow loosens the earthy material. An endless-chain bucket revolves in said plow and discharges the material.

Claim.—A dredging or excavating machine, in which are combined a floating hull, a plow or scoop a, and elevating buckets, all constructed and arranged to operate substantially as set forth.

82,377.—William H. Bradley, New York, N. Y.—*Angler's Reel.*—September 22, 1868.—The line is wound up in the annular space between the disks. The standards are connected at the top by a screw, so as to regulate the end motion of the reel shaft.

Claim.—1. A fish-line reel, composed of the two annular concaved disks A A, as arranged on the shaft f, with the space g at their peripheries, in combination with the frame C C, constructed and operating substantially as and for the purposes set forth.

2. In combination with the disks A A and conical journals of the shaft f, the frame C C, fixed to the foot plate B, and provided with the variable connecting piece d, for adjusting the bearings to the shaft, substantially as set forth.

82,378.—C. H. Breneman, Newport, Pa.—*Clothes Rack.*—September 22, 1868.—An upright shaft is provided with hinged arms, which are supported by pivoted braces.

Claim.—The arms C C grooved on their lower side, and provided with braces E E, pivoted therein, so that they may lie in the same, and connected to the upright, A, substantially as and for the purposes herein set forth.

82,379.—Edward Brown, New York, N. Y.—*Connecting Rod.*—September 22, 1868; antedated September 16, 1868.—Spiral inclines on a supplemental washer are made to engage with similar inclines on the extension rod, so as to nicely adjust the length of the connecting rod when the screws are turned.

Claim.—The combination with the double screw rod C, of the two inclines b and c, whether the said inclines be placed on the washer E and the end of the connecting rod A, or on the two washers D and E, substantially as herein described.

82,380.—Benjamin F. Cady, Chittenango, N. Y.—*Sled Knee.*—September 22, 1868.—A rod passes through and is made fast to the sleigh runner, its upper end protruding through the bottom board, and provided with a nut for tightening. A shield protects the rod and forms suitable bearings for the runner and cross-piece.

Claim.—A sleigh knee, having rod A and shield H, constructed, combined, and arranged substantially as described, as a new article of manufacture.

82,381.—John Camp, Olney, Ill., assignor to himself and Henry Marshall, same place.—*Lifting Jack.*—September 22, 1868.—One of the recesses in which the axle rests is further from the fulcrum than the other, so that the axle is raised higher with one than the other.

Claim.—The combination of the reversible lever B b b', the stand A and fulcrum pin C, relatively arranged to operate in the manner described, for the purpose specified.

82,382.—Nathan Chapman, Milford, Mass.—*Hay Spreader.*—September 22, 1868.

Claim.—1. Giving the rake teeth, when raking, a forward and an upward movement, and a backward and a downward movement, in regular succession, by means of the toothed wiper wheel G, traversing bar N, wiper seat S, and springs L L, constructed and arranged to operate substantially as described.

2. Giving the teeth, when tedding, a forward and upward movement and a downward and a backward movement in succession, by means of the toothed wiper wheel G, traversing bar N, and inclined plane and groove on the block X, substantially as described.

3. Hinging the inclined block X so that the rear end will rise and let the pin or roller pass under it as it moves backward, and catch on the top as it moves forward, substantially as described.

82,383.—Charles B. Clark and E. L. Ferguson, Buffalo, N. Y.—*Mop Head.*—September 22, 1868.—The collar surrounding the nut is made in two portions, each provided with an oval opening, to admit the insertion of the lower part of the nut, which has a projecting flange on opposite sides. Both of the portions of the collar are provided with ledges, in which the flanges fit.

Claim.—The nut C, provided with flanges c c', or equivalent, in combination with the collar portions D D, formed with elongated openings h, and ledges i, substantially in the manner and for the purpose set forth.

82,384.—William Clifford, Mina, assignor to A. F. Jennings and Company, Dunkirk, and Thomas R. Coveney, Mina, N. Y.—*Wagon Jack.*—September 22, 1868.

Claim.—The swinging bar D, pivoted to standard B, with its free end resting on the disconnected lever E, and guided by the straps d, rigidly secured to the lever, so as to operate in the manner and for the purpose as described.

82,385.—J. J. Connelly, Chicago, Ill.—*Equalizer for Vehicles.*—September 22, 1868.—The evener has a double pulley at the center and a single pulley at each end. The draft chains are so arranged on the pulleys that each chain shall fasten to the outside trace of one horse, and to the inside trace of the other.

Claim.—A draft equalizer, consisting of an evener or draft bar, A A, pulley H I G J, and chains O N, the chain O passing over the pulleys H G, and providing a draft attachment for the outside trace of the "nigh" horse, and the inside trace of the "off" horse, and the chain N, passing over the pulleys J I, and providing draft attachment for the outside trace of the "off" horse and the inside trace of the "nigh" horse, substantially as and for the purpose specified and shown.

82,386.—Michael Culler, Fredericksburg, Ohio.—*Washing Machine.*—September 22, 1868.—A corrugated cylinder, capable of being raised or lowered, is hung upon a frame, in which a box, provided with triangular slats on the bottom, moves forward and backward.

Claim.—In a washing machine, suspended between the oblique standards A A, and upon the rods a a, the adjustable, corrugated cylinder G, hung upon the frame D, and secured to operate in the tub, or inserted above it, by the clamps i i, all as herein shown and described.

82,387.—Charles Curtis, Galesburg, Ill.—*Seed Sower and Harrow Combined.*—September 22, 1868.—A box is placed in slides and operated by a lever, so that when the machine is not sowing it can be slid under the hopper to catch the grain.

Claim.—The hopper B, drum E, box F, and bar H, constructed and arranged as described, and combined with the adjustable frame L and revolving harrows Z, substantially as set forth and for the purpose described.

82,388.—Joseph Davenport, Massillon, Ohio.—*Arched Bridge.*—September 22, 1868.—The lever posts are set against the rear part of the shoes. Rods are secured at one end to the arch, and at the other to the lever post. Tension straps are secured at one end to the chords, and at the other to the lever, and act as suspension chains.

Claim.—1. The rods N N, when used in combination with the arch B and posts K K, substantially as and for the purpose specified.

2. The supports O, when used in combination with the arch B and rods N N, substantially as and for the purpose specified.

3. The lever posts K, when constructed of the side plates K K, bolts or rivets *k k*, blocks M M, and cross piece L, and used in combination with the chord-bolt washer iron F, the shoe G, the tension bolt J, with straps I I attached thereto and to the chords A, the rods N N, and the arch B, substantially as and for the purpose herein specified.

82,389.—William A. Demuth, New York, N. Y.—*Glass Light.*—September 22, 1868.

Claim.—A glass light, constructed of solid glass rods, arranged in the manner described.

82,390.—George Edmund Donisthorpe, Leeds, England,—*Coal-mining Machine.*—September 22, 1868.—Patented in England, December 5, 1865. The screw projects beyond the forward end of the machine, and works in a nut supported by a pillar which is progressively moved forward.

Claim.—1. The combination of the mining machine with a screw and nut to move it forward, and with a removable pillar to sustain the thrust of the screw, substantially as before set forth.

2. The combination of the mining machine with a steadying bar, sustained by removable pillars, connected and supported as described, to steady the machine when at work, and prevent it from getting off the rails substantially as before set forth.

82,391.—George Edmund Donisthorpe, Leeds, England.—*Coal-cutting Machine.*—September 22, 1868.—Patented in England, April 21, 1866. The carriage is moved forward by means of a worm which works in a cog wheel engaging with a rack; this mechanism is supported by a frame which can be raised or lowered by a screw. The upper end of the piston rod is hollow to receive the stem of the cutter.

Claim.—1. The combination, substantially as set forth, of the rack on the rail, the geared pinion, the worm, and the hand wheel, with the lifting screw *l*, whereby the feeding devices on the carriage may be released from the rail.

2. The combination, substantially as set forth, of the carriage, the feeding mechanism, the guiding mechanism, and the cutting mechanism, for the purpose set forth.

3. The combination, substantially as set forth, of the carriage, the cylinder, the cutter connected directly with the cylinder, and the mechanism for controlling the induction valve of the cylinder, whereby the valve is not wholly opened unless the cutter makes a full stroke, and, consequently, the depth of one cut regulates the force applied on the next stroke of the cutters.

4. The combined arrangement of apparatus herein described, for cutting grooves or holes into the floor or roof of a mine.

82,392.—John E. Downs, Lowell, Mass.—*Sash Fastener.*—September 22, 1868.—The leaf extends across the shutters so as to be screwed to the side and end pieces to prevent sagging. The fastener is secured on projections cast on the hinges.

Claim.—The combination and arrangement of the hinge *e f*, and fastener *k*, when arranged for the purposes as described, and fully set forth.

82,393.—J. E. Edmundson, Bartlett, Ohio.—*Coffee Roaster.*—September 22, 1868.—A cylinder having a portion of its circumference cut away is made to rotate, by means of a crank to which it is secured, within a fixed cylinder which is secured to vertical walls which are attached to the stove cover.

Claim.—The arrangement of the plate A, walls B B, fixed cylindrical case C, having the door B′, rotating interior cylinder D having the opening *d* in its side, and crank shaft E, substantially as described and shown, and for the purpose specified.

82,394.—Rudolph Eickemeyer, Yonkers, N. Y.—*Apparatus for Preserving Beer, Ale, &c.*—September 22, 1868.

Claim.—1. The process, substantially as herein described, of preserving beer or other perishable liquids or substances, by the connection or combination of the vessel containing the same with a carbonic acid gas generating apparatus or reservoir, in such manner as that the contents of said vessel, or vacant space of the latter, is or are kept constantly charged with said gas, in a regular and automatic manner, as rapidly as said contents absorb the gas, or contents of the vessel are drawn off, substantially as specified.

2. The arrangement, in connection with the vessel containing the liquid or article requiring to be preserved, of an upper acid reservoir, B, and lower gas generator C, for supply, in a regular and automatic manner, of the gas to said vessel, and whereby the gas is forcibly expelled into the latter by the superincumbent weight or pressure of the column of liquid acid, essentially as herein set forth.

3. The arrangement of the said reservoir B, gas generator C, and washer D, in an apparatus for supplying, in an automatic manner, carbonic acid gas to the vessel, or its contents requiring to be preserved, substantially as shown and described.

82,395.—Primus Emerson, Carondelet, Mo.—*Paddle Wheel.*—September 22, 1868.—Each of the pivoting journals has a crank, on the outer side of the wheel, and these cranks are attached to an annular cam ring held constantly in an eccentric position by the side of the wheel, by means of fixed sheaves, the whole operating so as to hold the paddles in a constantly vertical position.

Claim.—The paddles E, when hinged to the outer rim of the wheel by means of journals *e*, placed at their bottom edges, substantially as described and set forth.

82,396.—John A. Falconer and Robert Graham, Jersey City, N. J., assignors to Egbert C. Bradford, James H. Renick, and Obadiah A. Clough, New York City, assignors to James H. Renick.—*Brick Machine.*—September 22, 1868.—The upper end of a bar which gives motion to the pusher has a hinged hook, with a spring pressing against it which is held in place by a clasp that can be raised or lowered to increase or decrease the tension, the latter being so regulated, that if an obstacle gets in the way of the pusher, the arm (from which it receives motion) forces back the hook and passes without moving the arm.

Claim.—1. The hinged hook L, in combination with the spring S, connecting rod M, and crank pin *k* of the crank K, connected with the driving power of the machine, substantially as and for the purpose described.

2. In combination with the hinged hook L, spring S, connecting rod M, and crank pin *k* of the crank K, the adjustable clamp *m*, all constructed and arranged substantially as and for the purpose set forth.

82,397.—John Fanning, Brooklyn, N. Y., assignor to John S. Andrews, New York City.—*Take-up for Thread in Sewing Machine.*—September 22, 1868.

Claim.—The eye *h* upon the arm *b*, in combination with the eye *i* near the end of the lever *e* that moves the needle bar, so arranged as to draw upon and tighten the thread between the eye *h* and the guide *k* on the needle bar, as the needle descends, for the purposes set forth.

82,398.—Gilbert Gibbs, Fairview, Ind.—*Farm Gate.*—September 22, 1868.

Claim.—1. The oblique link *a*, in connection with the central lever E, when so arranged as to draw the bolt *n* from the catch or socket *c* before opening the gate, substantially as shown and specified.

2. In combination with the bolt *n*, lever B, link *a*, and central lever E, the bars S S, and hand levers D D, all arranged to operate substantially in the manner and for the purposes as set forth.

3. Attaching a panel composed of the post G, diagonal J, and bars *m m m*, and sill O, with a gate, when the panel is so arranged, that, by means of the notches in the post G, the forward part of the gate may be raised, as described and shown.

82,399.—Charles Gilpin and Laurence T. Dickinson. Cumberland, Md.—*Rossing Machine.*—September 22, 1868.—An idle roller placed between the upper edges of the lower rollers, facilitates the passage of the bark. A knife is placed between the rear edges of the upper and lower rollers and presents a cutting edge to the bark as it comes from the rollers.

Claim.—1. The combination and arrangement, with a cutting device, of the rollers B B^1 B^2 B^3, provided with the teeth *e e e*, and operated by belting and gearing in such a manner that they all have an equal and uniform motion, the two upper ones rotating in one and the same direction, and the two lower ones in the opposite direction, substantially in the manner and for the purpose specified.

2. The arrangement of the knife K with reference to the rollers B^1 B^3, substantially as and for the purpose set forth.

3. The arrangement of the idle roller *a*, in combination with the rollers, substantially as described.

82,400.—Charles Gilpin and Laurence T. Dickinson, Cumberland, Md.—*Rossing Machine.*—September 22, 1868.—Designed as an improvement on their patent No. 82,399, and consists in substituting a saw for the knife therein used, when the woody crust of the bark is hard and dry.

Claim.—1. The arrangement of the reciprocating saw M with relation to the rollers, substantially as described.

2. The combination of the saw M, pitman H, spring P, lever R, and cam *u*, on shaft W, substantially as described, and for the purpose specified.

82,401.—O. F. Green and James E. Clark, St. Louis, Mo.—*Manufacture of Small Beer.*—September 22, 1868.—The ingredients designed to cause the necessary fermentation without the use of brewers' yeast, are sugar, cider sirup, citric acid, and caramel dissolved in water.

Claim.—1. The ingredients hereinbefore mentioned, or their substantial equivalents, when subjected to the processes substantially as described.

2. The beverage formed from such ingredients, as a new article of manufacture, substantially as set forth.

82,402.—Jackson Harrington, New London, Conn., assignor to himself and A. C. Lippitt, same place.—*Gear-cutting Tool.*—September 22, 1868.—The ends of the cutters fit into V-shaped sockets in a circular holder and are held in place by confining plates screwed upon the circular holder, and by a circular dog which is held in circular grooves in the cutters by a nut on the end of the shaft.

Claim.—1. The series of cutters A A, in combination with the circular socket plate or holder E, and confining plates G G, arranged substantially as and for the purposes described and set forth.

2. The circular dog I, circular recess J, and brace nut M, when used in combination with the cutters A A and holder E, substantially as and for the purposes set forth.

82,403.—Jackson Harrington, New London, Conn., assignor to himself and A. C. Lippitt, same place.—*Knife for Cutting Green Corn from the Cob.*—September 22, 1868.—The rectangular shank has on its outer end a concave plate, whose outer and inner ends form V-shaped cutters; a rib is formed on the concave side between the cutters to prevent the knife slipping off the cob.

Claim.—The concave plate C, with V-shaped cutters D D, and guide rib E, in combination with the rectangular shank B, arranged substantially as and for the purposes described and set forth.

82,404.—George Harsin and C. T. Sanders, Kirkville, Iowa.—*Machine for Shearing Sheep.*—September 22, 1868.—One of the cutters is stationary; the other is made to oscillate by means of a crank working in a slot in an arm secured to the oscillating plate. The crank is operated by a belt which is kept taut by means of a sliding weight.

Claim.—1. In combination with the cutter C, the belt B and cord B′, running over pulleys and kept taut by weights, arranged to operate substantially as and for the purpose set forth.

2. The combination, in a sheep-shearing machine, of a stationary blade K, and the oscillating blade I, constructed and arranged, in relation to one another, substantially as set forth.

3. The arrangement of the pulley G, having a wrist pin G^1, slotted arm H, oscillating cutter I, and stationary knife K, within the hollow case C^1, substantially as and for the purpose set forth.

82,405.—James Haverly and Charles A. Tibitts, La Porte, Ind.—*Thill Coupling.*—September 22, 1868.—A clasp is provided with a box which is open at the top and into which a bolt (fastened to an arm to which the shafts are secured) drops. A clasp on the bottom of the arm embraces the lower part of the box and holds the bolt in position.

Claim.—1. The construction of the clasp A with its box B attached thereto, substantially as shown and described.

2. The construction of the arm E, and the arrangement thereof with reference to the box B, substantially as set forth.

82,406.—Archabald T. Heflin, Monmouth, Ill.—*Cultivator.*—September 22, 1868.—The vertical and horizontal joints which attach the scraper beams to the frame enables the attendant at the rear to guide and control said scrapers. An arrangement is provided for distributing the draft equally upon both scrapers.

Claim.—1. A two-wheeled elevated draft frame, with a draft pole, C, secured upon the cross beam B′ of said frame A, swivelling double-tree C′, applied to the draft pole, and connected to links *b b*, in combination with levers *c* and scraper-carrying beams D D, all combined, arranged, and operating substantially as described.

2. The attaching hooks J J, applied to links *b*, which are connected to the double-trees C′ and to levers *c c*, said parts being employed in a machine constructed and operating substantially as described.

82,407.—C. Hoeller, Cincinnati, Ohio.—*Stove-pipe Elbow.*—September 22, 1868.—The elbow is made of one piece of sheet metal and has the interior curved surface corrugated.

Claim.—The elbow for stove pipes, constructed as herein shown and described.

82,408.—A. S. Hopson, Plainview, Minn.—*Clothes Drier.*—September 22, 1868.—The lower end of the rod on which the arms are placed is secured to a fixed plate; the upper end is fastened by a nut to a plate provided with slots and slide over flanges on a fixed plate, for the purpose of accommodating the drier to any quantity of clothes that may be placed on it.

Claim.—The flanged plate C and slotted sliding plate D, in combination with the rod *a*, nut *e*, arms B B, and plate A, all constructed as described, and operating substantially as and for the purposes herein set forth.

82,409.—Ozial A. Howe, Jersey City, N. J.—*Machine for Making Horseshoes.*—September 22, 1868.—A rotating die, and pressure disk in connection with an oscillating frame which carries the die, bend and shape the shoe upon the end of the bar previous to its being separated from the latter. A presser cone retains the metal in place during the operation of shaping the shoe.

Claim.—1. The combination of the rotating pressure disk G, the rotating die F, and the oscillating frame B, substantially as and for the purpose specified.

2. The cutting lip or corner *i*, so arranged upon the presser disk G, and in relation with the shoulder *m* of the die F, as to sever the shoe from the bar, substantially as and for the purpose specified.

3. The arrangement of the rotating presser cone F* upon the oblique shaft I, when combined with the presser disk G and the rotating die F, carried upon the oscillating frame B, substantially as and for the purpose specified.

4. The arrangement of the guide notch b^1, and wheel *c* upon the frame B, and in relation with the rotating die F carried thereby, and the presser disk G, substantially as and for the purpose specified.

5. The arrangement of the spring J, with reference to the rotating die F, presser disk G, and presser cone F^*, substantially as and for the purpose specified.

6. The combination of the pusher rod u, spring v, and inclined plane u^*, with the shaft C and die F, substantially as and for the purpose specified.

82,410.—Moses G. Hubbard, Syracuse, N. Y.—*Gearing for Harvester.*—September 22, 1868.—The external spur cog wheel is held in position by a sliding ratchet clutch so that the main spur driving gear wheel will be moved at a diminished speed in proportion to the difference between the sizes of the two gear wheels.

Claim.—1. The combination of the two gear wheels C and E, of unequal size, with the spur pinion F and main gear wheel G, substantially as described.

2. The employment of two or more concentric gear wheels, all of which may be made to revolve in driving the cutters, or one or more of which may be held stationary, for varying the speed of the cutters, as described.

3. Two or more gear wheels, of unequal size, arranged upon line shafts, or upon a divided axle, in combination with a shifting clutch, whereby the speed of the cutters may be varied, as described.

82,411.—Moses G. Hubbard, Syracuse, N. Y.—*Gearing for Harvester.*—September 22, 1868.—An arrangement of gearing for imparting a slow speed to the cutters according to the nature of the crop, and a high speed when only absolutely necessary.

Claim.—1. The combination of the driving gear wheels E and F, of unequal size, attached permanently to the main cross-shaft, and gearing into the two corresponding loose gear wheels A and B, with sliding clutch *d*, and the firmly-attached gear wheel H on the cross auxiliary shaft C, and the straight pinion and bevel wheel I, revolving loosely on shaft G, arranged and operating specifically as described.

2. The triple gear as described, in combination with the means for changing the speed of the cutters, arranged and located relative to the main and counter shafts. substantially as and for the purpose specified.

82,412.—Moses G. Hubbard, Syracuse, N. Y., assignor to Hubbard Mower Company.—*Havester.*—September 22, 1868.

Claim.—1. Attaching the seat by the two pivoted springs arranged one in advance of the other, and in the same plane, for the purpose and substantially as described.

2. The seat plate D, provided with the two sockets or recesses, arranged in line, as described, and adapted to receive and permit the adjustment of the seat springs, substantially as and for the purpose described.

3. Mounting the driver's seat for a reaping machine upon springs so arranged as to preserve the horizontality of the seat, and at the same time to give it both a forward and downward motion, for the purpose and substantially as set forth.

82,413.—Moses G. Hubbard, Syracuse, N. Y., assignor to Hubbard Mower Company.—*Harvester.*—September 22, 1868.

Claim.—1. Connecting the cutting apparatus to the main frame by the yielding elastic corner and the vertically sliding adjusting rod, arranged and operating as and for the purpose described.

2. The set screw V, in combination with the wear plate and hinged shoe, arranged substantially as and for the purpose described.

3. The lifting arrangement, consisting of the raising handle U, cam B, and chain C, combined and operating as described, whereby, when the cutting apparatus is raised, said lifting apparatus is automatically locked for holding the cutting apparatus in its elevated position, as set forth.

82,414.—Moses G. Hubbard, Syracuse, N. Y., assignor to Hubbard Mower Company.—*Harvester.*—September 22, 1868.—The pole attachment is made adjustable by being bolted to the "pole extension," the latter having holes placed one above the other. The pole is bolted to one side of the "pole extension" for mowing, and on the other side for reaping.

Claim.—1. Attaching the pole to the main frame specifically in the manner and for the purpose set forth.

2. The combination of the main frame with the pole extension piece, attached and arranged as shown for the purpose described.

82,415.—Moses G. Hubbard. Syracuse, N. Y., assignor to Hubbard Mower Company.—*Harvester.*—September 22, 1868.

Claim.—1. The curved wear plate H, provided with the expanded perforated ears, whereby the height of the cutting apparatus can be adjusted without interfering with the action of the straight pitman, substantially as set forth.

2. The independent or detachable sustaining rod, by means of which the driver in his seat on the machine is enabled to raise and sustain the cutting apparatus, substantially as described.

82,416.—William C. Hurd, New York, N. Y.—*Manufacture of Paint.*—September 22, 1868.

Claim.—1. The combination of feldspar with oil and lead, zinc, or any other suitable material for paints or colors, substantially as set forth.

2. The addition of dissolved linseed gum or saponaceous oil, mixed with linseed oil in the grinding, or mixing feldspar with any other suitable materials for paints or colors, substantially as set forth.

82,417.—John P. Jamison, New York, N. Y.—*Boots.*—September 22, 1868.

Claim.—The arrangement of the longitudinal seam or seams *a* in the boot leg, so as to rise from the hollow of the shank, or thereabouts, or (when the latter is applied to the foot) in front of the ankle bone, the same also being curved, as at *b*, to admit of a forward extension of the counter, substantially as and for the purpose or purposes herein set forth.

82,418.—Frederick L. Johnson, Wallingford, Conn.—*Combined Latch and Lock.*—September 22, 1868.—The bolt shank has two sets of projections, the lower ones for carrying the bolt back and unlocking it, and the other being acted on by the arms of the tumblers, which serve as a latch.

Claim.—1. The tumbler D, held by spring E, having a lateral motion, to enable one bolt to act upon both as a lock and latch, constructed substantially in the manner herein set forth.

2. The bolt B, provided with projections *a a* and *b b*, in combination with the tumbler D, provided with arms C C, and acted on by the said tumbler, substantially as herein set forth.

3. The catch F, held by the escutcheon, and arranged to act upon and keep the tumbler from sliding laterally, constructed in the manner substantially as herein set forth.

82,419.—John L. Kidwell, Washington, D. C.—*Roofing Cement.*—September 22, 1868.

Claim.—1. A water and fire-proof composition, for roofing, flooring, &c., prepared of hydraulic cement, tar, sulphur, and naphthaline, or equivalents, substantially as described and set forth.

2. The above cement composition, incorporated with powdered minerals or metallic ingredients, substantially as described and set forth.

82,420.—George G. Larkin, West Amesbury, Mass.—*Carriage Shackle.*—September 22, 1868.—A disk provided with a screw shank works in a hollow thread cut in the clip, its face being recessed to receive a leather pad, while it is provided with radial holes for a rod, to adjust it with more or less pressure against the eye of the shaft.

Claim.—The disk *a*, provided with radial sockets, and carrying the pad C, when formed with a screw-threaded shank *e*, adjustable in the front side of the clip A, as herein described for the purpose specified.

82,421.—W. H. Lauback, Philadelphia, Pa.—*Fire Extinguisher.*—September 22, 1868.—A valve, having its stem fastened to a diaphragm, is connected with the lower end of the cap, which regulates the pressure of the spiral spring on the diaphragm, so that by screwing or unscrewing it the pressure is increased or lessened, and the valve is closed or opened according as the pressure of gas on the diaphragm is greater or less than that of the spring on its opposite side.

Claim.—1. The tube C, in combination with the the diaphragm E and valve D, and vent tube *a*, operated and constructed substantially as described.

2. The diaphragm E and spiral spring *f*, constructed and operated as described.

3. The cap *g*, operating on the diaphragm E, constructed and operated as described.

82,422.—John L. Leas, York Sulphur Springs, Pa., assignor to himself and Andrew B. Lerew, same place.—*Corn Planter.*—September 22, 1868.—A box or hopper is secured by straps to a man's body, and has slides so arranged as to discharge corn from the spout at every alternate step.

Claim.—1. The slide C, in combination with the sheaves E F and straps H, J, and K, as and for the purpose described.

2. The pivoted levers M, and straps L, in combination with the elastic connections I, as and for the purpose described.

82,423.—M. F. Lowth and T. J. Howe, Owatonna, Minn.—*Cultivator.*—September 22, 1868.—The tooth is fastened to the beam in such a manner as to enable it to yield against an immovable obstacle.

Claim.—In combination with the mortised beam A and the tooth B, having the shanks *b b′*, and pivoted on the bolt *c*, a stirrup-shaped clamp, E, having an oblong or semicircular opening, O, the side *o* of which, that bears against the shank *b′*, being straight, and said clamp being confined to the beam A, and tightened or loosened by means of a screw shank, *r*, passing through a slot in the side of the beam, and a screw nut *n*, fitting upon it outside of the beam, and screwing against the side of the beam, or against a washer, substantially as described.

82,424.—R. E. Lowe, Upper Alton, Ill.—*Plane for Cutting Blind Slats.*—September 22, 1868.—The shoe lying in a groove of the stock is adjusted to it by screws, while the cutter iron, lying across the sole, on supporting plates screwed to the stock, is kept in place by hooks with shanks passing through the stock, and nuts on its upper side, the adjustment of the shoe thus regulating the thickness of the slat to be cut.

Claim.—1. The arrangement of the shoe C, stock A A′, screws *c c′*, cutter iron D, and clamping hooks and nuts F G, substantially as described, when the parts are constructed to operate in the manner set forth.

2. The arrangement of the guards I I with the knife D, the track C, and the gauge H, constructed and operating substantially as described.

82,425.—Timothy Lucey, Salem, Mass.—*Driving Hoop.*—September 22, 1868.—The hoop has its sides hinged or jointed, and is locked by tubular slides and can be folded so as to form a bow.

Claim.—A driving hoop, having a construction substantially as described.

82,426.—John C. Mack, Bristol, Conn.—*Cupboard and Table.*—September 22, 1868.—A table is arranged to fold inside of the cupboard, out of the way of the shelves and drawers, or of the doors when closed.

Claim.—The combination of the cupboard A, shelves F, and doors D, with table B and legs C, arranged substantially as and for the purpose specified.

82,427.—Harvey McCown and Luther M. McCown, Enon Valley, Pa.—*Hay Elevator.*—September 22, 1868.—Designed to be applied to a hay elevator, patented to them January 7, 1868. Two bowed jaws, pivoted to loops, are so connected with a disk that when they are opened the disk will be drawn against a catch, which, being released, a wedge will pass between the jaws, open them, and release the disk, when the load will be discharged.

Claim.—The jaws I I, in combination with the disk K and wedge L, or its equivalent, when constructed and operated substantially as and for the purpose herein shown and described.

82,428.—Frazee B. McGregor, Pontiac, Mich., assignor to himself and George A. Hoyt, same place.—*Piano.*—September 22, 1868; antedated September 14, 1868.

Claim.—The arrangement of the couplers D D, horizontal bars C C, placed one above the other, with the elbows *e e* and levers *d d*, so that when the pedal raises the levers the upper bar is raised against the couplers, parallel, and raises the coupler against the keys, coupling them together the entire length of the key-board, right or left, or both, as herein set forth.

82,429.—David M. Mefford, Norwalk, Ohio, assignor to himself and Stephen Boalt.—*Preserving Fruit.*—September 22, 1868.

Claim.—1. Preserving fruit, by treating or charging the same with sulphurous acid gas, and then subjecting it to heat, in the manner set forth.

2. Charging raw fruit with sulphurous acid gas preparatory to its being heated, by means of air pumps or bellows, substantially as set forth.

82,430.—George Merrill, Newburyport, Mass., assignor to Samuel Blish, Piscataway, N. J.—*Carving Machine.*—September 22, 1868.—A cutting tool and guide are so arranged with sliding tables and levers that the size of the latter being cut can be greater or less than the pattern, to any degree desired.

Claim.—1. The combination of the tables D and P, connected by links or rods *n m* to the lever *h*, substantially as described.

2. The shaft I, mounted in the main frame, and provided with the rigid arms *a* and *b*, carrying the adjustable guide *c* and the cutter *d*, and arranged, in relation to the tables D and P, substantially as described.

3. The table D provided with the side pieces or frame H *l* for supporting the upper table P, and permitting the latter to be moved thereon, as herein described.

82,431.—Clark W. Mills and Lewis S. Chichester, Brooklyn, N. Y., assignors to themselves and George H. Nichols, same place.—*Grain Separator.*—September 22, 1868; antedated September 14, 1868.

Claim.—The adjustable curb *i*, that can be moved toward or away from the point of delivery of the grain, in combination with the adjustable blast regulator *k*, applied substantially as and for the purposes set forth.

82,432.—Clark W. Mills and Lewis S. Chichester, Brooklyn, N, Y., assignors to themselves and George H. Nichols, same place.—*Grain Drier.*—September 22, 1868; antedated September 10, 1868.

Claim.—The series of air tubes *b b*, open at their under side, in combination with a hopper delivering the grain upon such series of tubes, in the manner set forth, so that a current of air shall pass through the grain as it falls from said hopper, and through the series of air tubes, and in contact with such grain substantially as and for the purposes set forth.

82,433.—Foster Nevergold and David Brose, Pittsburg, Pa.—*Rolling Mill.*—September 22, 1868.—A series of devices for raising iron and steel plates up and putting them over the rollers.

Claim.—1. The shaft J, crank L, and pitman M, in combination with the crank N, movable collar P, and shaft O, all constructed and arranged as described, substantially as and for the purpose herein set forth.

2. The combination of the table V, arm *b*, side pieces X X, arms T T, shaft O, legs U U, hinged leaf Y, slotted arm Z, and the lever *d*, all constructed and arranged as described, and operating substantially as herein set forth.

3. The stay lever *r*, swiveled pins *s s*, and perforated lever rest, in combination with crab lever *p* all constructed and arranged in the manner and for the purpose substantially as herein set forth.

4. The upright shaft *m*, and pinion B′, in combina

tion with pinion C′, shaft A′, pinions F′ F′, cog wheels E′ E′, and regulator G′, all constructed, arranged, and operating substantially as herein set forth.

82,434.—W. H. Nichols, East Hampton, Conn. —*Door Bell.*—September 22, 1868.—The bell rod hooks into a lug of a lever, and into an opposite lug hooks a rod, connecting it with a spring, having its outer end against a center post. By drawing and letting go the bell rod the hammer makes two strokes on the bell.

Claim.—The lever H, pivoted to the plate A at one end, and provided with a slot at its other, through which one end of the hammer wire passes, said lever being provided with lugs *d* and *e*, by means of which it is connected to the spring E and to the bell rod N; the lug *d*, to which the rod N is attached, being centrally located upon the lever, to facilitate its operation, as and for the purpose specified.

82,435.—Henry S. Osborn, Easton, Pa.—*Refining Cast Iron.*—September 22, 1868.—The curved rabble end screws into the steam box, and has a small iron tube screwed into it which passes into the box to the supply hole to prevent water from passing to the bar end.

Claim.—The self-generating steam rabble, or the rabble in which the steam is generated by the heat surrounding the rabble, in the manner and for the purposes substantially as above described.

82,436.—Isaac E. Palmer, Hackensack, N. J. —*Mechanical Movement.*—September 22, 1868; antedated September 14, 1868.—The toothed wheel gears into the female thread in and around a ring, having its axis transverse to that of the wheel, so that whichever rotates around the other, a slow, powerful motion is given the wheel upon its axis.

Claim.—The combination of the toothed wheel A with the ring C, having a female thread, *a*, in or around it, arranged relatively to each other for operation together, substantially as shown and described.

82,437.—Francis S. Pease, Buffalo, N. Y.—*Reciprocating Steam Engine.*—September 22, 1868. —The cylinder heads are so formed that but one packing box is needed for both cylinder heads, and is placed inside of the lower and larger cylinder head which is also made in two unequal pieces, the smaller being easily removed to adjust the packing rings, or repair the box.

Claim.—1. The construction and arrangement of the frame, or covers, or cylinder heads of the two cylinders, the lowest section or surface forming a cover to the cylinder B, and the upper surface the cover of cylinder A.

2. The combination of the lower cylinder head H′ with the section *h*, whereby to gain access to the cylinder B, as herein set forth.

3. The arrangement of the stuffing box inside the cylinder and with the cylinder head, so that the bolts passing through the cylinder head can be reached from the outside between the two heads.

4. The combination of the two cylinder heads H H′, formed or connected together in the manner herein described, with sufficient space between them to give access to the bolts of the stuffing box S.

82,438.—John M. Perkins, Plainfield, N. J., assignor to R. R. Perkins, same place.—*Fruit Box.* —September 22, 1868.

Claim.—A box constructed of two strips of veneer in which the top or bottom may be used as bottom or top indiscriminately, and constructed of two pieces of veneer, in the manner and for the purposes set forth.

82,439.—Jacob S. Pfrimmer, Lanesville, Ind.—*Wagon Brake.*—September 22, 1868.—A sliding rod under the tongue is connected at its rear ends with levers extending behind the wheel, and operated by the holding back of the team.

Claim.—The arrangement, upon the front section of a vehicle, of the forked rod *a*, oblique rods *c c*, levers D D, keepers *d d*, and spring *e*, all constructed and operating as set forth.

82,440.—Alfred Rix, San Francisco, Cal.—*Fastening for Button.*—September 22, 1868.—The button is fastened to the garment by passing the head through a hold in the same, and putting the washer open on one side over the head and closing the sides.

Claim.—The headed shank and open washer for securing the button to the cloth or garment, constructed substantially in the manner and for the purpose set forth.

82,441.—Valentin Schreck, Philadelphia, Pa.—*Wash Stand and Sick Chair.*—September 22, 1868.

Claim.—The described combination of a sick chair and portable wash stand, when the parts composing the former are permanently or otherwise attached to a swinging door, C, and otherwise arranged as and for the purpose specified.

82,442.—Frederick A. Seborn, David R. Dunlap, and Joachim F. C. Geist, Zanesville, Ohio. —*Window Shade Fixture.*—September 22, 1868.—The curtain, roller, and pulleys are so arranged as to enable the curtain to be rolled either from the bottom to the top or from the top to the bottom, or in both directions at the same time.

Claim.—The arrangement of the cord C, pulleys B B, roll A, fixed cord E, and cord F, substantially as shown and described.

82,443.—Seth Shadduck, Elk River Township, Iowa.—*Draught Equalizer.*—September 22, 1868.

Claim.—The draught bar F, provided with adjusting holes *c c c*, &c., ring K, substantially for the purpose described.

82,444.—William C. Sinclair, New York, N. Y.—*Safety Guard for Locks.*—September 22, 1868; antedated September 18, 1868.—In the outside plate are two separate key holes, for the latch and bolt, and when the key is used inside, it strikes a stop and bears against a projection on the bolt, so that it cannot be stirred by a key or pick outside.

Claim.—The oscillating plate *g*, having a projecting pin, *i*, in combination with the cam slot *j* on the latch *k*, substantially as and for the purpose described.

82,445.—Henry J. Smith, Boston, assignor to Joseph C. Wightman, Newton, Mass.—*Mode of Hardening Gas Burner Tips made from Soapstone, &c.*—September 22, 1868.

Claim.—The hardening, and rendering impervious to the action of acids and heat, of gas burners and gas burner tips, or any part thereof, made from soapstone, talc, talcose rocks, or minerals, by heating them in a vessel containing carbon, substantially as above described.

82,446.—William C. Smith, Yantic, Conn.—*Churn.*—September 22, 1868.—An improvement on his patent of July 9, 1867. The lip is so arranged with the shaft that it may freely slide in and out when turned on one of the flat sides of the shaft, admitting the locking pin and its attachments to be drawn out or thrust in as needed.

Claim.—The groove *c* and recess *m* on the gear shaft C, and the lip E^3 and arm E^2 on the locking pin E, constructed and adapted for joint operation relatively to each other, and to the beater shaft A, and to the gear wheel D, as and for the purposes herein set forth.

82,447.—Daniel Snell, Springfield, Ohio, assignor to himself and J. H. Gano, same place.—*Tumbling Shaft for Connecting Power with Machinery.*—September 22, 1868.—Designed to allow the machine, to which power is transmitted by a tumbler shaft, to be removed farther from or nearer to such power without the necessity of uncoupling the shaft, for the purpose of introducing or taking out separate pieces.

Claim.—The combination of the collar C with its interior bearing, *c*, and the block end, *b*, of the rod shaft B, sliding in the groove D of the part A, for retaining the shaft in position at any point in the line of its extension or contraction, as applied in a tumbling shaft, for transmission of power by a rotary or revolving motion, the whole constructed substantially as described, as and for the purpose specified.

82,448.—J. W. SOULE, Boston, Mass.—*Pegging Machine.*—September 22, 1868.—The peg wood is held to the feed wheel by a leaf spring and adjusted by a screw, the feed shaft having a ratchet wheel connected with a pawl, and a slide bar working between guides, and deriving motion from a cam on the driving shaft by a lever and rod, a pin of which passes into a slot of the lever to regulate the throw of the slide.

Claim.—1. The arrangement of the peg cutting mechanism, so that but one peg is cut at the end of the peg wood, which peg, after being cut, is fed forward under the driver, substantially as described.

2. The combination of the ratchet driving pawl *m* with a reciprocating slide, *n*, to which the pawl is jointed, and by means of which it is actuated, substantially as described.

3. In combination with the peg feed wheel *d*, feed ratchet *l*, and ratchet-driving pawl *m*, the ratchet-detaining pawl s', substantially as shown and described.

4. In combination with the peg-wood feed wheel *d*, the spring *h*, pressure of which is adjusted by the screw *k*, substantially as set forth.

5. In combination with the slide b^2, spring d^2, and lever e^2, the adjusting plate h^2, substantially as and for the purpose set forth.

6. In combination with the ratchet-driving pawl *m*, and the reciprocating slide *n*, to which the pawl is jointed, the cam *p*, for driving the slide *n* through the lever *r* and connecting rod *s*, substantially as shown and described.

82,449.—SAMUEL B. STEWART, Brush Valley, Pa.—*Coal Stove.*—September 22, 1868.—The lower section of the stove is made in segments, the joints of which are covered by concave strips held in place by the upper section.

Claim.—The lower section A, constructed as described, in combination with the metal plates or strips *d d* and upper section C, all arranged substantially as and for the purpose set forth.

82,450.—JOHN BLAKE TARR, Chicago, Ill.—*Carpenters' Plane.*—September 22, 1868; antedated September 16, 1868.

Claim.—1. The combination of the central clamping and tightening device with the adjustable supports C D, the said device and the supports being applied to a plane stock, and in the relation to the plane iron thereof, substantially as and for the purpose herein described.

2. Making the two supports or abutments C D adjustable, substantially as and for the purpose herein described.

3. Applying pressure to a plane iron between two supports, C D, through a device, E F, substantially in the manner and for the purpose herein described.

4. Changing the pitch and tightening the plane iron by the same means and at the same time, the means employed being constructed and operated substantially as herein described.

5. The adjusting of the plane iron by means of the clamping device, composed of the screws C D and E, nut F, and plate *b*, and applied in such manner that the bit is tightened and the pitch changed at the same time and by the same means, when constructed to operate substantially in the manner described.

6. Arranging the plane iron beneath the heads or shoulders of two adjustable bearings, C D, and under a shoulder of a nut, F, so that it may be adjusted by means of either or both of the bearings C D, and may be tightened and have its pitch changed by the screw E, all substantially in the manner and for the purpose described.

82,451.—JOHN J. THOMAS, Union Springs, N. Y.—*Harrow.*—September 22, 1868.—Several pieces of plank, provided with teeth inclining backward, are hinged together and form a flexible frame to conform to undulating ground.

Claim.—A land brush or spiked harrow, constructed of pieces of plank, hinged together as described, and provided with numerous inclined teeth pointing backward at such an inclination as to cast off or slip over any stalks of weeds, straw, or other refuse matter, substantially as described.

82,452.—LEOPOLD THOMAS, Allegheny City, assignor to ANDREW KLOMAN, Lawrenceville, Pa.—*Spike Machine.*—September 22, 1868.

Claim.—1. In a machine for making spikes and bolts, a sliding carriage, B, which carries the spike or bolt blank after being severed from its parent bar, and while firmly griped by pressing dies, in combination with a header, G, constructed and operating substantially as and for the purposes hereinbefore set forth.

2. The pair of swinging and pointing tools a', in combination with a pair of guiding and pressing rollers H, arranged and operated substantially in the manner and for the purposes hereinbefore described.

3. The cam F, cam lever *e*, and double parallel bars *l l*, or their mechanical equivalents, all arranged with reference to one of a pair of pressing dies in a spike machine, to secure first a partial and then a complete closing of the dies on the spike blank, substantially in the manner and for the purposes above set forth.

4. In the manufacture of railroad spikes, the header G with a slotted shank, hung and operated, substantially as above described, so that it shall, except at the completion of the stroke of the machine, have its face inclined to the direction of the faces of the pressing dies, for the purposes hereinbefore specified.

5. In a machine for making spikes, the arrangement of the cams *d* and *e*, operating in cam yokes, substantially as described, so that one cam, *d*, which actuates the cutting and pointing tools a', shall act a little in advance of the other cam, *e*, which operates the sliding carriage B, in order that such tools, a', may be partially opened and closed in advance of the beginning of the motion of the carriage, substantially as above described.

6. The combination, in a spike machine, of swinging pointing tools a', pointing rolls H, pressing dies $b\ b'$, and header G, substantially as and for the purposes above set forth.

82,453.—NATHANIEL S. UNDERKUFFLER, Norristonville, Pa.—*Sausage Stuffer and Lard Press.*—September 22, 1868.—The sausage reservoir is fixed to a block let into a recess of the table, so that it can be easily slipped out and the lard vessel be substituted in its place.

Claim.—The combination of the vessels H and J, constructed as specified, and connected, within the dovetailed recess in the table, with the standard C, lever E, and follower F, all as herein shown and specified.

82,454.—GEORGE WILLIAM UPHAM, Amherst, N. H.—*Cement.*—September 22, 1868.—Composed of shellac, sulphur, and resin, mixed in boiling water.

Claim.—The within-described cement, composed of the ingredients herein named, and compounded in or about the proportions set forth.

82,455.—JAMES S. UPTON, Battle Creek, Mich.—*Shaft Coupling.*—September 22, 1868.—Leather keys are inserted in the slots in a safety-coupling ring to keep the pins from moving out and catching in persons' clothes.

Claim.—The sockets B B, provided with gudgeons C C, and connected to the slotted ring A by means of the pins *a a* secured in the slots *x x* by the leather keys, all as herein shown and described.

82,456.—ELBERTSON W. WAITE, New Haven, Conn.—*Joint for Carriage Top Prop.*—September 22, 1868.—The joint pieces have ribs working in segmental grooves in the bars, which are held together by a bolt, a cylinder around it being used to keep the pieces properly apart, and the bolt firm.

Claim.—1. A joint, formed by combining segmental grooves, near the ends of the parts to be united, with a circular rib upon the joint piece, substantially as specified.

2. The joint pieces *e*, with circular ribs *d*, entering

segmental grooves *c* in the bars *a b*, in combination with the cylinder *i* and bolt or rivet *f*, substantially as specified.

82,457.—William M. Ward and Peter Benkage, Eureka, Ill.—*Bedstead.*—September 22, 1868.—The bedstead is tightened by means of the swivel.

Claim.—A bedstead, having rods C, hooks D, swivels E, screws G, pin holes *a*, slats *d*, strips *e*, and blocks *b*, all arranged and operating substantially as described.

82,458.—Charles Webber and Henry Reimann, West Meriden, Conn.—*Lamp.*—September 22, 1868.—A cup fixed in the neck of the oil cistern surrounds the wick tube in the screw thimble, over which is fitted a sleeve that supports the burner, which consists of an open platform, air sieve, and a cone.

Claim.—The construction and arrangement of the cup B, recessed thimble D, supporting sleeve *c*, open platform E, air sieve F, and cone G, as and for the purpose described.

82,459.—Henry W. Weedon, High Point, N. C.—*Soap and Detergent Compound.*—September 22, 1868.—Composed of chalk, sal soda, aqua-ammonia, terebinthina, and oleum, mixed and boiled in water.

Claim.—The particularly-specified combination of ingredients, and the definite quantities of the same, as set forth.

82,460.—S. Lloyd Wiegand, Philadelphia, Pa., assignor to Walter J. Budd, same place.—*Steam Generator.*—September 22, 1868; antedated September 4, 1868.—Spiral wings are arranged between the two boiler tubes, which latter are closed below by a cap with a fluted pyramid reaching into the central tube, and are inserted above into conical ajutages of the boiler. The internal tube has mouths directed toward the rotary current and is covered by a dome formed of wings curved inward to direct the current toward the wings of the tubes.

Claim.—1. The oblique or spiral deflectors or guides in double-boiler tubes, substantially as shown and described.

2. The tangential or spiral mouths, as shown, for conducting a supply of fluid to the descending columns in double-tube boilers, as shown and described.

3. The deflecting caps or domes, or the equivalents thereof, substantially as shown and described.

4. The conical ajutages C C, substantially as shown and described.

82,461.—J. M. Willbur, Cleveland, Ohio.—*Rotary Embossing Press.*—September 22, 1868.—Two rollers are provided, the one with movable stereotype plates, and the other with suitable counter plates, to be used without ink, and operated by a lever and an adjustable pawl.

Claim.—1. The combination of the rollers B C, impression plates D, and counter plates D′, operated by means of the lever E, through the medium of the cog wheels B′ and C′, the whole being constructed and arranged in the manner shown and described, as and for the purpose set forth.

2. The lever E, with its adjustable pawl F, in combination with the rollers B C, arranged to operate as and for the purpose described.

82,462.—J. M. Willbur, Cleveland, Ohio.—*Ink Pad for Hand Stamp.*—September 22, 1868.—The reservoir and distributing rollers have their bearings in carriages which move on guide rods each side of the blocks, the pads being operated by a bar laid across concavities in the blocks opposite the pads.

Claim.—The improved ink pads herein described, consisting of the blocks A A′, provided with the composition inking surface C, in combination with the ink reservoir H, distributing rollers G G, mounted on the carriages D D, the guide rods B B, and handles K K, all constructed and arranged to operate substantially as and for the purpose set forth.

82,463.—J. M. Willbur, Cleveland, Ohio.—*Machine for Forming Stereotype Plates.*—September 22, 1868; antedated September 16, 1868.—The edge of the apron is clamped between the two halves of the roller, secured together by screws, and the sliding bed, with beveled guides underneath, has an upright concave part, which allows space for the apron and plate to pass and be bent upon the rollers.

Claim.—1. The roller C, having a milled or file cut circumferential surface, for the purpose described, in combination with the apron D, arranged and operating as and for the purpose set forth.

2. The sliding bed E, having a head or upright *g*, with its curved surface, and the adjusting set screw H, in combination with the roller C and apron D, all constructed and operating as described, and for the purpose set forth.

82,464.—J. M. Willbur, Cleveland, Ohio.—*Stereotypers' Putty.*—September 22, 1868; antedated September 17, 1868.—Finely ground potters' clay is mixed with pure olive oil.

Claim.—The composition hereinabove described, for the purposes specified.

82,465.—William H. Willson, New York, N. Y.—*Hand Brushing and Polishing Apparatus.*—September 22, 1868.—The apparatus is designed to operate automatically, thereby dispensing with power, as ordinarily applied in similar devices.

Claim.—1. So arranging the coiled spring and the system of gearing within the cylindrical body furnished with axial handles, as to secure the rotatory movement of such body, substantially as herein set forth.

2. The arrangement of the friction brake within the cylindrical body furnished with axial handles, whereby the rotatory movement of the same may be stopped, substantially as herein set forth.

3. The arrangement of the coiled spring, the system of gearing, the stem of the handle A*, and the frame A, with reference to each other and the friction pinion *m*, dividing the cylindrical body B, substantially as and for the purpose specified.

82,466.—William Wilmington, Toledo, Ohio.—*Car Wheel.*—September 22, 1868.

Claim.—1. The within described method of casting car wheels of two qualities of iron, that is to say, one of said qualities of iron being poured into the portion of the mold designed to form the hub of the wheel, and the other being poured into that portion of the mold designed to form the rim of the wheel, the two currents of iron meeting within the mold, and there acting upon and mingling with each other, substantially as set forth.

2. As an improved manufacture, a car wheel produced of two qualities of molten iron, by the method herein set forth.

82,467.—Charles A. Wilson, Cincinnati, Ohio.—*Oil Globe for Steam Chest.*—September 22, 1868.—The hub is traversed by a cock pierced with two apertures passing at angles through the axis of the same, and provided with a recess, and an axial channel communicating with the interior of the hub, all so constructed and arranged as to enable one cock to perform the usual functions of three.

Claim.—The arrangement, as described, of the globe A, hub C, cock E, apertures F G, recess H, channel I *i*, passages J *j*, K, L *l*, and the channel P, as herein explained.

82,468.—James P. Wilson, Elmwood, Ill., assignor to himself and V. R. Dafoe, same place.—*Composition for Destroying Insects on Potato Plants.*—September 22, 1868.—Composed of Paris green and mineral paint.

Claim.—A powder, prepared of the materials and in the manner specified, to be used for the destruction of potato bugs.

82,469.—James Wood, Utica, N. Y.—*Whiffletree Hook.*—September 22, 1868.—Designed to dispense with a spring in fastening the trace.

Claim.—The cap B, with the hook B′ cast or attached to it, both shaped and constructed as herein shown, and secured to the whiffletree in the manner and for the purposes herein set forth and described.

82,470.—Oliver W. Yale, Hartford, Conn.—*Making Nuts.*—September 22, 1868.—The blank nut is punched through the die into the channel below, the feed bar pushing it down under the die which chamfers its upper edge, while another feed bar, as the chamfer die rises, pushes the blank under the round punch and between die bars or edge swages, and a hole being punched through its center, and its sides formed, its top is flattened by being pushed under the flattener.

Claim.—1. The arrangement of the cams *c c'*, cam grooves T T, and crank shaft C, with the cross head D, levers U P S, and toggles R R, in the manner described.

2. The arrangement on the anvil L of the stationary die K, slides M O, edge swages 2 2, and stripper U, in the manner described and for the purpose set forth.

3. The combination of the punches and face swages with the edge swages, the transferers and the anvil block, all constructed, arranged, and operated substantially as described.

82,471.—George Clark, Jr., Boston, Mass.—*Apparatus for Extinguishing Fire.*—September 22, 1868.—The tank has three compartments, two of which, for chemical solutions, are larger than the other, which contains the pump for ejecting the gas and communicates with both of the former, the main water pump being in a second tank with a suction pipe, and thus the water from the pump passes into the chemical solution chambers and is impregnated and discharged.

Claim.—The combination and arrangement of the water tank C, the compartments G and H, and the pumps J and K, (the latter being disposed within the intermediate compartments I, and both being connected with the air chamber,) the pipes *a a* and *c d*, in addition to the ordinary feed and discharge pipes of the pump.

82,472.—Alfred Sully, United States Army.—*Army Wagon.*—September 22, 1868.—Designed for the use of foot soldiers on the plains, and so constructed that the men can quickly jump off the seats when attacked and spring back again at once.

Claim.—1. The body, C, constructed as described, and provided with seats F F F and E, receptacle L, and railing M, all substantially as and for the purposes herein set forth.

2. In combination with the seats F F F, the hinged dash boards G G G and foot boards H H H, substantially as and for the purposes herein set forth.

3. In a wagon provided with suitable seats and foot boards, the employment of sectional tent pieces I I I, substantially as and for the purposes herein set forth.

4. The combination of the body C seats F F F and E, railing M, receptacle L, dash boards G G G, foot boards H H H, and folding tent pieces I I I, all as herein shown and described.

82,473.—H. W. Olney, R. R. Logan, and J. H. Fisher, Alleghany City, Pa.—*Lock Nut and Tightener.*—September 22, 1868.—A spring with one end inserted into a hole in the nut, is coiled around it and then passing around a screw is fastened to the plate.

Claim.—The nut lock and tightener above described, consisting essentially of the coiled spring M, bent and attached to the nut and the part C', in the manner shown, and operating in connection with a screw, *d*, substantially as described.

82,474.—John W. Acker, Copenhagen, N. Y.—*Horse Rake.*—September 29, 1868.—The handle is drawn back to remove the foot frame from the teeth, and pushed forward again to take hold of the teeth when the rake load has been discharged.

Claim.—The foot frame J, when its operating handle L is adapted to slide in slots formed in the ends of the bars G, as herein described, for the purpose specified.

82,475.—Robert Allison, Port Carbon, Pa.—*Pumping Engine.*—September 29, 1868.—The object is to avoid the destructive jar due to concussions in engines employed for raising water from deep mines, &c. A supplemental steam chest and auxiliary cylinders and pistons are provided with a liquid regulating cylinder, whereby the piston of the engine is cushioned on steam at the terminus of each stroke.

Claim.—1. The arrangement of the sliding bar L, cam slot *q*, rods *n n*, and bell crank R, whereby the supplementary valve *k*, is operated, substantially as shown and described.

2. The valve chambers J', valves K', and reversed stuffing boxes *h'*, arranged substantially as shown and described for the purposes set forth.

3. The arrangement of the piston *w*, graduating cock *y*, and cylinder V, with reference to the rod E, pistons G G, and main valve C, as herein shown and described.

82,476.—Daniel Armstrong, Chicago, Ill.—*Machine for Pointing Horse-shoe Nails.*—September 29, 1868.—The die is made in two parts with an opening for the point of the nail. The dies are cleaned by means of a cam arranged to operate on top of the die and a lever on the bottom.

Claim.—1. The die cleaner V X, pivoted to the plate A, and operated by the cam K, in combination with the two-part die O O, as and for the purpose specified.

2. The combination of the die cleaner V X, die O O, guides *n*, and punch H, substantially as described and shown.

82,477.—George Babson and John L. Babson, Rockport, Mass.—*Weighing Apparatus.*—September 29, 1868; antedated September 17, 1868.—A bent weighted lever, pivoted to the scale-pan supporter, is provided with a segmental rack which engages with a pinion actuating the index pointer. The lower end of the scale supporter has an arm attached to it to keep the supporter in a vertical position when weighing.

Claim.—The improved arrangement of the scale-pan rod C, the arms *b* and *f*, and the pendulum B, combined with the curved rack *h*, employed with the pinion *i*, and its dial conductor *m*, the whole being substantially as described.

82,478.—H. D. Ballard, Findlay, Ohio, assignor to himself and Isaac Bonham, same place.—*Surgical Splint.*—September 29, 1868.—The splint is made in two parts joined together to be adjustable in a longitudinal direction and provided with springs to keep the parts extended.

Claim.—The improved splint, composed of the parts A and A', provided with the spring-extension joint and with the adhesive straps, all substantially as and for the purpose described.

82,479.—G. H. Baxter, Geneseo, Ill.—*Compound for Cleaning Silverware, Jewelry, &c.*—September 29, 1868.—Composed of borax, sulphate of soda, sulphate of copper, common salt, cyanuret of potassium, alcohol, and aromatic spirits of ammonia mixed with water.

Claim.—The above-described "Yeoman's Magnetic Renewer and Cleanser," composed and operating substantially as and for the purposes set forth.

82,480.—Edward C. Blakeslee, Waterbury, Conn., assignor to Benedict and Burnham Manufacturing Company, same place.—*Lamp Burner.* September 29, 1868.—A cone perforated at its upper part has resting on it a bulb provided with a slot which is wider than the wick tube. The ascending flame is spread by the curved surface of the bulb, and a wide and steady flame is produced.

Claim.—Combining with a perforated base, provided with the vertical strips of metal F and cone C, the bulb E and wick tube B, when the same shall be constructed and arranged to operate substantially as shown, and for the purposes indicated.

82,481.—Eliphalet W. Bliss, Brooklyn, N. Y., assignor to Charles Pratt, of New York City.—*Machine for Bending the Tops and Bottoms of the Bodies of Tin Cans.*—September 29, 1868.—A pyramidal cam working in guides receives a vertical motion by means of a treadle. Four clamping jaws are moved forward, when the treadle is depressed, by levers which bear against the cam. The can is held down by means of a cap connecting with the treadle.

Claim.—1. The square or pyramidal cam slide, in combination with the rigid central guide, the cam levers, and the four clamping jaws, substantially as set forth.

2. The combination of the cam slide with the swinging levers M and treadle L, substantially as set forth.

3. The arrangement and combination of the cap O, lever P, connecting rod R, and treadle S, substantially as described.

82,482.—Hannibal S. Blood, Jefferson, La.—*Seat for Railway Car.*—September 29, 1868.—By means of a slotted bar with double-slotted cross arms the back of the seat can be raised, set at various angles, or laid back horizontally to form a sleeping couch.

Claim.—The slotted bar B, when provided with the double-slotted cross arm C, in combination with the socket pieces D and the pins *a*, when these several parts are constructed, arranged, and operate substantially as herein described for the purpose set forth.

82,483.—W. D. Bollinger, Cedar Rapids, Iowa.—*Axle for Carriages.*—September 29, 1868.

Claim.—Axles for wagons, cars, and other carriages, made in two parts, at A and B, and connected together, substantially as and for the purpose described.

82,484.—T. J. Booth, Jefferson Line, Pa.—*Stump Extractor.*—September 29, 1868.—The forward ends of each base beam have a clevis provided with a roller pivoted thereto, so that when the machine is drawn to another location the clevises are turned in their pivot bolts to bring the rollers under the base beams.

Claim.—1. The combination, in a stump-extracting machine, of a trestle frame, constructed as described, with the tackle, drum, and sweep bar, when arranged and operating substantially as shown and described.

2. The coupling clutch *r r*, and its accessory mechanism, when arranged to operate substantially as described, in combination with the drum, tackle, sweep bar, and trestle frame, all as set forth.

3. The clevises *m*, rollers *n*, and hooks *p* and *o*, substantially as described, in combination with the stump extractor above described, for the purpose set forth.

82,485.—William D. Brooks, Bethany, Pa.—*Horse Hay Fork.*—September 29, 1868.—Two cutters are sharpened at one end and pivoted at the other, and are attached to two bars, which latter on being raised open out the cutters to take hold of the hay. The bars are held, when raised, by a slotted lever pivoted within the ring to which the rope is secured.

Claim.—The beveled lever E, pivoted in the ring F, and slotted at *e*, to engage with the projections *d* upon the levers D, its forward end slotted to work upon the rib *f*, in the inner side of the ring F, said lever E adapted to be raised to receive the levers D, by means of the angular lever G, also pivoted in the ring F, as herein described for the purpose specified.

82,486.—James D. Bryson, New Castle, Pa.—*Casing for Water Wheel.*—September 29, 1868.—A curb provided with apertures for the passage of water is provided at its lower edge with an external flange and also with guides passing through the apertures tangentially to the curb and supporter ring eccentric to the curb. Between the ring and curb is passed a circular gate having a rotary and vertical motion.

Claim.—A casing for water wheels, consisting of the curb A, the flange B, the ring B′, supported upon the guide plates C, and the gate D, all constructed and arranged to operate substantially as described.

82,487.—Henry T. Buffington, Jr., Buffalo, N. Y.—*Fagot for Beam.*—September 29, 1868.—The web of sectional plates divides the flange pieces, the spaces between which latter are filled by longitudinal side-binding plates. The cross-plates are furnished with T-heads at each end which hold the flanges against the side plates.

Claim.—1. The sectional web plates A, arranged with their fibers running transversely through the pile, in combination with the longitudinal side-binding plates B, as and for the purpose set forth.

2. The cross-clamp plates, provided with the T-heads E, in combination with the flange pieces C and side-binding plates B, as and for the purpose set forth.

82,488.—Jacob Bührer, Munich, Bavaria.—*Drying and Burning Kiln.*—September 29, 1868; patented in England, February 28, 1867.—The hot air escaping from the kiln is used for drying the brick in drying compartments similar in construction to those of the kiln.

Claim.—A drying kiln, as shown, consisting of a series of compartments placed back to back in a double row, and provided with the openings *g*, hot-air supply and escape flues *a*, *b*, *c*, *d*, *e*, and *f*, and communicating apertures *m* and *n*, in combination with a burning oven, also consisting of a number of compartments similarly disposed to those of the kiln, and provided with the openings *d′* and *e′ e′*, all the parts being constructed and arranged as and for the purposes herein set forth.

82,489.—William G. Bunker, Portage, Wis.—*Trace Buckle.*—September 29, 1868.—The tongue is secured rigidly to a slotted sliding plate, which is secured to a cross-plate on the frame by a stud sliding in said slot. The trace is not bent when adjusted in the buckle.

Claim.—The buckle, consisting of the frame A, having the cross-plate *a*, with the sliding plate B secured thereto by the slot and pin *b*, and having the rigid tongue C, all constructed and arranged as herein described.

82,490.—Thomas Cartwright, Davenport, Iowa.—*Fish Net.*—September 29, 1868.—The net is secured to transverse bars by bow cords in such a manner that it may be set or raised in a tide way.

Claim.—The application of the fyke or net E D C to the boat in the manner described, that is to say, by means of the bow cords *d*, attached to the transverse bars *c*, and the stern cord *e*, attached to the bag C, as herein set forth and shown.

82,491.—Frederic Chase, Philadelphia, Pa.—*Zinking or Tinning Bath.*—September 29, 1868.—The sides of the vessel are of fire-clay, molded into the form of staves, which are tongued and grooved and bound together by bands.

Claim.—1. A zinking or tinning bath or vessel, constructed bodily of fire-clay, or its equivalent earthy substance, substantially as described.

2. Constructing a zinking or tinning bath of fire-clay, or its equivalent, substantially in the manner set forth and described.

82,492.—Peter Clark, Brooklyn, N. Y.—*Brick Machine.*—September 29, 1868; antedated September 24, 1868.

Claim.—1. The combination, in a machine for making bricks, of an endless chain of molds A, having detachable sliding bottoms *a*, with a suitable pug mill, C, and with compressing and discharging plungers E F, while said sliding bottoms are successively transferred from the charged molds to those last emptied, to open the one and close the other, all substantially in the manner and for the purpose herein set forth.

2. The improved mold frames A, provided with and closed by sliding bottoms *a*, and combined in an endless chain, substantially in the manner and for the purpose herein set forth.

3. The sliding racks *s s*, operated by toothed sectors R, and arranged to engage with and transfer the detachable bottoms *a* of the mold frames A from charged molds to those last emptied, substantially in the manner and for the purpose herein set forth.

4. The combination of a swinging connecting beam J, links *e*, and weighted pawls *f f*, with ratchets S S on the polygonal wheels B B, and the

endless chain of molds A A, arranged and operating substantially as and for the purpose herein described.

82,493.—Adam Collignon, Closter, N. J., assignor to himself, C. O. Collignon, and Nicholas Collignon, same place.—*Folding Chair.*—September 29, 1868.—The parts of the chair are so hinged together as to fold up for convenience in transportation and storage.

Claim.—The parts A, B, D, and F, constructed, arranged, and combined substantially as shown and described, for the purposes set forth.

82,494.—Claudius O. Collignon and Nicholas Collignon, Closter, N. J.—*Folding Chair.*—September 29, 1868.—A brace is so arranged that, while it acts as a back to the chair, it serves as a supporter to the front part of the seat.

Claim.—The combination and arrangement of the stand A, seat B, back leg C, and brace E, constructed substantially as described, and for the purposes set forth.

82,495.—William R. Cranna, San Francisco, Cal.—*Lamp Burner.*—September 29, 1868.—The objects are to prevent the transmission of heat to the base of the burner and to isolate the base of the wick tube from those parts of the burner which are in close proximity to the flame.

Claim.—1. The combination, with the base of the burner and its shortened wick tube, and the elevated deflector, of a combined air flue and wick holder, with openings I, as described, and sleeve or cap J supported upon the upper part of said flue and wick holder, substantially as and for the purposes specified.

2. The combination, with the combined air flue and wick holder, and the sleeve or cap J, of the perforated casing or jacket by which the same are surrounded, as and for the purposes set forth.

3. The method of attaching the deflector, and of securing it in position, by means of arms *a* fitted into sockets formed on the burner for their reception, in the manner described.

82,496.—George Crouch, New York, N. Y.—*Trunk.*—September 29, 1868.—In the center of the tray is an apartment (for a hat) having a door which is provided on the inside with a cap piece on which the hat is secured by means of elastic bands. A door is also provided on the back of the tray.

Claim.—1. The combination with a trunk, A, of a hat or bonnet apartment, constructed as described, and located in the tray C centrally, as shown, for the purposes set forth.

2. Giving access to the same, either from the bottom or top of the tray C, as shown.

82,497.—John J. Currier, Gloucester, Mass.—*Chimney Cowl.*—September 29, 1868.—The frusta of the cones are so arranged with respect to the cover and tube that whatever may be the direction of the wind no reversal of the upward current of the smoke can take place.

Claim.—The combination, as well as the arrangement, of the three frusta B C D, the cover E, and the tube A, the whole being connected so as to operate substantially as described.

82,498.—Job A. Davis, Watertown, N. Y.—*Automatic Boiler Feeder.*—September 29, 1868.—A tank, placed above the water line of the boiler, has a supply pipe and is connected to the boiler by two pipes; all of the pipes are provided with suitable valves, so arranged that when, by means of suitable mechanism, the supply-pipe valve is closed, the valves in the pipes connecting with the boiler are opened and the water in the tank flows into the boiler by force of gravity.

Claim.—1. The combination and arrangement of the water-supply tank D, the valve pipes E and F, and inlet tube G, with the valves *a*, *b*, and *c*, substantially as described.

2. The arrangement of the rod *e*, and connection arms *f f f*, for simultaneously operating the several valves connected with the supply tank D, substantially as set forth.

82,499.—Job A. Davis, Watertown, N. Y.—*Shuttle for Sewing Machine.*—September 29, 1868.—A spring is placed in the bottom of the shuttle underneath and resting against the thread in the bobbin, for the purpose of securing a uniform tension of the thread.

Claim.—The combination, with the shuttle and its bobbin, of the spring C, constructed as described, fitted loosely in the shuttle case, and adjustable by a screw, for the purpose set forth.

82,500.—Christian Deyhle, Hartford, Conn.—*Saw Set.*—September 29, 1868.—A pivoted standard, regulated in position by a screw and spring, has sliding on it a movable rest on which the saw holders are placed. The supporter for the saw is bent at the top in the form of three chords of arcs of the same circle, and is adjustable vertically.

Claim.—1. The combination and arrangement of rack *b b*, screw *d*, and spring *y*, when used for the purpose of adjusting the inclination of rack *b b*, as described.

2. The supporter *o o*.

3. The saw holders *k* and *l*, when used in combination with rack *b b* and supporter *o*, for the purpose set forth.

82,501.—William Dobson, Medina, N. Y.—assignor to himself and John W. Mount, same place.—*Scroll Saw.*—September 29, 1868.—The saw below the table is run between two guide pieces, to prevent its doubling up when run at a high velocity. The saw is attached to the cross-head by means of a very thin loop of iron, so as to travel in the space between the guides with the saw.

Claim.—A sheet-iron or other saw-holding loop, *c*, made very narrow laterally, and with the saw B, run between guides F, below the table A, substantially as herein shown and for the purpose described.

82,502.—Pierre Antoine Joseph Dujardin, Lille, France.—*Electro-magnetic Printing Telegraph.*—September 29, 1868.—One wheel prints letters, and the other figures; both rock upon the same axis, so that either may be readily brought opposite to the paper strip. The inking tube is filled with cotton impregnated with ink, which by the action of a piston is made to ooze through a velvet pad. The tube is set by a screw, so that the nap only of the pad can touch the wheels.

Claim.—1. In a printing telegraph, the construction and application of cross type wheels, oscillating on their common axis, and the mechanical means described, or other equivalents to produce their oscillating motions.

2. The construction and application of the adjustable inking plug, in combination with the double printing wheels, substantially as described.

82,503.—Albert Friedrich Eckhardt, Hamburg, Germany.—*System of Seeding and Manuring.*—September 29, 1868.—The grain is moistened with a solution of potash and water at each coating, of the following substances: bone dust, ashes powdered lime, sulphur, sulphate of magnesia, powdered plaster, and sulphate of lime; it is then dried and moistened with a solution of ammonia, and plaster again applied.

Claim.—The covering of artificially manured seed of all kinds with a case or capsule, insoluble in water, as herein described, using for that purpose the aforesaid process and compound, or any other substantially the same, and which will produce the intended effect.

82,504.—James H. Estes, Boston, Mass.—*Miter Machine.*—September 29, 1868; antedated September, 16, 1868.—A hinged frame is provided with slots for the passage of the saw, and with a plane rest by which the bevel sawn is dressed with the plane.

Claim.—The hinged frame C, provided with slots N for the passage of the saw, and with a plane rest, M, by which the bevel is not only sawed with a saw, but afterward dressed with a plane, all constructed to operate substantially as described.

82,505.—Charles A. Fisher, Geneseo, Ill.—*Hay Knife.*—September 29, 1868.—At the upper end of a shank secured to the blade is a socket which receives the handle, the latter being bent to protect the hand of the operator from the hay.

Claim.—The socket D, the wooden handle C, the bend C′, and the blade A, when the same are formed and combined substantially as shown and described, for the purposes set forth.

82,506.—W. P. Winkley, Des Moines, Iowa.—*Composition for Fire Kindling.*—September 29, 1868.

Claim.—The composition of resin, pitch, charcoal, and bituminous coal, in the proportions and manner substantially as herein described, as a new article of "kindling."

82,507.—Thomas E. Wood, Knoxville, Pa.—*Elastic Roofing Composition.*—September 29, 1868.—Composed of asphaltum, gas tar, clean sand, plaster, and common paint.

Claim.—The elastic roofing composition, made of the ingredients and in the proportions herein specified, compounded and applied in the manner set forth.

82,508.—Isaac France, Peru, Ind.—*Apparatus for Jointing Circular Saws.*—September 29, 1868.—One end of a strip of wood fits over the saw mandrel; the other end projects beyond the cutting points of the teeth and supports a slide to which a file is secured, said slide being arranged to force the file against the teeth.

Claim.—The slide support A, arranged to be connected to the saw mandrel, and provided with the support F and slides D and E, substantially as and for the purpose set forth.

82,509.—William A. Garloch and William D. Richards, Belpre, Ohio.—*Ice-cream Freezer.*—September 29, 1868.

Claim.—The sleeve K, secured to the cover of the inner case, and having formed upon its upper end the pinion J, said sleeve being supported in position to operate the inner case by the continuous dasher shaft only, as herein shown and described.

82,510.—B. L. Gaylord, Terryville, Conn.—*Carriage Spring.*—September 29, 1868.—The bolt to which the spring bars are secured is arranged to turn in the clips which are fastened to the axle.

Claim.—1. A spring for wheel vehicles, composed of two bars, bent so as to diverge from each other, from and their central parts outward toward each end, at the same time have a longitudinal, curved, and twisted or torsal form, substantially as shown and described.

2. The attaching of the ends of the springs to the bolster and axle of the vehicle, by means of the swivel clips F, constructed substantially as shown and described.

82,511.—William Gilbert, Detroit, Mich.—*Brick Kiln.*—September 29, 1868.—Furnaces are arranged on each side of a chamber, in which latter are rails for the carriages loaded with brick. Doors are provided at each end of the kiln, so that when the brick on one carriage is burned the doors are raised and a carriage of unburned brick is pushed against the others in the kiln, thus forcing out the carriage at the other end.

Claim.—A progressive burning and cooling kiln, composed of the furnace C and cooling room J, inclosed and separated by the vertically-sliding gates G G′ G″, and furnished with the inclined track *a b*, the fireplaces E, on either side the furnace, and the chimney H, all arranged with relation to each other, and operating substantially as and for the purposes herein set forth.

82,512.—Jacob Ginther, Mier, Ill., assignor to himself, William Friend, and William Seibert, same place.—*Combined Roller and Harrow.*—September 29, 1868.—The devices are so arranged as to be used as a harrow, or as a roller alone.

Claim.—The combination of the lever J, connecting rod K, elbow lever H, and connecting rod I, with the roller frame A and harrow frame E, substantially as herein shown and described, and for the purpose set forth.

82,513.—John Goodin, Centralia, Ill.—*Wrench.*—September 29, 1868.—A cam wheel provided with ratchet teeth on a part of its periphery into which a pawl held by a spring engages is used for tightening the jaws of the wrench.

Claim.—The arrangement of the notched cam wheel F, pawl *d*, spring *e*, for the purpose of adjusting the movable jaw on a monkey wrench, constructed and operating substantially as herein set forth.

82,514.—Thomas Goodrum, Providence, R. I.—*Caliper.*—September 29, 1868; antedated September 16, 1868.—A tapering thumb screw is pivoted in the leg of the caliper, and is held against the ratchet threads by a spring, so that the screw can be disengaged from the rack for adjusting the calipers.

Claim.—The rod A, in connection with B, and as fitted to its seat, substantially as described and for the purpose as set forth.

82,515.—William B. Goodwin, Effingham, Ill.—*Corn Planter.*—September 29, 1868.—A crank, acting against projections on the rod to which the dropper slides are secured, gives a reciprocating motion to the slides, which latter are provided with apertures, acting alternately, as pockets for measuring the grain. A plate placed in the bottom of the hopper prevents the seed from flowing continuously. Marking rods are actuated by the crank which operates the slides.

Claim.—1. The combination, with a corn-planting machine, of the marking rods d^6, substantially as and for the purpose described.

2. Operating the markers d^6, from the crank shaft d^2, by means of the connecting rods d^3, rocker arm d^4, substantially as and for the purpose described.

3. Operating the dropper slide by means of the crank shaft d^2 acting on the cam projections *g g*, substantially as and for the purpose described.

4. The arrangement of the hopper E, plate *f*, perforated ends of the dropper arm d^5, and the tubular plows, substantially as and for the purpose described.

82,516.—James Granger, Zanesville, Ohio.—*Propelling Apparatus.*—September 29, 1868.—A traveling bridge supports the chain and prevents it from sagging.

Claim.—The traveling bridge A, constructed substantially as shown and described, in combination with a chain propelling wheel, and for the purposes set forth.

82,517.—B. F. Gross, Trenton, Tenn.—*Tanning Compound.*—September 29, 1868.—Composed of sal soda, alum, glauber salts, saltpeter, sal ammonia, salt, starch, oil of vitriol, sumac, bark liquor or liquor of japonica.

Claim.—The tanning compound composed of the ingredients named above, and in about the proportions given, substantially as and for the purposes set forth.

82,518.—Allin Hackett, Pittsfield, Me.—*Saw Mill.*—September 29, 1868.—The lever which moves the knee is provided with pawls so arranged as to hold the knee rigidly when once set. An upright attached to the knee rack has an index wheel secured to a pinion, which latter engages with pins on the side of the head block.

Claim.—1. The gauge device, constructed, as described, of the plate S, bearing the roller P, and jointed at *m* to the plate R, which is operated in a recess of the graduated part U by means of the feed screw *o* and hand wheel *n*, all arranged and operating as described for the purpose specified.

2. The described arrangement of the setting-up mechanism upon the head block, consisting of the sliding block *o*, rack *c*, standards L M, pointer *h*, indicator wheel *d*, having the toothed part *e*, the pins *e′*, lever K, bearing the pawls *a b*, the standard I, and slotted notched bar J, all operating as described, for the purpose specified.

82,519.—François Haeck, Brussels, Belgium. *Apparatus for Distilling Spirits.*—September 29, 1868; antedated September 16, 1868.—A condensing dish is arranged below the top of the still over the channels, for freeing the vapor of water and returning it to the evaporating channels.

Claim.—1. A still, having a continuous action, by causing the liquid to flow through a series of channels successively, in such manner that the incoming liquid is restrained from mixing with the outgoing, and so that, in its passage through the still, the evaporation is produced by its travel over steam pipes having independent inlets and outlets, so as to establish an equality, or thereabouts, of heating action throughout the several channels of the still, substantially as specified.

2. The combination, with the channels of the still, and arrangement over them, substantially as described, of the condensing plate, surface or vessel T, essentially as and for the purpose or purposes herein set forth.

82,520.—J. R. Hall, Salem, Ohio.—*Steam Slide Valve.*—September 29, 1868.—An arrangement of devices to obviate the inequality of friction in ordinary balance valves due to the full pressure when the parts are open for the steam, and no pressure when exhausting.

Claim.—The arrangement of the valve D, with its chambers $b\ b^1\ b^2$, the recessed followers $e\ e^1\ e^2$, and the pistons $d\ d^1\ d^2$, with the central passages $h\ h^1\ h^2$, and the passages $a^1\ a^2\ a^3$, whereby to balance the pressure of steam upon the valve, substantially as herein set forth.

82,521.—William M. Hamilton, Wenona, Ill.—*Bed Bottom.*—September 29, 1868.—The straps are fastened to the slats and are provided with rings which slide on standards fastened to the bearing pieces. Diagonal braces are fastened to the ends of the slats and to the under side of the bearing pieces.

Claim.—1. The straps D, having rings V V at their ends, in combination with the standards I, slats H, and diagonal braces *c c*, substantially as set forth.

2. The standards I I′, plates J J, springs C, slats H, straps D, rings V V, and braces *c* and E, as and for the purpose specified.

82,522.—John Harlin, New York, N. Y.—*Lubricator.*—September 29, 1868.—The plug has a shoulder against which a collar with packing interposed fits and is held by a cap screwed to the socket in which the plug is placed.

Claim.—In combination with the plug C of the lubricator, said plug having parallel apertures *d e*, the packing *h*, collar *g*, and screw cap D, arranged as described for the purpose specified.

82,523.—David R. P. Hill, Morgantown, W. Va.—*Paint Oil.*—September 29, 1868.—Composed of pulverized resin, sugar of lead, and sulphate of zinc, boiled with petroleum oil and then mixed with lime and linseed oil.

Claim.—An improved paint oil, prepared of the ingredients, in the proportions and manner substantially as herein described and set forth.

82,524.—Andrew J. Holt, Peru, Ind.—*Seed Planter.*—September 29, 1868.—Inclined planes on the wheel produce a lateral movement of the dropping bar. Adjustable markers are placed at regular distances on the side of the wheel to indent the ground where the grain is deposited. A rod attached to the frame is made to fit in holes on the periphery of the wheel to stop the latter at pleasure.

Claim.—1. The hinged lever E G, for moving the horizontal dropping bar D, and its mode of disconnection with the wheel B.

2. In combination with the above-named devices, the mode of applying and using the inclined planes J J, so as to produce the lateral alternate movement of the dropping bar D, through the medium of the lever E G.

3. The adjustable markers K K, for the purpose of showing the point where the grain is deposited; and

4. The application of the rod M. for arresting the revolution of the wheel B at the point of dropping.

82,525.—Maurice Hermann, Jacobi and Eugene Klein, St. Petersburg, Russia, assignors to Green, Clay and Company.—*Galvano-plastic Process for Precipitating Iron on Molds, &c.*—September 29, 1868.—The bath is composed of sulphate of iron, combined with either of the sulphates of ammonia, potash, or soda; gelatine is added to improve the texture of the iron deposit; anodes combined with copper, &c., are used for keeping up the concentration of the bath. The molds are covered with a thin film of copper.

Claim.—The process of precipitating iron on molds, in the manner substantially as and for the purposes herein set forth.

82,526.—Augustus Jennings and Isaac Jennings, Fairfield, Conn.—*Paper Pail, &c.*—September 29, 1868.

Claim.—Securing the bottom or head B, formed with an outwardly-projecting flange, to the body A of the vessel, by means of the metallic binding C, substantially in the manner herein shown and described.

82,527.—William H. Joeckel, New York, N. Y.—*Reversible Railway Chair.*—September 29, 1868.—When the back is swung over to reverse the front of the seat, the seat itself will swing slightly so as to be lowest near the back.

Claim.—The chair, consisting of the uprights A, pivoted seat B, swinging back C, and sliding bars D E, all made, combined, and operating substantially as herein shown and described.

82,528.—P. C. Johnson and Edwin Froggott, Central City, Colorado.—*Construction of Horseshoes.*—September 29, 1868.—The toe and heel calks are provided with projections which fit into recesses in the bottom of the shoe, and are held in place by means of screws.

Claim.—The arms *b d*, attached to or formed with the calks, and bent down into holes in the bottom or under side of the shoe, to form a locking device, in combination with the screws *a*, substantially as shown and described

82,529.—Joseph A. Jones, Baltimore, Md., assignor to himself and John Donaldson, same place.—*Roofing Compound.*—September 29, 1868.—Composed of coal tar, paraffine varnish, pulverized iron ore, and ground slate.

Claim.—A compound, consisting of the ingredients mentioned, and applied to roofs, substantially as and for the purposes herein set forth.

82,530.—J. Blackburn Jones, Sparta, Ill.—*Carriage Wheel.*—September 29, 1868.

Claim.—The metallic hub A, provided with a dovetail recess, *a*, extending circumferentially around it in connection with the wooden spokes B, with metal sockets at their lower ends, and provided at their inner ends with dovetail tenons *d* fitted in the hub, substantially as shown and described.

82,531.—Sam'l W. Jones, Bluffton, Ind.—*Corn Planter.*—September 29, 1868.—The lower end of the spout is provided with a spring connected with a bent lever, which latter also operates the slide, so that when the slide is placed in position to discharge the seed, the spring is pulled back and the seed is allowed to drop into the ground.

Claim.—The slide C, fitted in the seed box or hopper D, and passing through the staff A, in combination with the bent lever E, connected with the slide C, the lever B, and the lower spring or elastic part *f* of the spout F, all arranged to operate substantially as and for the purpose herein shown and described.

82,532.—Frank Kaiser, Buffalo, N. Y.—*Grinding Mill.*—September 29, 1868.—The grain falls from a hopper, which is provided with a suspended and oscillating bottom, between a serrated drum and a corrugated curved plate, this plate being adjusted by means of set screws having notched heads into which a pawl fits. An inclined sieve below the drum is oscillated by means of a rock shaft.

Claim.—The construction and arrangement of the serrated drum B, adjustable curved plate C, set screws $c^1\ c^1$, with notched heads and pawls, *d*, the hopper E, oscillating suspended bottom, F, slotted arm h^2, spout a^2, inclined sieve J, and rock shaft K, substantially as described for the purpose specified.

82,533.—William S. Lane, Beaver Dam, N. Y. —*Sheep-shearing Device.*—September 29, 1868.

Claim.—A trough for shearing sheep, in combination with a frame, so arranged that it may be adjusted by the foot to suit the operator, and substantially in the manner herein shown and described.

82,534.—Victor Langlois, Cherbourg Dock-Yard, France. — *Steam Generator.* — September 29, 1868.—One end of a tube fits into a ring which is screwed into the end plate. The other end of the tube fits into the end of a cap, which latter is properly packed to prevent the escape of steam.

Claim.—1. The construction and arrangement of the tubes *a*, having the threaded ends *b*, and external caps *c*, the lead packing *f*, rings A, and plates P P′, substantially as herein shown and described.

2. The various tools for effecting such work of the plates and tubes as I have described, and also for putting up and off the said movable tubes, substantially as described.

82,535.—Christopher Lidren, Fafayette, Ind., assignor to himself and R. Jackson, same place.—*Harvester.*—September 29, 1868.—When the machine is in motion, the ratchet-clutches are adjusted so as to connect the hubs of the wheels with the axle, and cause them to rotate together. The two cams acting against the rollers give a vibrating movement to the rock shaft, and communicate a reciprocating movement to the sickle.

Claim.—1. The combination of the hubs *b*, frame C, and clutches E, with the shipping lever Ex, all these parts being arranged and constructed as herein shown and described.

2. The arrangement of the two cams G G′, axle B, forked arm H, box I, rock shaft J, rollers Jx, and vibrating arm K, substantially as and for the purpose set forth.

3. The box I, attached to the arm H, and the rock shaft J, fitted therein, as shown, whereby proper adjustment may be made for the wear and tear of the rollers Jx, and the journals and boxes of the rock shaft, substantially as set forth.

4. Constructing the rollers Jx with oil chambers *n*, and providing them with exterior surfaces of leather *m*, or other suitable material, substantially as and for the purpose specified.

82,536.—Charles S. Locke, Watertown, assignor to John Hall, of same place, Rensellaer Tute, of Cambridge, and Samuel A. Brackett, of Boston, Mass.—*Toy Gun.*—September 29, 1868; antedated September 17, 1868.—An improvement on the patent of Charles S. Locke and John Hall, November 19, 1867. The magazine, having a slider and a spring to actuate it, is placed in rear of the barrel and partly over it, to force forward the ball into an oblique passage to the barrel, the discharge being effected by a helical spring, and an arm catch connected with the trigger driving forward the piston and ball through the barrel.

Claim.—1. In a toy spring pistol or gun, the arrangement of the magazine within the stock, and so as to project over and in rear of the barrel, and of the passage for conveying the balls from the magazine into the barrel, the whole being as represented.

2. The arrangement of the passage *c*, inclining, with respect to the barrel and to the magazine, as and for the purpose specified.

3. The trigger catch, as made with the ball-receiving and retracting recess, or its equivalent.

4. The combination of the mechanism for advancing the balls in the magazine, with such magazine, the barrel and the mechanism for effecting the expulsion of the balls from the latter, as specified.

5. The combination of the sliding cover *f′* and the sight *g* with the passage *c*, opening out of the barrel, and disposed with respect to it and the magazine as specified.

6. The combination or mechanism for retracting and releasing the piston in order that it may be advanced by its spring, such mechanism consisting not only of the peculiar lever trigger catch and trigger combined, and provided with a stud or studs, as described, but of the tube B, or its equivalent, made with longitudinal and transverse slots, and provided with one or two inclined planes and a spring, the whole being arranged substantially in manner and so as to operate as specified.

82,537.—M. B. Markham, Grass Lake, Mich. —*Gate Fastening.*—September 29, 1868. — A three-armed bar is pivoted to the upper part of a bent bar attached to the front post, one of which arms is caught at its end and held by a spring catch on the gate; the other arm projects upward and serves as a handle.

Claim.—An improved gate fastening, formed by the combination of the pivoting arm or bar D, the three-armed bar E, and the spring catch F, with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

82,538.—John Marquis, San Francisco, Cal., assignor to himself and Ole Bergerson, same place. —*Steam-propeller Plow and Cultivator.*—September 29, 1868; antedated September 16, 1868.

Claim.—1. The construction and application of the cutters C C C in form similar to that of a screw, and having bits *b b b*, at the ends of the blades, substantially as described, for the purpose set forth.

2. The attachment of the said cutters or screws, in a diagonal manner, to the rear portion of the frame at such an angle as to overcome the side draft, and impart to the said cutters, in their rotation, a progressive tendency, substantially as described.

3. The bars or levers I I, for raising and lowering the frame and cutters, and employing the axle as a fulcrum for that purpose, substantially as described.

82,539.—Charles Martin, Chancery Lane, and William Barrett and Thomas Stammers Webb, Norton, England.—*Treatment and Reduction of Titaniferous Iron Ore.* — September 29, 1868. — The charge used is coke, ore, lime, and silicates of manganese, iron, alumina, lime or magnesia, either single or combined.. The purification of the slag from sulphur is effected by water, hydrochloric acid, nitric and solutions of chlorine.

Claim.— The methods of treating and reducing titaniferous iron ores for the manufacture of iron, and of applying the slag or cinder produced in such processes, substantially as hereinbefore described, and set forth, or any mere modifications thereof.

82,540.—N. L. Milburn, St. Louis, Mo.—*Elevator.*—September 29, 1868.—Two platforms are alternately raised and lowered in a frame, by an endless rope moved to and fro by power applied to a horizontal portion of the rope at the foot of the frame.

Claim.—1. The arrangement of the endless rope *h i*, with relation to the frame A, sheaves *k l*, pulley *g*, shaft *e*, drum *f*, and platforms *d*, whereby the former is applied in two directions to elevate and lower the platforms, as herein shown and described.

2. The described construction of the frame A, having the corner guides *a*, and central guide *b*, for the platforms, as herein shown and described, for the purpose specified.

82,541.—George Mohler, Yates City, Ill.—*Medical Compound.*—September 29, 1868.—Designed for the cure of diseases of the breast and lungs, and is composed of cannabis indica, extract of calabr. licorice, tincture cubebs, tincture of quassia, extract of sarsaparilla, and salts of tartar, dissolved in water.

Claim.—The compound above described, when composed and used substantially as and for the purposes herein set forth.

82,542.—James Beall Morrison, St. Louis, Mo.—*Operating Chair.*—September 29, 1868; patented in England December 7, 1867.

Claim.—1. The combination of a universal joint C, with slides *f* extending upward and downward from said joint, and provided with suitable grooves, in which suitable pieces *n*, fast to the body of an operating chair, are made to slide, constructed substantially in the manner and for the purpose described.

2. The application of a universal joint, E, constructed in the manner hereinbefore described, to the head rest of an operating chair, in combination

with the slotted bar 2, constructed and arranged and operating together in the manner substantially as specified.

3. A head rest, F, made with two cushions or head supporters 12 and 13, in combination with a universal joint, E, and slotted bar 2, arranged and operating in the manner substantially as set forth and specified.

4. The arrangement of the cruciformed frames *n*, attached to the body of the chair B, the slides *f*, attached to the universal joint C, in combination with the racks *p* and pinions *m*, for elevating and depressing the body of the chair, when constructed and combined in the manner and for the purpose substantially as described.

5. Arms D, provided with suitable pieces *v*, extending downward, and fitting between guide pieces *w*, fast on the sides of the chair, and provided with a pinching screw or other device, to fix the arms in any desired position, substantially in the manner and for the purpose described.

82,543.—EDGAR MURRAY, New York, N. Y.—*Skate.*—September 29, 1868.—A pair of clamps is sustained and made to slide in metal loops, on the under side of the sole plate, together with a center pin, connected with a sliding bar, and by which they are operated, acting in diagonal slots, the pin being supported and moving on a central loop receiving its head.

Claim.—The pin *i*, guided at one end by the bar or central loop *f*, and at the other end by the longitudinal slot 2, in combination with the clamps *e e* and sliding bar *g*, as and for the purposes set forth.

82,544.—C. J. O'HARA, New Orleans, La.—*Name Plate for Street Lamp.*—September 29, 1868.

Claim.—The mode herein described of marking or placing the names of streets upon street lamps, by means of a transverse supplemental "name plate" C, when the same is provided with an edge frame *b*, beveled ends, and oblate hooks *c c'*, and is applied or placed within the lamp, as herein described for the purpose set forth.

82,545.—JASON B. PAULEY, Tiskilwa, Ill., assignor to himself and FRANKLIN B. IVES.—*Tread-power Machine.*—September 29, 1868.—A spring, connected by a cord to an arm projecting from the treadle, aids in retracting the latter after its downward movement.

Claim.—The combined arrangement of the treadle M, arm M^2, connection O, spring N, and shaft I, substantially as and for the purpose described.

82,546.—WILLIAM H. PECKHAM, New York, N. Y.—*Finger Ring.*—September 29, 1868.

Claim.—As a new article of manufacture, a finger ring made of cast or rolled metal, with a grooved inner face, and with its edges slightly widened to form a bearing surface upon the finger, as herein shown and described.

82,547.—JOHN C. PEDRICK, Washington, D. C.—*Combined High and Low Pressure Steam Engine.*—September 29, 1868; antedated September 17, 1868.—The piston rod has two pistons working one at either side of the central diaphragm in the cylinder, the latter being open to the atmosphere at both ends. If high steam be used, and the exhaust pipe surrounded with cold water, the high steam will lift the flap valve, when the exhaust valve is opened, and pass out, while the attenuated steam will be condensed, giving the piston the advantage of a vacuum.

Claim.—The arrangement of the valves *i* and *j*, and pipe *k*, provided with the flap valve, with reference to the cylinder, as and for the purpose set forth.

82,548.—GEORGE W. PERRY, Shenandoah City, Pa.—*Steam Pumping Engine.*—September 29, 1868.—On a vertical arm, attached to the cross head and moving with it, is an adjustable frame provided with tappets, and from this movement, by means of two arms, two rock shafts operate the valves respectively, while the inclined surface of the frame, formed by a strap, in contact with the arms, closes the steam and exhaust ports, the stoppage being effected by means of a wheel which has two arms on one side, and one on the other connected with the plunger of the dash pot.

Claim.—1. The construction of the cam *p*, lug *o*, wheel *i*, arms *k l*, and tappets *c c'*, substantially as herein shown and described.

2. In combination with the cam *p*, lug *o*, wheel *i*, arms *k l*, and tappets *c c'*, the arms *f f'*, strap *h*, rod A, segments *v v'*, and plunger *r* of the dash pot, as herein shown and described.

82,549.—WILLIAM PLATT, Baltimore, Md.—*Shaft Bearer.*—September 29, 1868.—A metallic hook is buckled to the "billet strap" from the saddle, and has a central opening to receive the end of a strap which laps over the shaft and is buckled to the belly band.

Claim.—The shaft bearer A, provided with a means of attachment to the "billet strap," a hook for receiving the shaft, and a loop for the attachment of the securing strap D, substantially as described and represented.

82,550.—M. M. RAY, Ellsworth, Me.—*Boat Detaching Apparatus.*—September 29, 1868.—The tackle block has a metal strap to which is fixed a hook extension, the boat ring being held thereon by means of a lever having on its lower arm a rod, while a band encircles both lever and rod, and slides up and down on them, being moved by a rod connected with the block.

Claim.—The lever D, tine *d*, rod *b*, and extension C *c*, in combination with a tackle block, A, all substantially as shown and described, and for the purpose set forth.

82,551.—CHRISTOPHER READ, Jersey City, N. J.—*Key Hole Guard.*—September 29, 1868.—A sliding block is attached to a sliding plate, with which the tumbler engages, and when it is raised the block is thrown toward the key hole by a spring, closing it when the key is taken out.

Claim.—The tumbler *f*, the sliding block *g*, and the sliding plate *d*, in combination with a door lock, operating substantially as shown and described, for closing and unclosing the key hole, when the door is locked on the outside.

82,552.—JOHN J. REICHERTS, Delaware, Ohio.—*Corpse Preserver.*—September 29, 1868.—The two parts of the case are jointed together and are each connected with an ice box, and have perforated bottoms through which, and into empty spaces, the cold air passes and circulates in the part where the body is laid.

Claim.—A corpse preserver, constructed and arranged substantially as shown and described, that is to say, with the parts A and B, the ice box F, and either with or without the ice box G, the air spaces M, platform D, perforated false bottom L, with the double glass *p p*, the whole arranged and operating substantially as and for the purposes set forth.

82,553.—JOHN D. RICE, CYRUS B. RICE, LAWSON N. RICE, and ELISHA BRIGGS, Jr., Detroit, Mich.—*Combined Stalk Cutter and Husker.*—September 29, 1868.—The reciprocating scrapers are designed to clear the rollers.

Claim.—The reciprocating scrapers I, the connecting rods 8, the crank shaft Y, the pitman Z, and eccentric X, when operating and constructed substantially as and for the purposes set forth.

82,554.—J. W. RIST, Rochester, N. Y., assignor to himself and IRA A. HEBBARD, same place.—*Indicator for Knitting Machine.*—September 29, 1868; antedated September 16, 1868.

Claim.—1. The combination of the box or plate of a knitting machine indicator and its indicating hand, with a proportion table, substantially as described, to indicate the number of rounds to be knit, and the number of needles to be employed to form a knitted article of any desired form, size, and proportion.

2. In combination with the above, the adjustable pointer G, as and for the purposes set forth.

82,555.—J. W. RIST, Rochester, N. Y., assignor to himself and JOHN A. GUILE; said JOHN A. GUILE assignor to IRA A. HEBBARD, same place.—*Register* *for Knitting Machine.*—September 29, 1868; antedated September 24, 1868.—The stroke of the driving spring, connected with the ratchet wheel to which the clamping nut and its screw are fixed, is limited by the U-shaped guard, between the sides and arms of which a spur from the end of the spring projects.

Claim.—The arrangement of the driving spring or latch *b*, double stop *d*, and ratchet wheel W, in combination with the set nut E and screw *a*, substantially in the manner and for the purposes set forth.

82,556.—GEORGE J. ROBERTS, Dayton, Ohio.—*Cut-off for Steam Engine.*—September 29, 1868.—The valve seats are cast with the chest, the cut-off valves being lifted by a cam which operates on a slide attached to an arm on the shaft connected with the governor of the engine by an arm and rod.

Claim.—1. The valves D E and the seats C C, constructed as herein set forth.

2. The arrangement of the slide N, cam *m*, arm *o*, shaft P, arm *q*, and connecting rod R, as herein set forth.

82,557.—EDWARD SAVAGE, Chicago, Ill.—*Steam Cooking Apparatus.*—September 29, 1868.—Three chambers are arranged one above the other in such a manner that the steam is produced in one, superheated in the next, and acts on the vegetables or other articles in the third, pipes being connected therewith, for conducting the water and steam.

Claim.—1. The superheating chamber C, located at or near the bottom of the cooking apparatus, substantially as described.

2. The combination of the chamber A, water vessel B, and steam chamber C, connected by the pipes *d e f*, all arranged to operate substantially as and for the purpose set forth.

3. The combination of the coiled pipe *g*, superheating chamber C, water vessel B, and cooking chamber A, with the pipes *e*, *f*, and *d*, all arranged for joint operation, substantially as described.

82,558.—H. H. SEELEY, Hudson, Mich.—*Fanning Mill.*—September 29, 1868.—The wings, in two pieces, incline downward and are joined, the ends being higher than the center. The wind board is formed of two pieces which extend upward, with the ends lower than the center. The shoe consists of an upper and lower screen, the latter adjustable for different grain, and pivoted in the sides of the shoe, and the toll board below connected to and hung on the frame being also the shoe bottom.

Claim.—1. The wind board E, in combination with the wings D D, when constructed in a reverse manner from each other, all as herein shown and specified.

2. The adjustable screen H, pivoted in the sides of the shoe F, for the purpose of changing the same to suit any kind of grain, substantially as and for the purposes herein set forth.

3. The adjustable toll board I, constructed as described, and operating substantially as and for the purposes herein set forth.

82,559.—GEO. H. SELLERS, Phœnixville, Pa.—*Method of Making Eye Bolts or Links Without Welding.*—September 29, 1868.—The formers are pivoted to be swung open and shut, and supported by steel straps bolted by bolts on which the lever cams turn. The bar being placed in the shears the header is driven against it, and the metal is forced into the die, after which it is laid in the flattening dies, and as they come together, the metal is driven from where the eye is to be bored into the molds and works round the eye.

Claim.—In making weldless links, and other similar articles, subjecting the previously swelled up or enlarged end of the bar to the flattening and bulb dies, substantially such as described, for the purpose of transposing the metal from the place where the bolt hole is to be, and driving it toward the perimeter, as and for the purpose herein set forth.

82,560.—JOEL SMITH, Leominster, Mass.—*Comb.*—September 29, 1868.—The back is attached by means of a dove-tail groove, fitting in a corresponding tenon in the body.

Claim.—Attaching a horn back to the body of a horn comb, substantially as and for the purposes described and set forth.

82,561.—FISHER A. SPOFFORD and MATTHEW G. RAFFINGTON, Columbus, Ohio.—*Toy Gun.*—September 29, 1868.—A spring is secured in the handle, extending into a recess in the rear end of a plunger fitted into the barrel, which has a chamber near the breech to receive it, and on pulling the trigger it is raised into the main bore, and forced forward by the spring.

Claim.—Providing the barrel of a toy gun with a downward extension or chamber, *c*, for the reception of the plunger, as described, the trigger raising the plunger out of such chamber, substantially as set forth.

82,562.—J. C. STROUD, Lockhart, Texas.—*Cultivator.*—September 29, 1868.

Claim.—1. Adjustably connecting the plow beams G with each other, by means of the slotted cross-bar J, to which said beams are bolted, substantially as herein shown and described and for the purpose set forth.

2. Pivoting the plow beams G to the stationary frame D, by means of the pivoting rod K and the pivoting crank rod L, substantially as herein shown and described and for the purpose set forth.

3. The combination of the hand lever O, connecting rod or bar N, and lever arm R, with each other and with the rods K and L, by which the plow beams G are pivoted to the frame D, substantially as herein shown and described and for the purpose set forth.

82,563.—LEVI STUCK, Bryan, Ohio.—*Method of Obtaining Dental Models.*—September 29, 1868.

Claim.—1. The method of obtaining dental model plates of metal directly from the mouth impression by casting the metal in a perforated or slitted mouth impression, B, substantially as described.

2. The employment of a slitted or perforated impression cup, C, substantially as described, in combination with a plaster mouth impression, B, vented through the raised surface *a*, substantially as described.

3. As a new article of manufacture, a metallic dental model plate or die, A, when obtained in the manner substantially as herein described.

82,564.—OLIVER C. SWEET, Albany, N. Y.—*Machine for Drying and Stretching Fabrics.*—September 29, 1868; antedated September 24, 1868.—A horizontal swinging bar is hinged to a wall and connected with a drying frame of two bars with levers hinged oppositely to and crossing each other, and toggle levers meeting at their ends, their joints being connected by a bar, while tongs formed of bars and cords are hung to a beam above, and have a hook to which the upper bar of the frame is hung. A stretcher, also, with levers, pulleys, and endless friction cords, sleeve, and rod being provided for winding on the fabric.

Claim.—1. The adjustable drying frame C G, suspended, by means of removable tongs D D, from a suitable stationary bearing, and made contractible or expansible at will, substantially as herein shown and described.

2. The hinged adjustable drying frame C G, arranged as described, in combination with the swinging receiving bar A, substantially as herein shown and described.

3. The rollers *l* and cords *m*, arranged as described, in combination with the bars *g*, standard I *j*, sleeve *i*, and arms *h*, for the purpose specified.

4. The stretcher frame C G, when arranged as described, in combination with the tongs D D, bar A, post I, and stretcher K, all made and operating substantially as herein shown and described.

82,565.—GEORGE TAMKIN, Newburg, N. Y.—*Stove-pipe Damper.*—September 29, 1868.

Claim.—The composite rod, composed of metallic strips B G, of different expansibility, riveted together, and arranged with relation to the damper and stove-pipe, as described, whereby the expansion of said rod causes it to move laterally, and thereby to close the damper, as herein shown and described.

82,566.—GILBERT F. TAYLOR, New York, N. Y.—*Guard for Carpet-sweeping Machine.*—September 29, 1868.—The pad is made as a bag, and has its ends connected by an elastic substance of such tension as to hold it on when slipped over the case.

Claim.—The placing around the body, A, of a carpet-sweeping machine, the pad C, connected at its ends by the elastic strip *e*, so as to be removable at pleasure, as herein described.

82,567.—MARSHALL TURLEY, Council Bluffs, Iowa.—*Steam Generator.*—September 29, 1868.

Claim.—The arrangement of the separate globular sections C, with the hollow upward inclined screw-arms D, as herein shown and described.

82,568.—JAMES TYZICK and HENRY W. ESKILDSON, New York, N. Y.—*Nail Extractor.*—September 29, 1868.—Two steel griping points, one in the lever and the other in a shackle hinged to the lower end of a grooved piece, are connected with the lever, in which the tongue plays.

Claim.—An instrument for drawing driven nails, composed substantially of the lever A and shackle L, with their griping points D and F, and hinged or linked together by the slotted piece E, the whole constructed to operate in the manner and for the purpose herein described and represented.

82,569.—THOMAS G. TYLER, New York, N. Y.—*Awning.*—September 29, 1868.—Front and tapered side slats slide one within the other, being connected together by plates with headed studs which work in slotted plates affixed on the adjacent slat.

Claim.—The awning, having its side slats B and curved top slats A connected together, to form frames, adapted to slide one within the other, by means of the slotted plates *f*, and the plates having headed bolts, substantially as herein shown and described.

82,570.—GARRETT VAN SICKLE, Auburn, N. Y.—*Device for Unloading Hay.*—September 29, 1868.—The elevating rope passes around a pulley, the block of which is tapering, forked, and slotted, and is connected to one end of a binding rope, which at the other end is held by a hook pivoted to the block, having also at its upper end an unlocking cord.

Claim.—1. The combination and arrangement of the binding rope or device with the elevating rope, and the combined pulley and hook and its tripping cord, in the manner herein described, whereby the hay or other like material, whatever may be its quantity, is first drawn and compressed into a compact bundle, and then elevated and discharged, as herein shown and set forth.

2. The combination, with the body of the hay wagon, of uprights *n* and their hooks, for holding and maintaining in position the hay-binding ropes, substantially as herein shown and set forth.

3. A combined pulley and hook, constructed as herein specified and shown in the accompanying drawings.

82,571.—JOHN R. WASHBURN, West Stafford, Conn.—*Lathe Chuck.*—September 29, 1868.

Claim.—1. The detached key D, carrying the beveled pinion *b*, and adapted to fit into a series of apertures, *e*, formed through the sides of the case A, to allow the same pinion and key to be applied at either side of the chuck, whereby the key and pinion serve to operate any number of chucks, as herein shown and described.

2. The key D, when provided with a pinion, *b*, attached to its end, in combination with the perforated case A, jaws B, and scroll wheel C of a lathe chuck, all made and operating as herein shown and described.

82,572.—J. C. WHARTON, Nashville, Tenn.—*Tumbler Stand.*—September 29, 1868.

Claim.—1. The combination, in a tumbler stand, of the concave tray A, pipe ring B, having cocks *i*, with the racks *a*, or their equivalent, and the revolving scrolls *d*, all substantially as shown and described, and for the purpose set forth.

2. The described arrangement of the caps *h*, affixed to the lower end of the curved springs pendent from the outside of the racks *a*, with relation to the inclined cocks *i* upon the pipe B, said spring caps being operated by the tumblers, in the manner shown and described, for the purpose specified.

82,573.—A. S. WHITE, Malone, N. Y.—*Harrow and Cultivator.*—September 29, 1868.

Claim.—1. A harrow and cultivator, composed of two sides, A A, constructed each of two parallel plates, *a a*, and a plate *c*, attached to the rear end of the inner plate of the former at an acute angle, the plates *a a* being connected by bolts *b*, and the teeth or shares clamped between said plates by the bolts, substantially as shown and described.

2. Connecting the sides A A of the harrow and cultivator to the central plate B by means of the curved bars or hooks a^x passing through it, which bars or hooks pass through holes in the plates c^1, and the inner plates, *a*, of the sides, substantially as shown and described.

3. The pin *d*, fitted in the central plate B, in combination with the curved bars or hooks a^x, arranged substantially as and for the purpose set forth.

82,574.—CHARLES WILLIAMS, Manchester, N. H.—*Cooking Stove.*—September 29, 1868.—The "hot closet" is connected with and surrounded by an air-heating chamber which is curved and perforated at the top, and also with the ash chamber. Flues and dampers are arranged above and in rear of the ovens and communicate with the space in front.

Claim.—1. The arrangement of the hot closet H, the ash chamber F, the air-heating chamber I, the fireplace C, the two ovens A B, and their smoke flues, provided with dampers, as described.

2. The combination and arrangement of the auxiliary air-heating chamber D, with the fireplace C, the air-receiving and heating chamber I, the ash chamber F, and the hot closet H.

3. The arrangement and combination of the air-heating chambers D I, the hot closet H, the ash chamber F, the fireplace C, the two ovens A B, and their flues, provided with dampers, as described.

82,575.—FURMAN R. WILSON, Philadelphia, Pa.—*Valve Gear for Steam Engine.*—September 29, 1868.—The lever has two arms above the fulcrum pin, inclining from each other and over the ends of the piston rods to give the valves the proper motion, and spreading so that the roller inside of the cam guides may act thereon, and also an arm below, connected to the valve rods by its forked ends, and to the fulcrum pin and plate above.

Claim.—1. The construction of the lever H H H, in the manner substantially as described and for the purpose set forth.

2. The arrangement of the cams G G and lever H H H, and fulcrum or lug plate J, with reference to the valve rods E E.

82,576.—HENRY AITKEN, Falkirk, Scotland.—*Treating Iron Ore, &c.*—September 29, 1868.—The platform for the ores has perforations through which the heat and products of combustion are drawn down into the flues and pass to the condensing pipes connected with vessels to collect them. Above is an arched covering which is cammed on wheels upon the rails of the side walls, and beneath which the heaps are formed.

Claim.—1. Coking iron stone or iron ore upon a perforated platform, through the openings in which, and through the mass of stone or ore, the gaseous products of the coking operation are drawn downward, for the purpose described.

2. Utilizing the gaseous products of the coking of iron stone or ore, substantially as specified.

3. The coking or carbonizing of iron ores or iron stones, in combination with carbonaceous or hydro-carbonaceous matter.

4. The employment of crude oil or tar, or oily or tarry matter, for hardening coked or carbonized iron ores or iron stones.

82,577.—JAMES C. ARMS, Northampton, Mass.—*Pocket Book Fastening.*—September 29, 1868.—The plate of sheet metal is fastened by clips to the book, a slide with T-shaped holes slipping under it, and a clip with an inverted T-shaped lip being secured to the flap to lock into the holes.

Claim.—The clasp or fastening, consisting of the plate C, slide D, and clip B, or their equivalents, constructed and arranged to operate substantially as and for the purpose herein described.

82,578.—John N. Arvin and Joseph M. Whitmore, Valparaiso, Ind., assignors to themselves and Ammi M. Bennett, Chicago, Ill.—*Corn Planter.*—September 29, 1868.—The drum moves on a shaft in connection with two cup wheels for dropping the corn, and also with a lever, the lower end of which is attached to a spring, and its upper end supports a journal, on which revolves the wire guide wheel, and thus the wire is wound spirally and evenly upon it.

Claim.—The combination of drum D, wire L, cup wheels C C, lever F, spring G, adjustable wire guide I, arranged to run on journal J and ratchet *f*, constructed to operate as herein specified.

82,579.—James S. Atterbury and Thomas B. Atterbury, Pittsburg, Pa.—*Lamp.*—September 29, 1868.

Claim.—A glass lamp bowl and a glass stand, united together by means of a screw socket piece B, as a new and improved article of manufacture.

82,580.—Franklin Babcock, Middletown, Conn.—*Sash Holder.*—September 29, 1868.—The thumb catch provided with a spiral spring fits in a cylindrical case which has a screw cut on its periphery for fastening it to the window frame.

Claim.—The combination of the screw socket A, sliding shoulder B with flange C, stem *a*, and spring *b*, all as and for the purposes set forth.

82,581.—Franklin Babcock and Frederick Babcock, Middletown, Conn.—*Door Latch.*—September 29, 1868.—The cam is provided with a circumferential flange at its center, and is secured in the concave ends of the case, thus dispensing with journals.

Claim.—The revolving flanged cam *a*, when attached in the concaved ends of the case A, which is provided with a screw thread on its exterior, all constructed to operate as specified.

82,582.—James F. Babcock, Boston, Mass.—*Composition for Generating Gases in Fire Extinguishers and for Other Purposes.*—September 29, 1868.—Composed of chlorates or nitrates of potassa or soda, charcoal or sulphur, and silicates of soda or potassa, in liquid form.

Claim.—A combustible gas-generating composition, for use in fire-extinguishing and other fluid-ejecting apparatus, when combined with a vehicle for arresting rapid combustion, substantially as described.

82,583.—Quimby S. Backus, Winchendon, Mass.—*Chuck Drill.*—September 29, 1868.—The opposite sides are grooved and inclined toward the cutting edge to allow the oil to flow freely to the cutting part and afford an unobstructed passage for chips or shavings to pass out. The grooves are of such a shape as to produce a lip on the cutting edge, which enters the work readily.

Claim.—The within-described "chuck-drill," constructed to operate substantially as set forth.

82,584.—James Ballard, Almond, Mich.—*Washing Machine.*—September 29, 1868.—The rubber is secured to arms which slide in sockets on the swinging bar. A lever is pivoted on these arms and secured to another lever, which is fastened to the swinging bar.

Claim.—The combination of the sliding bar H and its stationary rubber F with the swinging bar G, and levers L and K and the tub, all constructed to operate as set forth.

82,585.—C. M. Baxter, Lebanon, N. H.—*Scroll Saw.*—September 29, 1868; antedated September 17, 1868.—To relieve the saw of the strain, the lower end of the standard is moved back in the inclined groove, and when returned to its position the tension is renewed.

Claim.—The combination of the short arms E, the movable standard F, and inclined groove G, with the screw and crank wheel H, being so arranged that the strain may be thrown off or on the saw by a single motion, substantially as set forth.

82,586.—Elias Beach, Titusville, Pa.—*Torpedo for Oil Well.*—September 29, 1868.—A thin metallic tube, perforated throughout its whole length, extends from the lowest primer to the bottom of the torpedo, so that when the primers are discharged fire is communicated along the tube to the explosive material below.

Claim.—1. The perforated tube G, arranged and operating substantially as described, for the purpose of communicating ignition of the explosive material at the lower part of the torpedo, as set forth.

2. The primer cord C, safety string, E, and cable D, in combination with the primers *b*, substantially as described.

3. The supplementary cord F, connected and opererating as and for the purpose set forth.

4. The rod B, in combination with the primers *b*, and cap A′, as set forth.

82,587.—Hiram Berdan, New York, N. Y., assignor to The Berdan Fire-arms Manufacturing Company, same place.—*Metallic Cartridge.*—September 29, 1868.—The re-enforce cup is so secured in the cartridge shell as to prevent the swelling of the rear portion of the shell by the insertion of such cup.

Claim.—1. Securing the re-enforce cup in the cartridge shell by means of a projection on the interior of the head of the shell, and an opening or cavity in the bottom of the cup fitting tightly on the said projection, substantially as and for the purpose herein described.

2. The combination of the patched bullet and the brass cartridge shell, drawn from sheet metal, substantially as and for the purpose herein set forth.

82,588.—José Maria Blanco y Nuño, Havana, Cuba.—*Preserving Fruit and Vegetables.*—September 29, 1868.—The articles to be preserved are incased in a coating of paste composed of plaster of paris mixed with salt and water dissolved.

Claim.—The process of preserving fruits and vegetables, substantially as herein described.

82,589.—David Bonnel, Oswego, N. Y.—*Grain Drier.*—September 29, 1868.—Grain is conducted from an inclined drying cylinder to an inclined screen, open at the top, and agitated in a box, into which latter a blast of cold air is driven.

Claim.—1. The drying cylinder C, supplied with heated air, in combination with the cooling screen D^2, supplied with cold air, substantially as described, for the purposes set forth.

2. And, in combination with the drying cylinder C and cooling screen D^2, the conveyer, supplied with cold air, as described, for the purposes set forth.

3. And, in combination with the drying cylinder, cooling screen, and conveyor, arranged as shown and described, the furnace and fans for supplying hot and cold air, substantially as described, for the purposes set forth.

82,590.—Benjamin S. Boydston, Richmond, Ind.—*Lamp.*—September 29, 1868.

Claim.—A lamp, provided with a chamber, separate from the oil chamber, for carrying a supply of extinguishing fluid, or other flowing material, and which is so arranged, by means of tubes or their equivalents, that when the lamp is overturned the extinguishing material is brought in contact with the flame, for the purpose set forth.

82,591.—John T. Brigden, Hornellsville, N. Y.—*Machine for Punching Tubes.*—September 29, 1868.—Under the die, into which the punch is fitted to operate by the action of an eccentric lever and cam, is a sliding wedge for tightening the pipe, and having an opening in it to liberate the chips from the pipe, which is effected by means of a connecting rod attached to a vertical lever.

Claim.—1. The die A and sliding wedge B, constructed and arranged inside of the pipe, f holding it firmly in place while being punched, and the rod *d* and lever C, for operating the same and removing the chips or punchings, as herein described.

2. The hollow tube A', for receiving the pipe F, in combination with a slotted plug or supporting piece, placed within said pipe, and the punch P, eccentric cam H, and lever G, substantially as and for the purposes herein set forth.

82,592.—JOHN BURT, Sturgis, Mich.—*Potato Digger.*—September 29, 1868.—Semicircular plates, provided with adjusting holes, hold at any desired point a bent bar, which is hinged to the frame, and serves to depress or elevate the axle and its wheels.

Claim.—1. The combination of bar G, semicircular plates J', provided with adjusting holes *j* and frame A, all arranged as described, for the purpose of regulating the depth of the shovel.

2. The shaker D, shovel C, slotted arm *d*, crank *f*, pinion F, gear wheel J, and axle E, all combined and arranged substantially in the manner and for the purpose set forth.

82,593.—DAVID CAMMERER, Cincinnati, Ohio.—*Beer Cooler.*—September 29, 1868.—The wort or other liquor is cooled by dribbling or trickling over the outside of a conduit or receptacle of ice water. The improvements have reference to the special formation of the cooler and the surmounting contrivance for distributing the liquor.

Claim.—The combination of the two supporting flanges I I, perforated at *i i*, the elevated ridge G, the double trough H H', perforated at *h* h', and the vertically-corrugated hollow webs D^1 D^2, affording water communication throughout the length of the chambers C^1 C^2, or nearly so, the whole being arranged as and for the purposes set forth.

82,594.—E. P. H. CAPRON, Springfield, Ohio.—*Ladder.*—September 29, 1868.—The two parts of the ladder are pivoted by a round placed on the edges of the side piece, so that they can be folded flat upon each other.

Claim.—1. A ladder, consisting of the parts A and B hinged together by the round *b*, and having the side rails of each part notched at their ends, so as to lock upon the rounds *h* and *f*, in the manner shown and described.

2. Hinging the parts A and B by means of the round *b*, secured to the edges of the side rails thereof, by means of the eyes *e* and loops *o*, substantially as shown and described.

3. In combination with the parts A and B, hinged as described, the platform C, provided with the slotted side bars D and the series of holes for adjusting the spread of the parts A and B, substantially as described.

82,595.—WILLIAM S. CARR, New York, N. Y.—*Water Closet.*—September 29, 1868.

Claim.—A water-closet hopper or container, formed at the upper end to receive the basin, and at the lower end to connect with the soil pipe, and with a removable section, formed and located so that the swinging pan of the closet can be introduced or removed without necessarily removing the basin from said hopper, substantially as set forth.

82,596.—ANDREW M. CHEESEMAN, Trenton, N. J., assignor to himself and JOHN WATSON, same place.—*Valve Seat.*—September 29, 1868.—The lower part of a rubber valve seat fits in a slot in the base of the valve chamber, and is secured in place by a metallic thimble inside of the rubber ring.

Claim.—The rubber valve seat *a a*, secured to its position by metallic thimble *c*, substantially as shown and described.

82,597.—SAMUEL CHILD, Baltimore, Md.—*Refrigerator.*—September 29, 1868.

Claim.—The arrangement of the pan C, having the waste pipe D with relation to the provision chamber H, the ice chamber A and gutter B, as herein described, for the purpose specified.

82,598.—RICHARD H. CHINN, Washington, D. C.—*Fountain Pen.*—September 29, 1868.—The cylinder is elastic and has elastic points that fit upon the bevel point of the pen so as to regulate the flow of the ink, the points being adjusted to the pen by a screw collar.

Claim.—The construction of the pen E, points D, collar J, on cylinder C, when arranged and combined as herein described, and for the purpose set forth.

82,599.—FRANK O. CLAFLIN, Brooklyn, N. Y., assignor to himself and ALBRO R. CARMAN, same place.—*Implement for Lasting Boots and Shoes.*—September 29, 1868.—The operation of stretching and tacking or pegging are combined in one mechanism.

Claim.—The combination of the mechanism for stretching and holding the material to be secured, or the equivalent thereof, with driving mechanism, substantially as and for the purposes described.

82,600.—WALLACE W. CLEVELAND, Cold Water, Mich.—*Turning Wagon Hub.*—September 29, 1868.—The cutter-head carriage is adjustable, on ways, toward or away from the hub, and the cutter head is also adjustable on a line parallel with the axis of the hub so as to be brought into position for action.

Claim.—The arrangement of the revolving cutter head, carried in the lateral and longitudinal-moving frame, with the fixed arbor revolving the block of which the hub is made, all as herein described.

82,601.—NATHAN S. CLEMENT, New Britain, Conn.—*Fruit Basket.*—September 29, 1868.

Claim.—Extending the two parts which form the double bottom and sides, so as to be turned over, and form a top of the box, and so that one of the parts is detachable, the whole constructed and arranged for opening, substantially in the manner herein set forth.

82,602.—DANIEL C. COLBY, Washington, D. C.—*Chair.*—September 29, 1868.—The rest prevents the cane from being prematurely broken across the edges of the frame pieces.

Claim.—The application to cane-seat chairs of an elastic or slightly-yielding rest for the cane strands, of any suitable material, and for the purposes specified and set forth.

82,603.—ABEL CONANT, Lowell, Mass.—*Sash Fastener.*—September 29, 1868.—Both bolts lie in the same case, transversely to the edge of the sashes, and they are respectively long enough for their lateral projections to engage the racks on the sashes. Vertical edges separate the sashes sufficiently to allow the lug of the longer bolt to be retracted without interfering with the movements of the lower sash.

Claim.—In a sash lock, such as described, the construction and arrangement of the long and short-sliding bolts E F, with their inclined lugs or projections *g*, and actuating knobs and springs, the said bolts being applied to the window jamb at the point where the sashes meet, in the manner specified, so that the projecting lugs of such bolts shall move in planes at right angles to the plane of movement of the sashes, and operate in connection with the upper and lower sash racks, as herein set forth.

82,604.—VINCENT CORDIER, Paris, France, assignor to JOHN GATLIFF and CLEMENT DIETRICH.—*Paint Oil.*—September 29, 1868.—This invention proposes to render mineral oil siccative, not by direct treatment of the oil itself, but by admixture therewith of a vegetable oil which has been rendered siccative in excess.

Claim.—The paint oil herein described, composed in part of mineral oil, and in part of vegetable oil, and having the proper quantity of drying material incorporated by mixing the litharge or other drier in excess with the linseed or equivalent vegetable oil, and afterward adding the petroleum or equivalent tar oil, as herein specified.

82,605.—JACOB COURTLEYOW, Chariton, Iowa—*Machine for Setting and Cooling Tire.*—September 29, 1868.—The bench may be raised to a perpendicular position so that the wheel supported on the axis may be placed in the water trough for cooling. By the slide the axis can be raised or lowered to suit the size of the wheel.

Claim.—The bench *a a a a* attached to the trough F, together with the slide and axis, constructed, arranged, and operated as above described, for the purpose of setting and cooling tire, for the purpose and in the manner set forth.

82,606.—George Crouch, New York, N. Y.—*Shawl Strap.*—September 29, 1868.—The cross piece is stiffened by a corrugated metallic plate so as to prevent it from bending or doubling up.

Claim.—In combination with a rigid cross piece, A, constructed substantially as described, the handle B, and straps D, for the purposes indicated.

82,607.—Frederick C. Curie, Lancaster, Pa.—*Manufacture of Axes, Hammers, &c.*—September 29, 1868.—The cast iron is converted into steel by the use of a mixture of charcoal, soda, and rock salt, which is placed in an iron box with the articles to be converted and subjected to the heat of a furnace.

Claim.—1. Converting hammers, axes, hatchets, and similar edge tools, either cast, or made from wrought or cast malleable iron, into steel, by the process substantially as herein described.

2. The new articles of manufacture, namely, hammers, axes, hatchets, and similar edge tools, made by the process substantially as herein described.

82,608.—George Edmund Donisthorpe, Leeds, England.—*Coal-cutting Machine.*—September 29, 1868; patented in England, January 21, 1864, The engine is mounted on a truck with the alternately acting picks. Two rollers employed in place of flanged wheels will run on rails whether or not they are laid to a fixed gauge. One rail is laid with care and guides the truck, a clip, applied at each end of the truck, fitting over and sliding along the same. A worm engages teeth on the guide rail to propel the truck or hold it stationary.

Claim.—1. The so arranging the cutting apparatus of machines employed in getting coal and other mineral that two picks or cutters, or two sets of picks or cutters, may be caused by the engine which actuates them to act alternately, so that one pick or set of picks may make its forward stroke while the other pick or set of picks makes its backward stroke, substantially as herein described.

2. The combination, substantially as set forth, with the guiding rail herein described, of a traveling carriage provided with clips or guards at each end to hold it to the rail, and a driving worm acting on the rail to propel the carriage, whereby one only of the rails need be laid with care.

3. The combination, substantially as set forth, with the traveling carriage, of a guide rail, a propelling worm on the carriage acting on the rail, on clips the carriage embracing the guide rail, cutting tools mounted on the carriage, and a pressure ram for holding the carriage to its track when working, by pressing against the roof of the mine.

4. The combination, substantially as set forth, with a carriage traveling on ways, and a locking mechanism for locking the carriage firmly while the cutters are working, of reciprocating cutters, arranged on opposite ends of an oscillating arm or lever vibrating transversely to the line of motion of the carriage, whereby a blow is made at each movement of the piston of the motor, and one cutter may deepen the groove made by the preceding one.

5. The combination, substantially as set forth, with the cutting tools, of the clearers *i*, for removing the coal loosened by the cutters.

82,609.—J. J. Doughty, Lake City, Minn.—*Heater and Filter for Boiler.*—September 29, 1868.—The water flows over the two series of shelves in sheets and is heated by steam, which causes a deposition of lime and other objectionable contents of the water upon the shelves. The water passes finally through a filter, completing its purification.

Claim.—The arrangement of the horizontal shelves, with their partition pieces, the steam and water admission and discharge pipes, the lime-depositing shelves *g*, the filter *l*, and the doors formed in the heater and filter case A B, through which access may be had to said shelves and filter, substantially as herein shown and described.

82,610.—Thaddeus Fairbanks, St. Johnsbury, Vt., and Henry Fairbanks, Hanover, N. H.—*Charging Scale.*—September 29, 1868.—An improvement on the scale for which a patent was granted to A. B. Davis, July 30, 1867. Designed to distribute a large portion of the weight on each side of the center of motion of the beam and avoid the necessity for the large counterbalance required in the above-mentioned machine, in which the weight of the bars is all on one side of the said center of motion, necessitating a balance poise on the opposite side capable of balancing the whole of the bars so as to render ineffective those which are out of use, and inducing the making of bars so small as to involve too great delicacy of the structure.

Claim.—1. The within-described arrangement of the adjustable bars A B, &c., so that a portion of the weight of each bar shall be distributed on each side of the center of motion of the frame M, substantially as and for the purposes herein set forth.

2. The stops *a b*, and balance poise E, arranged relatively to each other and to the bars A B, &c., and frame M, substantially as and for the purpose herein specified.

3. The friction pieces J J, arranged as represented, and adapted to induce a constant friction against the bars A B, &c., substantially as and for the purposes herein specified.

4. The adjustable bars A B, &c., beam of frame M *m*, stops *a b*, &c., and pinching screws O P, &c., when provided with the bearing pieces *o*, held loosely between the shoulders 1 and 2, and adapted to receive the force of the screw in confining the stops firmly, as herein specified.

82,611.—Charles M. Flint, Hancock, N. H.—*Wagon Brake.*—September 29, 1868.—By vibrating a lever a toggle arm is moved away from an inclined plane at the rear of the brake bar, and then the brake may be forced against the wheels by the back pressure of the draught animals or the gravitating power of the carriage body.

Claim.—The arrangement of the brake arm *c*, and the slotted plate *g* with the king bolt, the front axle and the front bar of the perch, the whole being substantially as specified.

82,612.—Orlando V. Flora, Madison, Ind.—*Vise.*—September 29, 1868.—The parallel bars are attached to a vertical mortised post, which latter slides on a plain smooth locking bar.

Claim.—The combination of the post G and bars B C with the locking bar J, constructed and operating in connection with the movable jaw D, substantially as and for the purposes herein specified.

82,613.—James T. Forsyth, Wheeling, W. Va.—*Machine for Dressing Barrel Hoops.*—September 29, 1868.—The circular revolving bed piece, working inside of the stationary concentric arc, is constructed in such a manner as to automatically catch the end of the piece of stuff to be dressed, draw it under the dressing knives, and discharge it after being operated upon.

Claim.—1. The circular revolving bed B, the catch D, and the spring F, or their equivalents, substantially as described.

2. The concentric arc A, in combination with the knives H H and K K, substantially as described, and for the purpose set forth.

82,614.—William Frick, Middletown, Pa.—*Steering Apparatus for Sectional Boat.*—September 29, 1868.—The boats are fastened together in such a manner that one boat acts as a rudder for the other, thus enabling the boats to be turned in curves too short for another boat having the tonnage of the two combined.

Claim.—1. The hinged coupling bar B B^1, when fastened permanently to one boat, and attached to the other by standards C C, in such manner as to permit a free, vertical, longitudinal, and lateral oscillation, but to confine, at the same time, the boats to their relative alignment fore and aft, substantially as set forth.

2. The combination of said hinged coupling bar, standards, and cross heads C C, connected by springs B^4, arranged to operate substantially as and for the purpose set forth.

3. The combination of the wheel, the tiller rope, and the hinged bar connecting the two boats, when arranged to operate substantially as set forth.

82,615.—John Frisch, Albany, N. Y.—*Kitchen Implement.*—September 29, 1868.—The usual position of the handle is reversed when the stove plate lifter is called into requisition.

Claim.—The shovel A, furnished with a stove lifter at its rear end and having its handle, C, pivoted, as and for the purpose set forth.

82,616.—Peter Geiser, Waynesboro, Pa.—*Writing Table and Chair.*—September 29, 1868.—The extra leg enlarges the base so that the chair cannot be upset by the weight of the table. The latter consists of a hinged lid closing a pan-like receptacle for books, papers, &c., with subdivisions for small articles. A frame for holding books, or papers to be copied, slides within the table when not in use.

Claim.—1. The combination of the chair A, socket C, leg B, arms D, and table F F, substantially as shown and described.

2. The construction of the table, as composed of the parts E F, substantially as shown and described.

3. The paper and book holder, as constructed, consisting of parts, G, H, H, I, *e*, and *c′*, and their equivalents, substantially as shown and described.

4. The combination of the paper and book holder with the cover of the table, substantially in the manner shown and described.

5. The arrangement of the locking device K, catch *a*, and stops *h*, substantially as and for the purpose described.

82,617.—Peter Geiser, Waynesboro, Pa.—*Horse Power.*—September 29, 1868.—This device is to be attached to the tumbling shafts of a horse power for the purpose of making a belt connection between the power and the machine to be driven, and of multiplying the motion.

Claim.—1. The combination and arrangement of the frame A and journal box E, substantially as and for the purpose described.

2. The combination and arrangement of the vertical shaft F and the journal box E, substantially as and for the purpose described.

3. In combination with the above, the combination of the ratchet coupling and the shaft G, substantially as and for the purpose described.

4. The construction of the frame A, and the arrangement, with reference thereto, of the journal box E, shaft F, gear wheels B and C, and pins or guards *b b*,

5. The arrangement of the oil passages *e*, *a*, *f*, and *h*, substantially as and for the purpose set forth.

82,618.—Samuel Glasson, New York, N. Y.—*Reamer and Tap.*—September 29, 1868.—The longitudinal movement of the grooved plug, produced by the turning of the screw, sets the cutters outward or inward, to adapt the instrument to openings of different sizes.

Claim.—The arrangement herein described and shown of the tubular stock A, grooved plug C, cutters B, springs *s*, and swiveled screw E *e*, for the purpose set forth.

82,619.—H. J. Harris, Shreveport, La.—*Pyrotechnic Signal.*—September 29, 1868.

Claim.—The trail match or fuse, constructed substantially as described, that is to say, consisting of the slow match or fuse, provided with a series of signal or cannonading balls, pyrotechnic meteors and streamers, or other equivalent devices connected with the slow match by short branch quick matches or fuses, and adapted to be used in connection with the balloon or other equivalent means for elevating and sustaining the same in the air while firing the same, substantially as described.

82,620.—Jacob Himmer, Hartford, Conn.—*Tool for Gas Fitter.*—September 29, 1868.—A cutter for cutting off the ends of pipes, a scraper for clearing its surface before forming the screw, dies for cutting the thread, and a cramp for holding the pipe to turn it, are arranged in a frame or stock fitted for the purpose.

Claim.—An improved combination tool, constructed and arranged substantially as described.

82,621.—George W. Hubbard, Lowville, N. Y.—*Hammer.*—September 29, 1868.—The hammer holds the nail in giving it the initial thrust.

Claim.—The application, to nail hammers, of a nail-clamp attachment, using for that purpose the chamber C, the clamp E, the spring G, the lugs I, and screw F, constructed to operate substantially as herein described.

82,622.—John C. Kennedy, Chicago, Ill.—*Soda Fountain.*—September 29, 1868.—Air escapes from the fount through the open air pit while water is being pumped into the same from the reservoir. Air is subsequently pumped into the fount under pressure. In order to utilize the gas which remains in fountains after the water has been drawn off, a supplemental fountain is employed, water from which is supplied to the draw-off fount by the pump, and which, after being depleted of water, is placed in communication with the draw-off fount in order that the gas may flow or be pumped into the latter fount to be absorbed by the water therein.

Claim.—1. The pump B, the three-way cock D, pipes C and V, reservoir A, and air pit F, all arranged and operated substantially as described.

2. Fountain A, provided with an air pit and gauge tube, as described, pump B, globe check-valve E, three-way cock D, and fountain H, the whole being arranged, constructed, and operated in the manner and for the purpose specified.

82,623.—Baxter Lyon, Mount Pleasant, Ill., assignor to himself and Dana L. Cohembia.—*Revolving Harrow.*—September 29, 1868.—The leading pair of toothed wheels has an inclination outward and downward from the center of the bolsters, while the rear pair have an inclination inward and downward. The reach is jointed to the forward bolster, so that the harrow may be readily turned or worked in a circle.

Claim.—A revolving harrow, the front and rear portions of which, being constructed substantially as described, are connected to each other by a jointed or flexible connection, as and for the purpose described.

82,624.—Levi Matthews, Antrim, Ohio.—*Clothes Pin.*—September 29, 1868.—When the line is drawn taut it acts upon the ring, and thereby draws downward the clothes pin, so as to make it take a firm hold of the suspended article.

Claim.—The double self-adjusting clothes pin H, constructed as described, and provided with a ring, I, substantially as and for the purposes herein set forth.

82,625.—Patrick McGee, North Providence, R. I.—*Let-off Mechanism for Loom.*—September 29, 1868.—The speed of the yarn beam is increased in the ratio of the decrease of the yarn on the beam.

Claim.—The combination, with the pad E and yarn beam B, of the toe *a′*, spring bar *c′*, lever *d′*, abutment R, and pusher bar *l*, receiving motion from the sword or any other portion of the loom, and acting through the abutment R on the let-off motion in such manner that the letting off of the warp will be regulated according to the variable diameter of the beam, substantially as herein specified.

82,626.—J. C. McKenzie, Adrian, Mich.—*Pug Mill.*—September 29, 1868.—The clay which fills the supplemental chamber partially forms the bottom of the main tempering chamber, absorbs the water used in soaking, and is a settling place for the stones and other deposits. Stationary rods in the pug mill assist the operation of the grinding blades.

Claim.—1. The chamber or reservoir F, arranged and employed, in connection with the chamber E, substantially as described, for the purpose specified.

2. The pug mill, constructed as described, with

the chambers E F, doors I, and aperture *e*, the horizontal angular rods O, pug shaft K, and blades M M^1 M^2, all arranged to operate substantially in the manner set forth.

82,627.—GEORGE N. MUNGER, New Haven, Conn., assignor to himself and STILLMAN MOORE, same place.—*Engravers' Vise.*—September 29, 1868.—By revolving the upper plate the jaws are caused to travel toward or away from each other. They are so formed and applied that they may turn to an angle with each other.

Claim.—The engravers' vise herein described, consisting of the two jaws D and E, arranged upon the threaded plate B, and in the plate C, so as to be adjusted to grasp the article of regular or irregular form, substantially as herein set forth.

82,628.—BENJAMIN F. NAVE, Fort Wayne, Ind.—*Bee Hive.*—September 29, 1868.—The hive is made up of a number of frames placed side by side, and bound together by an iron rod and nut. Strips, serving as comb guides, are secured to the inside of the frames.

Claim.—The frame A, constructed as described, and secured together by means of the rod *x* and nut *x'*, as shown and described for the purpose set forth.

82,629.—ORWELL H. NEEDHAM, New York, N. Y.—*Atmospheric Knob.*—September 29, 1868.—The knob is made to adhere to the drawer, or other object to be taken hold of, by atmospheric pressure; the knob, as well as the sucker portion, being compressed to form a vacuum.

Claim.—An atmospheric handle, composed of a flexible face or sucker portion A, and flexible or elastic knob or knob part B, having a cavity, *b*, within it, in communication, by a passage, *c*, with the interior face of the sucker portion or space contained therein, substantially as specified.

82,630.—FREEMAN NICHOLS, Newport, Ky.—*Hub for Wagon Wheel.*—September 29, 1868.—The flare of the mortises permits the spokes to become more deeply seated within the metallic band as the tire shrinks, without crippling the spokes, while the shoulders upon the spoke prevent them from slipping too far into the hub.

Claim.—The arrangement described, consisting of the wooden core, with mortises, B, and affording seats on its periphery for the shoulders G of the spokes, together with band D, having mortises, *e e'*, the latter or outer portions being more flaring than the inner, and adapted to form sockets for the taper portions of the spokes, substantially as described and represented.

82,631.—HEZEKIAH B. NOBLE, South Windsor, Conn.—*Horse Rake.*—September 29, 1868.—These devices adjust and hold the rake properly while it is revolving, and retain it firmly in the desired positions for use or for rest.

Claim.—The crank *m*, plate *n*, head *h*, teeth *v*, (which constitute the rake head,) in combination with the bars *f f*, rack *u*, pawl *e*, (for elevating or depressing the rake head,) arms *k*, lever *p*, and holder *q*, all arranged and operating substantially as and for the purpose described.

82,632.—EUGENE THÉODORE NOUALHIER, Paris, France.—*Chimney Cowl.*—September 29, 1868.—The apparatus has a vane which turns the upper portion, so that a free exit is provided on the leeward side The device aids in the exhaustion of the smoke or foul air from below. Vertical division plates in the space between the tapering, concentric casings prevent the wind from blowing across, and compel it to be deflected directly upward.

Claim.—The tapering concentric pipes or cases B and C, arranged as represented, relatively to the flue A, and adapted to receive the wind and deflect it upward, as represented, the space between B and C being divided in compartments, and the entire apparatus combined with a revolving hood, substantially as and for the purposes herein set forth.

82,633.—JOHN S. OLIVER, New York, N. Y., assignor to JOHN W. COX and ALEXANDER D. SHAW, same place.—*Refining Liquor.*—September 29, 1868.—The liquor is first fed to the action of the upper drum, whence it passes to the coil chamber to be heated; it descends thence to the lower drum and into the drawing-off chamber. The action of the drums converts the liquor into spray, and the gases thus liberated are drawn off by a pump.

Claim.—1. The process of separating from spirituous, hydrocarbon, and other liquids, the free or non-condensed gases contained therein, by beating up or separating the liquid into fine particles or spray while *in vacuo*, by the action thereon of mechanism suitable for the purpose, substantially as herein specified.

2. The drums C D, arranged within a vacuum chamber, A, and operating in substantially the manner and for the purposes herein specified.

3. The combination, with the drums C D, of the worm F, arranged within the box A, substantially as and for the purposes herein specified.

4. The combination, with the chamber A, containing the drums C D and worm H, of an air pump arranged to operate substantially as and for the purpose herein specified.

5. The arrangement of the perforated plates *a*, *b*, *c*, *d*, in the box A, substantially as herein shown and described.

82,634.—J. N. OUTTEN, Caseyville, Ky.—*Bee Hive.*—September 29, 1868.—The honey boxes are placed on a series of steps in the hive, the bees passing up the incline beneath. The arrangement insures the dislodgment and fall of the moth.

Claim.—The steps F F, when arranged and used in combination with the chambers E E and honey boxes I I, inside of a bee hive, substantially as and for the purposes herein set forth.

82,635.—HENRY A. PEASE, Hartford, Conn., assignor to himself and JEREMY W. BLISS, same place.—*Manufacture of Soap.*—September 29, 1868.—The distinctive ingredients are cotton-seed stock, stearine or elain, caustic, and starch.

Claim.—A soap compound, of the ingredients, in greater or lesser proportion, as required, substantially as described.

82,636.—HOWARD PERKINS, Mansfield, assignor to himself and BENJAMIN S. LEONARD, Sharon, Mass.—*Portable Adjustable Elastic Seat.*—September 29, 1868.—The seat is intended to be folded within such a small compass that it may be carried in a coat pocket. It is a ventilating seat, being sustained above the surface by the elastic feet, and is designed to be used on cultivators, seed planters, &c.

Claim.—The construction of the elastic supplementary seat, with its hinges C, shields D, and elastic feet E, combined as herein described, and for the purposes set forth.

82,637.—ALBERT J. REDWAY, Cincinnati, Ohio.—*Coal Stove.*—September 29, 1868.—A smoke-consuming device for heating stoves. The reverberating crown plate is adjustable relative to the cowl, to vary the size of the smoke-throat to suit particular draughts.

Claim.—The central crown plate D, having perforated bars *d d*, by which it is adjusted relatively to the annular cowl C, substantially as shown and described.

82,638.—ALBERT J. REDWAY, Cincinnati, Ohio.—*Cooking Stove.*—September 29, 1868.—The oven may be surrounded on all sides by a sheet of flame of the full width of the stove, for baking or other purposes. the smoke having the most direct issue practicable, so as to prevent the rapid accumulation of soot. The oven is readily removable, to render the flues accessible.

Claim.—1. The removable oven, supported and sliding on transverse angle pieces, and over a flange, on one stove plate, and with a marginal flange fitting into a rebate on the other stove plate, so as to make a joint with the plates at the respective ends of the said oven, substantially as described.

2. The four-sided oven H, and flue plate D, so constructed and arranged as to form a non-reverting and continuous flue around the oven, and to be re-

movable to expose the flue plates for cleansing, substantially as described.

82,639.—Lewis H. Reynolds, Goshen, N. Y.—*Self-adjusting Telegraphic Relay.*—September 29, 1868.

Claim.—The double electro-magnet, or two electro-magnets, placed in a helix or helices, with their like poles near each other, and attachment to armature or armature-bar of common relay, so that their repulsion will counteract, or nearly counteract, the attraction of armature of common relay to its own magnet.

82,640.—Henry Richards and Justus A. Tramt, New Britain, Conn.—*Endless Belt.*—September 29, 1868.—An endless piece of woven fabric constitutes a polishing belt, the object being to avoid the usual lap joint, which is detrimental in operation, and liable to come apart when soaking for recoating.

Claim.—As a new article of manufacture, an endless belt, constructed substantially as described.

82,641.—John L. Ripley, Fremont, Ohio.—*Hay Knife.*—September 29, 1868.

Claim.—As a new article of manufacture, a hand hay-knife, composed of the pointed blade A with serrations *x x* on its edge, and connected to the handle B C, all as herein shown and described.

82,642.—Jacques Rives, Paris, France.—*Method of Casting Metals.*—September 29, 1868.—Within a metal vessel placed in a tank containing water, and provided with a detachable cap or top, is placed a mold fitted within a perforated casing, between which latter and the metal vessel is placed charcoal.

Claim.—The mold L, arranged within a vessel, A, having a detachable top, B, and between which and the mold is a body of charcoal, substantially as and for the purpose described.

82,643.—Leverett A. Sanford, Wolcott, assignor to himself and Albert Warner, Bristol, Conn.—*Clasp Ring.*—September 29, 1868.

Claim.—A clasp ring, made in one piece of metal, and secured by one screw, as an improved article of manufacture, substantially as described.

82,644.—Leverett A. Sanford, Walcott, assignor to himself and Albert Warner, Bristol, Conn.—*Snap Hook.*—September 29, 1868.—By pressing the pad into the socket, the angle corner at the end of the lock surface will drop into the recess and allow the end of the latch to be pressed back, and on removing the pressure it will re-lock itself.

Claim.—The combination of the hook *a*, socket *c*, springs *d*, pad *k*, constructed and arranged substantially as and for the purpose described.

82,645.—James S. Schoonover, Corry, Pa.—*Railway Rail Joint.*—September 29, 1868.

Claim.—The jaws B B′, provided with the pins or ribs on their inner surface, engaging with the corresponding notches on the bases or flanges of the rails, as shown in Fig. 4, and with the recess *d* for preventing the end-play of the clamp C, in combination with the split wedge E and the clamp C, all constructed and arranged substantially as set forth.

82,646.—George Seibert and John Seibert, Ashley, Ill.—*Cultivator.*—September 29, 1868.—A combination of devices for raising and lowering the frame to accommodate it to irregularities of ground, regulating the distance between the plows and moving them one side and the other.

Claim.—1. The combination of the frame, the wheels, and two independent axles, F F, with the levers G, ratchet plates G′, and pawls H, substantially as and for the purpose set forth.

2. The combination of the driver's seat K, braces I, and interior beams C″ C″, so arranged that the latter may be moved laterally by the action of the driver, substantially in the manner set forth.

3. The combination of the parts last aforesaid with the lever L, crank M, and connecting rods N, substantially as set forth.

4. The combination of the frame B, the oscillating beams C″ C″, and friction rollers O, arranged to operate substantially as described.

5. The combination of the connecting rods N N, the oscillating beams C″ C″, and the eye-bolts N′, for regulating the relative position of the plows, substantially as described.

6. The arrangement of the tongue A, brace rod A^1, and stud screw A^2, substantially as and for the purpose set forth.

82,647.—Frederick M. Shepard, New York, N. Y.—*Rubber Mat.*—September 29, 1868.

Claim.—The combination of a cellular rubber web, substantially as described, with a detachable plate or receptacle, whether the same be flanged or not.

82,648.—John A. Smith, Lacon, Ill.—*Gate.*—September 29, 1868.—The gate is made to swing on its pivot until it reaches a point at right angles with the frame where it is held by a spring, by simply turning either of the knobs in either direction.

Claim.—A gate, having side posts B, cross bar C, staples O and *c c*, spring S, post E, and pivot D, constructed, arranged, and operating substantially as herein specified.

82,649.—Thomas Smith, California, Mo.—*Sawing and Boring Machine.*—September 29, 1868.—A combination of devices by which the various operations of sawing, planing, turning, and boring the material of which wheels and other parts of a carriage are constructed, can be performed by a single machine.

Claim.—1. The pivoted carriage table U, provided with two curved slots *s s*, and operating in combination with two concavo-convex saws, substantially as and for the purpose described.

2. In combination with the above, the inclined and adjustable table T, pivoted at *e*, and operating substantially in the manner and for the purposes specified.

3. The adjustable, attachable, and detachable support A′, for the driving shaft and wheel, when provided with the swinging leg A″, and so pivoted to the frame A of the machine that its outer end can be elevated or depressed at pleasure, substantially as and for the purpose specified.

82,650.—Daniel M. Somers, New York, N. Y.—*Tumbler Washer.*—September 29, 1868.—The side pressure of the tumbler on the frame and weight of the latter opens a valve to admit jets of water to the inside of the tumbler. A turbine within the supply stem gives a rotary motion to the outside washer. A vase at the top of the central stem forms a valve for the control of water to the outside sprinkler.

Claim.—1. A tumbler holder, consisting of a tubular stem, F, with fixed pendent arms G, and a jointed arm G′, connected with and operating the valve H, in an automatic manner, substantially as described.

2. The arrangement of a turbine within the supply stem, and relatively to the discharge orifices of the outside washer, to give a rotary motion to the latter, substantially as shown and described for the purpose set forth.

3. The combination of the vase *d*, forming a valve, *i*, with a rotary tumbler sprinkler, substantially as set forth.

82,651.—Daniel E. Somes, Washington, D. C.—*Apparatus for Cooling and Filtering Liquids.*—September 29, 1868.—The supply pipe, by which the liquids are brought to the tap from which they are drawn, is connected to a cooler placed in the earth beneath, and in close proximity to the tap, to the mouth of which latter is connected a filter.

Claim.—1. The supply pipe B, two-way cock *d*, and delivery pipes F B′, with the cooler D, placed in the ground beneath a hydrant or tap, as set forth.

2. The combination of the supply pipe B, cooler D, delivery pipe B′, and filter H, substantially as described.

3. The supply pipe B, two-way cock *d*, cooler D, and ice box G, substantially as described.

4. A cooler, tapering toward and pointed at its lower end, as arranged in relation to supply and dis-

charge pipes, substantially as herein shown and described.

82,652.—Edward Spain, Philadelphia, Pa.—*Churn.*—September 29, 1868.

Claim.—1. A dasher, having inclined perforated vanes, arranged at an angle with respect to each other and to the axis of the dasher, as set forth, for the purpose specified.

2. So perforating the vanes of the dasher that the jets of cream which pass through the said perforations shall be caused to cross each other, as described, for the purpose specified.

82,653.—John Spear, Carbondale, Ill.—*Rain-water Out-off.*—September 29, 1868.—The direction of the flow is changed by turning the elbow, which carries a wing to indicate the course of the water.

Claim.—A conduit for water, having pipes A and B, box C, elbow D, partition E, and indicator G, constructed, arranged, and operating substantially as specified.

82,654.—John Spear, Carbondale, Ill.—*Fruit Drier.*—September 29, 1868.—An oven, made in two sections, is provided with a hollow rotating shaft which serves to conduct the heat and smoke. Perforated shelves in the upper section are secured to the hollow shaft, and in the lower section to a drum fastened to the shaft and having spiral flanges on the inside which cause the shaft to revolve by the draught.

Claim.—A fruit drier, having sections A and D, shaft C, drum G, flanches K, shelves H and *d*, dampers *c* and L, doors S and M, and hook and pin Y, constructed and arranged substantially as herein specified.

82,655.—Greenleaf Stackpole, New York, N. Y.—*Auxiliary Power for Sewing Machine.*—September 29, 1868.—A spring within a drum is connected with a ratchet, stop gear, pinion geared into a winding wheel and several gear wheels, and these furnish the machinery for a power constituted of a balance wheel, clutch pinion, and lever connected by the pinion with one of the wheels in the case.

Claim.—The application to the sewing machine of an auxiliary power, when used in conjunction with and controlled by the treadle worked in the ordinary manner, to assist the operator, substantially as and for the purpose set forth.

82,656.—O. F. Stedman, Westfield, N. Y.—*Wash Boiler.*—September 29, 1868; antedated June 2, 1868.—A concave plate is placed under the movable perforated bottom, for the purpose of conducting the steam generated at the bottom of the boiler to the tubes.

Claim.—The concave plate D, in combination with the tube or tubes E, and perforated bottom C, constructed and operating substantially as and for the purposes herein set forth.

82,657.—Henry D. Struse, Brooklyn, N. Y.—*Clothes Drier.*—September 29, 1868.—Frames, provided with a series of connecting clothes lines, slide vertically in standards, and are provided with ropes and pulleys for raising and lowering.

Claim.—The combination of the stretchers C, having guides *c* at each end, and carrying the clothes line *a*, with the corner posts A, pulleys *p q r*, and cords *g*, all arranged for operation, substantially as shown and described, for the purpose set forth.

82,658.—Philip J. Stuhlträger, Philadelphia, Pa.—*Compound Safe-door Hinge.*—September 29, 1868.—A double hinge is used, the door being pulled out until it is released from the recesses in the safe, and is then swung open.

Claim.—A compound hinge, constructed and applied substantially as and for the purpose herein described.

82,659.—Claude Ludovic Taverdon, Paris, and Jules Moret, Sèvres, France.—*Pump.*—September 29, 1868.—When one of the heads creates a vacuum behind it, the other forces the liquid forward, and *vice versa.*

Claim.—The within-described construction and arrangement of the piston, composed of two valved heads, connected together by a tubular rod or sheath adapted for the passage of the liquid, as specified, working in a chamber divided into two compartments, S S′, by a disk or partition, U, all as and for the purposes herein set forth.

82,660.—Jeremiah C. Tilton, Sanbornton Bridge, N. H.—*Composition for Dressing Hair.*—September 29, 1868.—Composed of precipitate of sulphur, super-acetate of lead, glycerine, borax, spermaceti, and barbary tallow.

Claim.—The composition of matter made of the within-named ingredients, in or about the proportion set forth.

82,661.—William W. Trapp, Hartford, Conn., assignor to Tobias Kohn, same place.—*Polishing Thread.*—September 29, 1868.

Claim.—1. The combination of two rubber carriages, acting in opposite directions on any one or more threads, substantially as described, with one or more fliers and reels, as and for the purpose described.

2. The devices *a′ c′ z*, or their equivalents, for stopping and starting the pair of rubber carriages, working in opposite directions upon one thread, so that they are stopped and started at the end of the throw of the crank, substantially as described.

3. The machine, constructed and arranged substantially as described, having sets or series of rubber carriages on opposite sides of the driving shaft, which move up and down together, those on the same side having a motion in opposite directions, thereby balancing the reciprocating motions of the several parts, and causing the least possible jar in the machine.

4. The two rubber carriages, acting together upon one or more threads, and having a reciprocating motion in opposite directions, to divide and balance the strain upon the thread, substantially as described.

82,662.—John W. Tull and George Stevenson, Zionsville, Ind.—*Boot and Shoe Heel.*—September 29, 1868.—A plate of leather or metal is cut out in the center the shape of the heel, but smaller, and the part remaining is perforated. A rubber plate the shape of the heel is heated, and the perforated plate pressed over it, causing the rubber to enter the perforations.

Claim.—The employment of an India-rubber heel for boots or shoes, when used in combination with a leather or metal plate, the said heel and plate being secured together substantially in the manner herein described.

82,663.—George Walters and Thomas Shaffer, Phœnixville, Pa.—*Method of Constructing Columns, &c.*—September 29, 1868.—The pointed tip is applied when the column is used as a shaft for a pile to be driven into the ground.

Claim.—1. In the construction of metallic columns and shafts, confining wrought iron or steel plates between external cramping bars or washers *b b* and internal metallic disks *d d*, by rivets, upon or around which said disks have been cast, or which are attached thereto, and headed down upon the plate while hot, so that the same in shrinking shall closely draw the plates to the disk, in the manner substantially as described.

2. In combination with the shaft, constructed in the manner set forth, the pointed tip *f*, for the purpose set forth.

82,664.—George Walters and Thomas Shaffer, Phœnixville, Pa.—*Method of Constructing Columns, &c.*—September 29, 1868.

Claim.—The manner of constructing columns or shafts of wrought iron or steel plates, curved or bent on the line of their width, and attached by bolts or rivets to internal rings or disks, so shaped, in relation to said plates, that a space shall be left between them, in order that the plates may be drawn down, and their edges brought into close contact by the compression of said rivets or bolts, substantially as set forth.

82,665.—George L. Weaver, Hartford, Conn.—*Journal Box.*—September 29, 1868.—A casing is provided with annular grooves in which balls of different diameters are placed alternately, so that the large balls will all turn in one direction, and the small balls will keep the large ones in position.

Claim.—The combination of the journal box, having annular grooves in the heads C and D, and corresponding grooves on both ends of the shaft bearings B, with balls of two different sizes, placed alternately in the annular grooves, the whole arranged and operating as and for the purpose set forth.

82,666.—S. C. Wells, Le Roy, N. Y.—*Pantaloons Stretching Device.*—September 29, 1868.—Two clamp bars holding the pantaloon legs are provided with springs to keep said clamps apart, and weights fastened to the springs to produce the necessary tension.

Claim.—The combination of bars A A, weights *b b*, springs *a a*, and clamping device *c*, substantially as and for the purpose described.

82,667.—John B. Wickersham, Philadelphia, Pa.—*Lubricator.*—September 29, 1868.—The tube is formed of white metal to obviate the discoloration of the oil or the gummy consistency, incident to the use of brass and copper, which retards the action of the siphon. A chamber is placed just above the cock to receive the oil from the siphon when said cock is closed.

Claim.—1. The sleeve *f*, formed with a swell upon one side for the introduction of a feeder, in combination with the tube *e* and reservoir *a*, for the purposes and as specified.

2. A lubricator, formed with the tube *e*, of white metal, for the purposes and as specified.

3. The combination of the glass reservoir *a* and screw neck at its lower end, with the cup *c* and washer *d*, rendered permanently tight by cement, as set forth.

4. A capillary feeder formed by metal wires or rods, or a tubular strip of metal inclosed in a fibrous covering, so as to form a siphon, as and for the purposes set forth.

5. The cock *h* and chamber *k*, in combination with a capillary feeder and oil cup, substantially as set forth.

82,668.—Thomas B. Wickham, Granville, Ohio.—*Farm Gate.*—September 29, 1868.—Latches or buttons are dispensed with on the gate, which is so supported as to prevent sagging in either direction.

Claim.—A farm gate, having posts A, B, and C, brace *a*, clutch *c*, trundles *b* and *h*, gate E, arm *g*, and guide slat D, constructed, arranged, and operating substantially as specified.

82,669.—Charles Wilson, Clinton, Pa.—*Measuring Heights and Distances.*—September 29, 1868.—Movable telescopes are attached to circular plates, one telescope being attached to the compass, and the other combined with the target; both being operated with a circular movement, and adjusted to either side by adjustable plates and screws underneath the circular plates that are marked by cross lines.

Claim.—1. The circular cross-lined plates A and P, with their curved upright bars G and U, combined and operated as herein described; and for the purposes set forth.

2. The pivot bars V, with their adjustable round and square plates, with regulating screws C and X, constructed and operated as herein described, and for the purposes set forth.

3. The adjustable target N, combined and operated with the telescope Q, as herein described, and for the purposes set forth.

82,670.—Charles A. Wilson and William R. Dunlap, Cincinnati, Ohio.—*Pump.*—September 29, 1868.—The sections slope inward on their under side, and are thus adapted to limit the ascent of the valves in opening. The protuberances on the under side of the sections prevent the valves from adhering thereto.

Claim.—1. The combination of the annular valve seats *a b c d* and annular valves E, when arranged in a vertical series, one above another, and constructed as herein described, so as to act simultaneously around the entire circumference.

2. In combination with the sections A B C D, with their described flexible flaps, the annular stops or flanges G G'.

3. The protuberances F, on the under side of the sections B C D, for the purpose explained.

82,671.—Erastus Woodward and Joseph S. Millett, Charlestown, Mass.—*Starting Apparatus for Railroad Car.*—September 29, 1868.—These devices operate a shoe clamp and lever, through a connection with the sliding draught bar, for the purpose of applying the tractive force to the peripheral surface of the wheel at the top thereof; power being thus made more effective in overcoming the inertia of the car in starting.

Claim.—The horizontal bar B, levers A and C, and anti-friction roller R, combined with the other described parts, all constructed, arranged, and operating in the manner and for the purpose set forth.

82,672.—John E. Wootten, Reading, Pa.—*Draught Valve in Railroad Car Stoves.*—September 29, 1868.—A casing incloses the fire chamber, and is surrounded by two casings forming two chambers, access being had by doors to the fire chamber and ash pit, and air is supplied to the inner chamber by a short pipe between the casings, having at its mouth a deflector hung to the outer casing, and operated by means of a rod, pipes connected therewith being arranged under the seats.

Claim.—A deflector, so combined with the air-heating space of a railroad-car stove or heater, and with the delivery pipes or orifices connected therewith, that when the car is in motion the said deflector can be made to control the temperature of the car, substantially in the manner described.

82,673.—J. K. Alwood, Delta, Ohio.—*Sheep Shearing Device.*—October 6, 1868.—A revolving disk, actuated by suitable mechanism, is provided with several double-edged blades which project from its periphery; these blades pass directly over a set of fingers arranged in a semicircle around the edge of the bottom of the shear case.

Claim.—1. The bladed wheel *a a a*, with its blades K K K K, substantially as described, for the purpose specified.

2. The semicircular protuberance P of the shear case S, in front of the dotted line *d*, with the fingers *v v*, substantially as described, for the purpose specified.

3. The combination or connection of the bladed wheel *a a a* with the cord wheel Y, so as to receive motion therefrom.

4. The combination of the several parts described, for the purpose of forming a cutting device for sheep-shearing.

82,674.—Marcus M. Ammidown, Boston, Mass.—*Mode of Transmitting Motion.*—October 6, 1868.—A V-shaped pawl is arranged within a shell, a portion of which is made eccentric to the shaft, to which a toothed wheel with which the pawl engages is secured, so that, as the shell is turned upon the shaft which holds the gear wheel, the eccentricity of the shell will cause the pawl to be engaged or disengaged from the toothed wheel.

Claim.—1. The combination of the hub *a* and the cylindrical shell *d*, provided with the eccentric *d'*, substantially as and for the purpose set forth.

2. The combination, with the eccentric *d'*, of the pawl *e* and toothed wheel *f*, substantially as and for the purpose specified.

82,675.—John J. Barrett, Chillicothe, Ohio.—*Axle Grease.*—October 6, 1868.—Composed of saponified resin, wheat flour middlings, crude petroleum, and petroleum tar.

Claim.—The axle grease, compounded substantially as above described.

82,676.—Oscar J. Backus, San Francisco, Cal.—*Nozzle for Hose Pipe.*—October 6, 1868.—The sprinkler and eduction pipe are combined in the same nozzle, and are so arranged with a hollow cock that, when the openings in the cock are open for one, those supplying the others are closed.

Claim.—The combination with a nozzle, throwing a single stream of water, the sprinkler D, constructed and operated with the holes E F G G, in the stop-cock, and holes C C, leading into the nozzle chamber, substantially as and for the purpose specified.

82,677.—**ARAD BARROWS**, Philadelphia, Pa.—*Sad-iron Handle.*—October 6, 1868.—Wires are inserted through the upright portions of the cast-iron handle to prevent the handle from being broken.

Claim.—The cast sad-iron handle A, including the wires or rods C C, constructed and arranged substantially as described, as a new article of manufacture.

82,678.—**WILLIAM BARTON**, Troy, N. Y.—*Slat Matting for Cars.*—October 6, 1868.—The protuberances are formed by winding the string about itself and tying it; substitutes are thus formed for the buttons or washers employed to separate the slats in the matting, for which letters-patent were granted to same party March 3, 1868.

Claim.—A flexible slat matting, consisting of the slats A and flexible lines B, the knots or protuberances for keeping the slats apart being formed by the said lines B, as set forth.

82,679.—**W. H. BATTELLE**, Youngstown, Ohio.—*Nail Cutting Machine.*—October 6, 1868.—The nail plate is fed automatically to the action of a vertically reciprocating cutter, which, receding from the cut blank, leaves it in the grasp of a gauge spring to be acted upon by a spring nipper whose function is to turn the blank, causing it to enter a recessed seat in the stationary jaw, and then sustain the same from below, while the clamping jaw is advancing for the purpose of holding the blank while being operated upon by the laterally-moving holders.

Claim.—1. The arrangement of sliding nipper bar A, provided with the spring nipper F, the spring C, cam E, adjusting pin *e*, and retractor C′, substantially as and for the purpose set forth.

2. The arrangement, with the feeding guide N, of the slide U, rod T, weight V, pulleys X Y, rod P, and cord W, all substantially as and for the purpose set forth.

3. The arrangement, upon the carriers H, of the headers G, enlargements I, set screws M, and detachable brackets K, substantially as described, for the purpose specified.

82,680.—**RUFUS E. BEAN**, Franklin, N. H.—*Axle Head.*—October 6, 1868.—By this contrivance the head is firmly secured to the axle, it being impossible for it to come off unless the spring plate be withdrawn far enough to lose its hold upon the terminal projection of the axle.

Claim.—1. An axle, with a projecting cross bar, in combination with a head, the latter having an opening in its inner face, corresponding with the cross bar, and also a spring plate, provided with a depression or points, by which latter means the cross bar is prevented from turning when once secured in place.

2. The head C, plate *c*, constructed as shown, projection c^4, spring c^1, rod c^2, and button c^3, in combination with collar B, with opening *b*, as and for the purpose described.

3. The head C, constructed as described, in combination with the projection *a* of axle A, substantially as and for the purpose explained.

82,681.—**JOHN BEAUREGARD**, Kingsbury, N. Y.—*Hasp Lock.*—October 6, 1868.—The bolt when shot into the staple is locked so that it cannot be withdrawn, even with the proper key, without first performing an independent operation, in which the bolt is thrust yet further forward in a direction opposite to that in which it must be moved to release the hasp.

Claim.—1. The locking circle, constructed with the internal cog V and the tooth W, in combination with bolt A and lever L, substantially as and for the purpose described.

2. The bolt A, fastened substantially as described, and provided with the ears or stops O P, as and for the purposes substantially as described.

3. The pivoted engaging lever L, with tooth *l*, in combination with the locking circle D, pin M, and bolt A, substantially as and for the purpose described.

82,682.—**HOWARD B. BOND**, Houma, La.—*Apparatus for Defecating Cane Juice.*—October 6, 1868.—The liquid to be defecated is subjected to the action of sulphurous acid gas in the cistern. The holes of the strainer through which the liquid passes to the cistern are formed with a view to prevent clogging and choking. The fender prevents the escape of gas at the admission opening for the liquid; the stuffing boxes serve a like purpose, and the man-head permits the ready insertion and withdrawal of the agitator.

Claim.—1. The closed cistern A, provided with the removable man-head and stuffing boxes, constructed and operating substantially as and for the purpose set forth.

2. The combination, with the cistern A, of the agitator herein described, when the latter is constructed substantially as set forth, and is provided with vanes, or the equivalent thereof, arranged in such manner as to produce a pressure or packing of the gas inside the cistern, substantially as described.

3. The pipe G, made removable and adjustable, as described, in such manner that it can be used for discharging the juice on either side of the cistern A, as set forth.

4. Perforating the strainer or diaphragm N with holes, that expand as they pass to the under surface of the same, for the purpose set forth.

5. The sliding gate or fender V, when constructed and operating as described, and for the purpose set forth.

6. The combination of the juice receiver M, when provided with the perforated strainer N and sliding gate or fender V, with the cistern A and its component parts, substantially in the manner and for the purpose set forth.

82,683.—**FRANCIS BOYLSTON**, New York, N. Y.—*Childrens' Carriage.*—October 6, 1868.—The ends of the front axle are screwed into brackets, which are provided with extensions to which the ends of the sills are bolted.

Claim.—The brackets C C, having extensions *b b*, bolted to the ends of the sills B, and provided with an internal screw thread, into which the ends of the front axle are firmly screwed, as herein set forth for the purpose specified.

82,684.—**LUCIUS BRIGGS**, Grosvenor Dale, Conn., assignor to himself and **GEORGE BUNTIN**, same place.—*Temple for Loom.*—October 6, 1868.—Enables the rubbing surfaces of the roller and its center pin to be easily oiled.

Claim.—1. In a roller temple, the center pin, as extended beyond the trough head, as set forth, and provided with passages leading into the extension, and through the pin, substantially as and for the purpose specified.

2. In a roller temple, the center pin, as made with an oiling passage made through it lengthwise, and opening out of the side of the pin.

82,685.—**JOSEPH W. BROCKWAY**, New York, N. Y.—*Straw Cutter.*—October 6, 1868.—The cutters are placed diagonally on their stock, so as to act against the bars, which form the end of the trough, with a drawing and shearing cut, and are made to operate with the feed rollers by means of gear on the main shaft.

Claim.—1. The cutter *n* and stock *m*, in combination with the handle *r*, applied directly to such cutter or stock, so that the same can be vibrated by hand, and swing in contact with the bars *o o* at the end of the feeding trough, substantially as set forth.

2. The arrangement of gearing *h*, *d*, *d′*, *k*, and *l*, in combination with the feed rollers *c c*, cutter stock *m*, and cutters *n*, as and for the purposes set forth.

82,686.—**ANSON R. BROWN, M. D.**, Albion, Mich.—*Mold for Making Acupuncture Instruments.*—October 6, 1868.

Claim.—The former, F, having slits or mortises cast through it, as described, to receive the blades of of puncturing lancets 1, 2, 3, &c., in combination with a mold for casting the plungers E B, substantially as and for the purpose specified.

82,687.—George A. Brown, Kalamasoo, Mich.—*Spring Bed Bottom.*—October 6, 1868.
Claim.—The application of spiral springs M M, combined with cords R R, and their attachment P P, and pulleys K L, and pins N N, when constructed and arranged substantially as herein set forth and described.

82,688.—William H. Buell, Union City, Mich—*Mode of Securing Horse Power to the Ground.*—October 6, 1868.—The outer end of the stay has a hinge shoe stop made of a strap bent around it and ears into which is fastened the stake of the outer ends of the rods, the latter being jointed by a pivot bolt to the shoe stop through its ears, while the inner ends hook into eye bolts in the frame.
Claim.—In combination with each other, and with a horse-power frame, the stays C, rods D, and stakes S, when said parts are arranged relatively with each other, and with said frame, and constructed and connected substantially as and for the purpose specified.

82,689.—John Burnham, Batavia, Ill.—*Truss.*—October 6, 1868.—The socket is made with a concave in each of its two parts, for the ball, both parts being made to press against it by means of screws, the ball having an arm from which a lever projects to which the pad is attached.
Claim.—The attaching of the pad lever C of the truss to the spring, in the band or strap thereof, by means of a ball and socket joint, substantially as shown and described.

82,690.—John G. Buzzell, Lynn, Mass., assignor to himself and Charles Cummings, Hollis, Me.—*Carriage Wheel.*—October 6, 1868.—The hub has chambers around the outside near its ends, and a cap fixed on each end, the spokes fitting through the rims of the chambers, and fastened by nuts. The outer ends are passed through the felloe, and are fastened to elliptic springs in recesses formed in the outer edge of the felloes.
Claim.—In the carriage wheel, consisting of the hub A, having the chambers *a a* and the caps B B of the spokes C C, bent in the manner specified, the springs E inserted in the felloe D, all arranged and operating substantially as herein shown and described.

82,691.—Chauncey Carrier, Columbus, N. Y.—*Towel and Clothes Rack.*—October 6, 1868.—The ends of the bar rest in lugs, and project into the cups, a pin passing through them and the bottom of the cup, and through the top and bottom plates of a bracket to hold them together.
Claim.—The graduated cups B B, provided with lugs *a a*, to form a seat for the end of the bar, and so arranged that the bottom of each cup (except the lowest) may fit into and turn in the top of the one next below it, substantially as described.

82,692.—Charles Carter, Auburn, N. Y.—*Mortising Machine.*—October 6, 1868.
Claim.—1. The tool-carrying slide G G, guides H H, and spreading wedge J, combined and adapted for lateral adjustment of the tools *g*, substantially as described.
2. The combination, with the tilting table, the right and left screws S, and wheels *s s t*, arranged for operating both screws in same direction, and thereby operate clamps R R, substantially as described.
3. The adjustable stop Z, in combination with the rack and pinion *i j*, wedge J, and spreading tool slide, and guides G H, substantially as and for the purpose described.
4. The combination and arrangement of the spreading head or slide G H, wedge J, rack and pinion *i j*, stop Z, table L, clamp R, and saw U, all constructed and operating substantially as and for the purpose described.

82,693.—William Chappell, Buffalo, N. Y.—*Chimney Cap.*—October 6, 1868.—The wheel has spiral vanes overlapping each other, and formed so as to shed off water.
Claim.—The arrangement of the wheel D, over the mouth of a flue or chimney, when made in diameter larger than the outlet, and provided with overlapping spiral vanes E E, so as to protect the mouth of the flue, as herein set forth.

82,694.—G. W. Dana, Racine, Wis.—*Padlock.*—October 6, 1868.—Two bent levers, moved by a key with two bits, act against the two levers at the outer side of the plate, and behind it respectively throw back the annular bolts, which work in grooves. The ends of the bolts are halved, and overlap each other, their edges being beveled in reverse directions.
Claim.—The two bolts C C, halved or recessed at one end, and lapped, one over the other, and beveled at their outer edges, in connection with the bent levers D D′, plate E, and spring F, all arranged, substantially as and for the purpose set forth.

82,695.—Samuel F. Day, Ballston Spa, N. Y.—*Telegraphic Instrument.*—October 6, 1868.—The sounder is operated by making a continuous circuit around it through a resistance coil of greater length than that of the magnets attached to the sounder, the bulk of the current being transferred through the sounder by means of a rotary instrument connected to it for that purpose.
Claim.—1. The combination of a relay and sounder, and the resistance coil O, or its equivalent, substantially as and to the effect hereinbefore set forth.
2. The arrangement of parts herein described, or its equivalent, by which the sounder, while controlled by the relay, is also made to work the main line as a repeater, substantially as herein set forth.
3. The combination of the magnets D D, shafts Q Q, clamping pieces S and T, and adjusting screw U, or their equivalent, substantially as set forth.

82,696.—A. M. Dennen, Folsom City, Cal.—*Liniment for Rheumatism.*—October 6, 1868.—Composed of the oils of wormwood, cassia, hemlock, tansy, lavender, anise, cloves, origanum, tar, and of tar balsam, gum opii, and gum myrrh, mixed with alcohol.
Claim.—The medical compound, substantially as herein described.

82,697.—John S. Dutton, Jaffrey, N. H.—*Screw Plate.*—October 6, 1868.—A gauge collar movable on the screw closes the dies, and is provided with a set screw to affix it at any point on the said screw, so as to limit the movement of the latter in closing the dies. Suitable marks are engraved on the collar and on the proximate reduced end of the screw plate against which the collar is stopped in closing the dies.
Claim.—In combination with a screw die plate and the screw handle C, the indexed collar *a* and the indexed shoulders *b* and *f*, arranged substantially as described.

82,698.—John A. Edwards, Waterford, Pa.—*Milk Vat.*—October 6, 1868.—The agitators are actuated by a hand lever, causing the water to circulate under the pans, while a bulkhead provided with a gate is arranged to shut off the flow of water when desired.
Claim.—The described arrangement, within the milk vat, of the agitators C C, lever D, bulkhead F, gate G, and furnace B, as herein described, for the purpose specified.

82,699.—W. G. Farmer, Burlington, Vt.—*Cutter Head.*—October 6, 1868.—In the center of the circular plate is a collar, in which is the shaft for the matcher head, the upper side of the plate having three straight grooves forming a triangle, and in them are placed the knives, similar ones in the upper movable, circular block, with a hold to slip around the collar, holding them in place, while other knives with sharp cutting edges and a groove are used for cutting the tongue.
Claim.—The circular grooved plate A, provided with a collar, B, and movable grooved plate E, in combination with the knives D D and H H, all constructed as described, and operating substantially as and for the purposes herein set forth.

82,700.—Joseph H. Ferreira, Newark, N. J. —*Floor Clamp.*—October 6, 1868.—In a bed piece, which rests on a beam and is held in place by a shackle, each side, slides a bolt, reacted on by a spring which is thrown forward by a lever and cam, against the work.

Claim.—The combination, in a clamping device, of cam G, plunger D, spring E, and shackle C, or pins H, operating substantially as and for the purpose described.

82,701.—James S. Fowler, Racine, Wis.—*Brake for Sewing Machine.*—October 6, 1868.—A box provided with a rubber block has at its rear edge the end of a spring, the other end resting against and passing through a staple under the table and holding the block in contact with the balance wheel, while the rear end of a rod rests against the front edge of the box, and its other end passes through the table, by which means the action of the brake may be controlled.

Claim.—1. The arrangement of the spring F, the pivoted box or holder E, and rubber block D, with the table and fly-wheel, as herein shown and described, and for the purpose set forth.

2. The combination of the sliding rod G with the pivoted box or holder E and rubber block D, substantially as herein shown and described, and for the purpose set forth.

82,702.—Joseph Funkhouser, Rockingham County, Va.—*Abdominal Supporter.*—October 6, 1868.

Claim.—The iron padded brace or support A B C, the sack E, the bands, and the manner of attaching the same, substantially and for the purposes above described, using therefor the metal and material aforesaid, or any other substantially the same.

82,703.—Joseph P. Gates, Lincoln, Ill.—*Shaft Coupling.*—October 6, 1868.

Claim.—1. The disks D and C, secured to proper shafts, with the slide or shuttle key E, in relation to the channels S and J, and recess Q, or their equivalents, when constructed and operating substantially as and for the purposes set forth.

2. The disk C, having its shaft, K, protruding inwardly, in combination with the disk D, having an opening in its inner face, which opening forms a bearing for shaft K, substantially as and for the purposes set forth.

3. The shuttle key or slide E, with its studs F and G, or their equivalents, for the purposes shown.

4. The spring N, in connection with the oscillating stud O and slide E, or their equivalents, when operating substantially for the purposes set forth.

5. The cam L, with its semiannular channel J, arm I, lever V, head U, or their equivalents, when arranged and operating substantially as and for the purposes shown.

6. The combination of all the above-mentioned parts and their attachments, when constructed, arranged, and operating substantially as and for the purposes herein set forth and described.

82,704.—Albert Gerdes and Julius Reiché, New York, N. Y.—*Barbers' Chair.*—October 6, 1868.—The seat shaft is connected with an upright shaft by bevel gear wheels acted on by a pinion wheel kept out of gear by a spring which keeps a shaft locked, to which a grooved collar is keyed, levers and bolts being arranged and operated in connection with another grooved collar and knob, so as to reverse the seat and back, while the head rest with its stem in a split tube is clamped by a ferrule on the upright shaft.

Claim.—1. A barbers' chair, whose seat, back, and head rest are upholstered on both sides, the same being so connected by such mechanism that the said seat, back, and head rest may be reversed simultaneously, in the manner and for the purpose substantially as herein shown and described.

2. The split tube and taper ferrule *r*, for the purpose of adjusting and holding the head rest, substantially as shown and described.

82,705.—Samuel Gibson, Safe Harbor, Pa.—*Scrubbing Brush.*—October 6, 1868.—Strips of rubber are inserted between the holder and clamp, and fastened by screws, while on the upper side of the clamp is attached an ordinary bristle brush held by the same screws.

Claim.—The arrangement of the shouldered plate A and flanged keeper E inclosing the stripes of rubber D, upon the forward part of the bristle brush G, all as herein shown and described.

82,706.—E. H. Gillman, Montpelier, Vt.—*Sleigh.*—October 6, 1868.—The draw rods pass through the runners, which are screwed by nuts at the back of the sleigh, and in front, ending with a hook or eye, through which is a rod on which are fixed the shafts.

Claim.—The draw rods D D for sleighs, for the purposes and in the manner and form set forth.

82,707.—H. C. Glasgow, Cleveland, Ohio.—*Car Coupling.*—October 6, 1868.—The coupling box is movable backward and forward, and is so arranged and connected with the car body and coupling pin that the link can be put, from above or below, even when the cars are close together, and so prevent the pin from being drawn out in case the link from an opposite car enters the box.

Claim.—1. The quadrangular metallic box B, divided into two or more spaces by the horizontal partitions *g*, and provided with flanges *e e*, to which the bent bars *f f* are pivoted, embracing the chafing timbers *c c*, whereby the box is held between and guided upon said timbers, as herein shown and described.

2. The coupling box B, with or without the block C, in combination with the block D, follower E, links *i* and *k*, spring F and stop *l* or *m*, all made and operating substantially as and for the purpose herein shown and described.

3. So arranging the top and bottom plates *n* and *o* of a coupling box, by perforating the same, that the coupling link can be inserted from the rear, substantially as herein shown and described.

82,708.—H. C. Glasgow, Cleveland, Ohio.—*Car Coupling.*—October 6, 1868.—The sliding and detachable coupling box is arranged between two beams or bumpers and is connected with the frame of the car by rods fastened to it by pins, and which pass over the springs in rear of the transom, a block pressing against a spring between it and the transom, so that thus the connection of the cars is formed and maintained.

Claim.—1. The arrangement of the floor beams A′ A′, when they project through a sill, B, constructed to receive them, and serve as bumpers, and to carry the sliding coupling box, substantially as herein shown and described.

2. The manner herein shown and described of fastening the two ends of each U-shaped draught bar *e* to the coupnig box by means of one pin, *f*, substantially as herein shown and described.

3. The arrangement and combination with each other of the coupling box G, block I, spring *g*, transom *b*, spring H, and draught bars *e*, all made and operating substantially as and for the purpose herein shown and described.

82,709.—William W. Gordon and Dexter Pettengill, Delhi, N. Y.—*Trace Buckle.*—October 6, 1868.—The clamping plate has a tongue fitted to the holes in the trace, its front end being placed under the front bar and its rear end raised over and fixed to the center bar of the frame, by means of the ends of the standard bent around it.

Claim.—The combination and peculiar arrangement of the frame A, tongue plate C, and tug strap E, in the manner and for the purposes set forth in the above specifications.

82,710.—François Grenièr, Beroserac, France, assignor to G. H. Mercer and A. E. Monod, New York City.—*Dough Mixer.*—October 6, 1868.—The rotating annular trough has two pairs of beaters to which are attached scrapers for its bottom, while the sides are cleared by stationary ones, and on the shafts are rods having screw blades reaching near to the bottom to raise up and knead the dough.

Claim.—1. The rotating spiral blades J J, and the rotating beaters H H, arranged in pairs, each pair having a bottom scraper, *b*, in combination with the frame A, substantially as described for the purpose specified.

2. The dough-mixing machine, consisting of the rotating annular trough C, rotating beaters H H, rotating screws J J, and fixed scrapers I I, all made and operating substantially as herein shown and described.

82,711.—Reuben C. Grover, Newton, Mass.—*Manufacture of Edge Tools.*—October 6, 1868.—The face of the stock is cut away, so as to leave a longitudinal groove for the steel cutting edge plate which is fitted for insertion therein.

Claim.—The knife A *b*, constructed as described, and as a new article of manufacture.

82,712.—Theodore Grundmann, Cleveland, Ohio.—*Apparatus for the Manufacture of Vinegar.*—October 6, 1868.—An automatic distributer has two compartments, and as the liquid, passing through the perforated plates of the filter, fills one of them, its weight swings the box on its pivot and brings the other under the supply pipe, straw braids being arranged beneath, along which it flows in small streams.

Claim.—1. The braided strands D D, when used in a vinegar apparatus, for spreading the mash, and exposing it to the air, as set forth.

2. The self-regulating swinging mash-distributing box G, arranged substantially as herein shown and described.

3. The box A, when composed of a series of detachable plates, as set forth, so that the suspended braids D may be exposed to the air to be dried.

4. A vinegar apparatus, consisting of the box A, vessel B, frame C, braided pendants D, distributing box G, and supply and discharge pipes *f* and *j*, all made and operating substantially as herein shown and described.

5. The device set forth in the foregoing clause, in combination with the filter H, in which the two perforated plates *l* and *m* are arranged, as set forth.

6. The distributing sheet E, arranged between the swinging box G, and the braided pendants D, substantially as herein shown and described.

82,713.—J. A. Hammer and Thomas Chadwick, Newton, Iowa.—*Wash Boiler.*—October 6, 1868.—The perforated bottom of the inner boiler has a flange fitting to the outer boiler, the space between the two forming a clothes chamber, to which the lower ends of two curved tubes are connected, and coming up at the tops into the reservoir which forms the outer chamber, in which are valves worked from the top, a safety valve being also in the lid.

Claim.—1. A clothes washer, so constructed as to form one lower or boiling chamber, one clothes chamber, and one or more reservoirs for supplying clean hot water, substantially as herein set forth.

2. A clothes washer, constructed as described, with one or more reservoirs, connected by valves to the boiling chamber below, which valves can be opened and closed at will from the top of the boiler, substantially as and for the purposes herein set forth.

3. Passing the steam-conducting tubes of a wash boiler, constructed as specified, through the water reservoirs, for the purpose of heating the water contained therein, substantially as and for the purposes herein set forth.

4. In a clothes washer, the combination of a clothes chamber, boiling chamber C, one or more reservoirs E, tubes F F, perforated mouth pieces G G, perforated bottom D, and valves *b*, *d*, and *e*, all arranged as described, and operating substantially as and for the purposes herein set forth.

82,714.—A. O. H. Hardenstein, Clinton, Miss., assignor to himself and Marcellus A. Foute, New Orleans, La.—*Explosive Projectile.*—October 6, 1868.—A rod with a percussion cap on its front end is inserted into a tube bearing the fuse, the rear end being fixed to a disk, which being of equal diameter with the shell, keeps it secure till the gun is fixed, when, as it is driven forward, the cap is exploded, the bars moving in the grooves of the bore preventing the escape of gas, and giving a spiral motion to the projectile.

Claim.—1. The combination of the disk N and rod M with a projectile, substantially as herein described, when these parts are constructed and operate substantially as and for the purpose set forth.

2. The wedge-formed bars A, in combination with a projectile, substantially as herein described, when the same are constructed and operated substantially as herein described, for the purpose set forth.

3. The bars A, in combination with the disk N, when these several parts are constructed and operate as herein described, in connection with a projectile, substantially as herein described, for the purpose set forth.

82,715.—George W. Herrick, Stuyvesant, N. Y., assignor to himself and H. H. Gibbs, same place.—*Device for Casting Lugs and Dovetails.*—October 6, 1868.

Claim.—1. The hand tool B, for forming the mold in which the spur *b* is cast upon the lug *a* of a stove top, consisting of the hollow and slotted cone C, bearing the lever *f*, hung upon the transverse shaft *e*, the projection *g*, upon the lower end of said lever being held through the side of the cone by the spring *i*, upon the upright *d*, all arranged and operating as described for the purpose specified.

2. The tool H, for forming the mold in which the spurs *k k* are cast upon pin *j*, consisting of the cylinder I, whose lower end is slotted upon opposite sides at *r r*, the rod *l*, having the projecting foot *m*, and hung loosely upon the shaft *n*, which works in the slots *o* of the cylinder I, said projecting foot being held above the slots *r* by means of the spring *p* bearing against the shaft *n*, all arranged and operating as described for the purpose specified.

3. The tool M, for casting the beveled lugs *w w w* upon the stove plate J, consisting of the plate *a'*, having the slides *b' b'* provided with projections *c' c'*, which are kept within the projection *d'* by means of the spiral springs *e' e'*, all arranged and operating as described for the purpose specified.

82,716.—Micah Hobbs, Natick, Mass.—*Sole Cutting Machine.*—October 6, 1868.—The bed is moved by means of springs, racks and gears connected with racks attached to the ears of the frame, while the sole cutter revolves and is raised or lowered, through its journals.

Claim.—The combination of the bed B and its mechanism for operating or moving it, as described, with the rotary cutter A, and mechanism for elevating and depressing and revolving it, in manner substantially as specified, the bed being arranged over the rotary cutter, as explained.

82,717.—H. Hockemeyer, Toledo, Ohio.—*Butt Hinge.*—October 6, 1868.—The collar is formed around the head of a pin, a lip on the edge of the wing projecting over it, and has two slots, one of which incloses the upper edge of the wing, and both wing and pin thus move together.

Claim.—In combination with a loose pin butt hinge, the collar *d*, the lip *e*, and the slots *f* and *g*, constructed and arranged substantially as shown and described for the purposes set forth.

82,718.—James Holmes, Belfast, Me.—*Stave Machine.*—October 6, 1868.—Pinions are attached to each end of a shaft which gear into racks sliding on guides; at the end of the bolt carriage another parallel shaft, having on one end a ratchet with a pawl connected to a lever which is fitted loosely on its other end; a third shaft, likewise parallel, being also fitted on the bolt carriage, and operating by pawls with arms, and the pinion gear.

Claim.—The pinions *f* and shaft H, arranged with reference to the racks *g* of the bolt carriage, the shaft L, pinions *l*, shaft N, pawl *o*, and lever P, whereby the bolt carriage is moved evenly toward the saw, as herein described for the purpose specified.

82,719.—J. Burrows Hyde, New York, N. Y.—*Mode of Preserving Meats, Vegetables, and other Perishable Substances.*—October 6, 1868.—The edible substances are packed in or surrounded by dry pulverized peat.

Claim.—The material described, for the purposes set forth.

82,720.—Ebenezer Jennings, Jr., New York, N. Y.—*Suspender and Shoulder Brace Combined.*—October 6, 1868.

Claim.—1. A combined shoulder brace and suspender, provided with the loop C, on one end of each of the main straps, adapted to receive the reverse ends of the opposite straps, substantially as and for the purpose set forth.

2. In combination with a combined shoulder brace and suspender, provided with the loop C, on one end of each of the main straps, as and for the purpose described, the button-hole tags B, as and for the purpose specified.

3. In combination with the subject-matter of each of the said first and second claims, an adjustable slide, through which both of the main straps pass, crossing each other, substantially as shown and described.

82,721.—Luman F. Johnson, Buffalo, N. Y.—*Furnace Door.*—October 6, 1868.—The bricks are rebated and fit over the flanges of the cast-iron frame supporting them, the object being to prevent said flanges from being burned.

Claim.—The rebated fire bricks B, so arranged within the cast-iron frame, as to overlap the flanges *a'* thereof, and protect the same, substantially as described.

82,722.—John Stafford Kelley, New York, N. Y.—*Washing Machine.*—October 6, 1868.—The fluctuation of the water, clothes, and rubbers produces an action similar to hand rubbing, and delicate fabrics are not injured.

Claim.—The combination, in a washing machine, of an oscillating drum, barrel, or box, A, with a number of floating rubbers, composed of pliant sleeves, containing buoyant balls, arranged in a row, all substantially as shown and described, and for the purpose set forth.

82,723.—John H. Keyser, New York, N. Y.—*Drum for Hot Air Furnace.*—October 6, 1868.—Designed as an improvement on his patent of March 19, 1867. The upper drum is constructed with a central opening which is surrounded by a collar for receiving a direct draught pipe, said opening allowing ready access to the upper drum for cleaning.

Claim.—The radiating attachment herein described, constructed with an opening through the top of its drum A, substantially as specified.

82,724.—John L. Lay, Buffalo, N. Y.—*Toy Hoop.*—October 6, 1868.

Claim.—The relatively stationary hoop B, supporting an image or images, in combination with an outer concentric and rotating hoop, A, provided with rollers *e e*, or their equivalent, which gives motion to the image through intermediate levers *h* and connecting rods *i*, or their equivalent, substantially as set forth.

82,725.—William J. Lewis and Henry W. Oliver, Jr., Pittsburg, Pa.—*Strap Bolt.*—October 6, 1868.—The round bar is passed through rolls which give it the form and size desired for the strap bolts.

Claim.—A new article of manufacture, iron rolled to constitute a series of blanks, in bars, for strap bolts, of the form herein described.

82,726.—Josiah R. Locke, San Francisco, Cal.—*Carriage Spring.*—October 6, 1868.—The front springs are continuous and bent around the bolster and secured to the reaches by shackles. The rear springs are of O-form connected to the side springs and secured to the reaches. A reach in the center of the frame is fastened to the bolster by a strap, beneath which is placed a cushion held by a rod attached to the rear side springs.

Claim.—1. The box J, elastic packing or spring K, and the extension braces or rods L L, attached to the side springs G G, substantially as and for the purpose specified.

2. The combination of the side springs G G with the O-spring I, by the shackle connection H, the O-springs extending around the axle bed and attached to the reaches, substantially as described.

3. The springs E E, crossing the upper ends of the springs G G, and passing over the bolster, and attached to the forward ends of the outside reaches, substantially as described.

82,727.—Josiah R. Locke, San Francisco, Cal.—*Carriage Springs.*—October 6, 1868.—Two springs at each side of the wagon attached to the bottom of the bolster at one end and the axle bed at the other, separate in opposite directions by a goose-neck curve, and are bolted to the side rail. A double-acting spring is placed back of the springs, the upper portion being attached to the rail, and the lower portion working in a slide.

Claim.—1. In combination with the wood and steel springs A A, the goose-neck springs D D, constructed substantially as described.

2. The double-acting springs F F and the slides E E, in which the lower ends move, or equivalent device, the whole constructed to operate substantially as described.

82,728.—Kellogg H. Loomis, New York, N. Y.—*Anti-friction Steam Engine Valve.*—October 6, 1868.—A conical valve provided with steam ports, (the solid portions between each of which taper upward and form ribs which prevent the valve from springing,) fits into a correspondingly-shaped seat with suitable ports. The valve is secured to a stem provided with a yoke by which it is rotated; the upper end of the stem rests in a cross piece which is adjusted by means of a set screw.

Claim.—1. An oscillating steam valve, suspended from and having its bearing and turning upon an adjustable center point above its seat, in the line of its axis, substantially as described.

2. In combination, the valve stem, support E, yoke F, and set screw H, all constructed and arranged substantially as shown and described.

3. The arrangement of the ribs *b'* between the ports, extending from the base to the outer surface and apex of the cone, substantially as set forth.

82,729.—Jeremiah A. Marden, Boston, Mass., assignor to Augustus Lynch and Reuben K. Huntoon, same place.—*Governer for Steam Engine.*—October 6, 1868.—A tubular shaft extends through the cover of the vessel and has secured to it a disk which supports a rocker shaft to which the float is attached. The lower part of a stem rests against an arm on the rocker shaft and the upper end against a lever so connected to a weighted bar operating the valve that should the steam ports be opened too far the bar drops and is disengaged from the lever operating it by cams placed on it coming in contact with a standard.

Claim.—1. The arrangement and combination of the float D, its arm *e*, the tubular shaft C, the spindle *f*, vessel A, and its cover B, as specified.

2. The arrangement of the said float D, arm *e*, spindle *f*, tubular shaft C, lever E, and its hanger H, as set forth.

3. The arrangement of the compensating arm M, and weight N, valve arm I, hanger H, lever E, spindle *f*, tubular shaft C, float D, arm *e*, and the vessel A, substantially as specified.

4. The combination of the cam *n*, slotted arm *m*, and the movable standard *o*, with the hanger H, lever E, spindle *f*, tubular shaft C, float D, arm *e*, and the vessel A, substantially as set forth.

82,730.—George A. Mariner and Julien Kune, Chicago, Ill.—*Amalgamator.*—October 6, 1868.—The outer cylinder is closed at the bottom by a conical plate in which the rotating agitator has bearings, said agitator consisting of a perforated plate provided with arms which extend upward and revolve around rods secured to the lower side of a perforated diaphragm. An inclined partition receives the spent ore which is carried off by a pipe through a furnace, the mercury adhering to the ore being sublimized and carried off by a condensing pipe.

Claim.—1. The cylinder *a c*, provided with the conical plate or bottom *b*, in combination with the cylinder *d f*, supported above the bottom, substantially as shown.

2. The annular plate or diaphragm *e*, to regulate the dispersion of the ores, when provided by the rods *u*, substantially as specified.

3. The perforated annular plate *r*, when provided with the rods, substantially as and for the purposes described.

4. The inclined partition or chute B, constructed and operating in combination with the discharge spout *v*, substantially as specified.

5. The tube or pipe *b*, when made to pass through the furnace *w*, in combination with the escape or condensing pipe G, substantially as and for the purposes specified.

6. The extension feed pipe *l g*, whether used with or without a screw carrier, substantially as specified.

82,731.—A. H. Marret, Water Works, Ky.—*Manufacture of Artificial Stone.*—October 6, 1868.—Sand and hydraulic cement are mixed and molded, then dried, placed in water, and saturated with a solution of silicate of potash or soda.

Claim.—The process of manufacturing block, substantially, for all building purposes, as herein described.

82,732.—James Garth Marshall, Leeds, England.—*Apparatus for Washing, Bleaching, and Cleansing Yarns, Bobbins and other Materials.*—October 6, 1868.—The yarns, &c., are wound around perforated bobbins which rest over nozzles proceeding from a chamber. The cleansing or bleaching solution is forced into the chamber and then through the bobbins into the material wound thereon. Woven fabrics are wound with an open web of slats between folds, and treated in the same manner.

Claim.—1. The combination, with the vessel A, of the supply pipe D, opening into a chamber, C, one or more sets of spool-holding studs *e* and *h*, and an exhaust pipe N, substantially as and for the purpose described.

2. The employment of the open web S, in combination with a closed vessel, A, substantially as and for the purpose described.

82,733.—Nathan Maxson, Wilmington, Ohio.—*Fence.*—October 6, 1868.—Cement is placed in sections over a ridge of earth which latter has grooves running down its sides into which the cement runs and forms ribs.

Claim.—The fence A B C, constructed as described, that is, having the foundation A, interior B, and covering C, the latter being laid on in sections, with beveling edges, and being strengthened, at regular intervals, by bars, formed in the manner described, the whole being combined and arranged as and for the purposes set forth.

82,734.—Frank Melville, New York, N. Y.—*School Slate.*—October 6, 1868.—The ends of a thin strip of wood or metal containing the copy are inserted through notches into the grooves in the side of the frame. The strip is then moved to the top of the slate and held by a spring.

Claim.—The notches *a a*, in the inner edge of the frame B of the slate, in connection with the spring *b* and the removable copy C, all arranged substantially as and for the purpose herein set forth.

82,735.—Helem Merrill, New York, N. Y.—*Filter for Saccharine and other Liquids.*—October 6, 1868; antedated September 30, 1868.—A filtering cloth forms an endless belt, a portion of which passes over a hollow cylinder with slotted sides; the other portion is led out of the top of the filter over guide rollers to a washing tank, where it can be cleansed. The object being to clean the cloth as fast as its action is retarded by feculent matter.

Claim.—1. The arrangement of the filtering material, partly inside and partly outside the filter.

2. Operating a sheet of filtering material so that it passes in and out of a filter, either continuously or at intervals, as may be required.

3. Supporting and securing a traveling apron by means of endless belts, substantially as described.

82,736.—James Mitchell, Philadelphia, Pa.—*Rotary Blower.*—October 6, 1868.—An auxiliary air passage is located within the fan case to receive and conduct the blast from the wings at that part of their rotation where, without such passage, they would be ineffective.

Claim.—The combination of the direct tangential discharge port H, rotary fan D, eccentric casing A, and concentric partition E, all constructed and arranged as herein represented and described, for the purpose specified.

82,737.—George R. Moore, Lyons, Iowa.—*Water Meter.*—October 6, 1868.—The cylinder is divided into three compartments by a vertical and horizontal plate. Four water ways made in the vertical plate, two above and two below the horizontal plate, are opened and closed by a valve which is rotated by a forcing plate placed above the horizontal plate and operated by the water; said forcing plate is provided with springs which come in contact with regulating screws on bent levers, which latter actuate the rotary valve.

Claim.—1. The water ways *o o o o* through the plate A, in the manner and for the purpose herein set forth.

2. The forcing plate C, upon its journals *f*, operated by the water, substantially in the manner and for the purposes herein set forth.

3. The springs *d d*, used in operating the valve B, substantially in the manner and for the purpose herein set forth.

4. The levers *a a* and regulating screws *g g*, substantially in the manner and for the purpose herein set forth.

5. The dividing plate, *e*, substantially in the manner and for the purpose herein set forth.

82,738.—James M. Morehead, Brooklyn, N. Y.—*Clamp for Iron Structure.*—October 6, 1868.—The four plates are provided with bolts at each corner; two of them are formed with circular recesses for clamping the vertical rods, and the other two with semicircular recesses for clamping the horizontal rods.

Claim.—The four plates A, B, C, and D, formed and combined substantially as shown and described, for the purpose of clamping crossed rods, all as set forth.

82,739.—Charles H. Mosely, Winchester, Mass.—*Machine for Desiccating Leached Tan and other Substances.*—October 6, 1868.—An endless apron passing through a hopper placed over the leaching trough carries the leached bark to another hopper, the latter feeding it between two hollow heated rollers which express the liquid.

Claim.—1. The arrangement, as well as the combination of the endless apron or conveyer B, the hopper C, through which it passes, the auxiliary hopper M, and the pair of heating and expressing rollers K L, such being provided with mechanism for operating them, substantially as described.

2. The arrangement and combination of the leaching vat A, the endless apron B, the hoppers C M, and the pair of expressing rollers K L, the whole being disposed within a frame, as set forth.

3. The combination of the elevator N with the expressing rollers K L, the two hoppers C M, and the endless apron B, or the latter and the leaching vat A, the whole being arranged in a frame, and provided with mechanism for operating them, substantially in manner and for the purpose or object as hereinbefore specified.

82,740.—James H. Myers, New York, N. Y., assignor to himself and C. T. Rick, same place.—*Pattern for Cutting out Shirt.*—October 6, 1868.—The several parts of the pattern are so shaped and graduated that on the neck, chest, and waist, measurements being determined, the proper shape of the different parts is ascertained by the graduated boundary lines delineated upon said patterns.

Claim.—The diagram for cutting shirts, consisting of the back, yoke, front, bosom, neck band, and sleeve patterns, of the configuration shown, having graduated measurements delineated thereon, substantially as shown, for the purpose specified.

82,741.—JOHN NAIRN, Milton, Ind., assignor to himself and MATTHEW PFAFFLIN, same place.—*Feeding and Cooling Device for Grain Mill.*—October 6, 1868.—A vessel secured to the top of the bail of a running stone is provided with two tubes which convey the grain to the stone. A tube fixed to the mouth of the hopper extends nearly to the bottom of the vessel and is provided with arms which scrape the grain into the two tubes when the vessel is rotated.

Claim.—The arrangement of the vessel A, tubes B B C, and curved lateral tubes E E, and scraper D, when combined and operated substantially as and for the purpose herein described.

82,742.—ELIM OSBORN, Economy, Ind., assignor to himself and HENRY BEARD, same place.—*Rotary Steam Engine.*—October 6, 1868.—A revolving disk valve is keyed to the main shaft and regulates the admission of steam from the chest to the induction pipes of the engine.

Claim.—1. The combination of the revolving disk-plate valve *h*, steam chest D, and shaft A, substantially as set forth.

2. The arrangement of the steam pipes E E, steam chest D, and apertures *m*, with reference to the shaft A and wheel B, substantially as described.

82,743.—ADOLPHE ACHILLE PATHI, Paris, France.—*Cigar Pipe.*—October 6, 1868.

Claim.—A tobacco pipe, having a lid, *b*, provided with a prolongation, *d*, terminating at the outer end in a form resembling a burning cigar, and perforated for the admission of air to support the combustion of the tobacco, substantially as and for the purpose described.

82,744.—E. G. PATTERSON, Pithole City, Pa.—*Railway Rail Joint.*—October 6, 1868.

Claim.—1. The chair D, made with the inner sides of its jaws inclined or wedge-shaped, substantially as herein shown and described, and for the purpose set forth.

2. The clamps F, constructed as described, and provided with bolts G and nuts H, in combination with the fish plates C, by which they are supported, and with the wooden bar or bars E, which they support, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the fish plates C and chair D with each other and with the ends A and B of the rails, substantially as herein shown and described, to form a rigid support for the said ends of the said rails.

4. The combination of the fish plates C, chair D, wooden bar or bars E, and clamps F with each other and with the ends A and B of the rails, substantially as herein shown and described, and for the purpose set forth.

82,745.—JOHN PATTISON, Nevada, Cal.—*Quicksilver Feeder for Quartz Mill.*—October 6, 1868.—In a vertical opening of the fountain is a pipe, fitting closely to the horizontal shaft below. Another pipe also beneath leads to the battery, a set screw being placed in an opening of the shaft of only half its diameter, the rest being formed into a cup for receiving and discharging the quicksilver into the battery pipe, while the slotted ring couples the two parts of the shaft, on which rotates a toothed wheel operated by a cam, lever, and pawl.

Claim.—1. The quicksilver fountain C, with the vertical pipes D and F, above and below the horizontal shaft, substantially as described.

2. The cup G′, in the horizontal shaft E, graduated by the set screw G, or their equivalents, substantially as and for the purpose described.

3. Coupling the shaft E together by the slotted ring H and keys H′ H′, and operating the machine by the lever K, pawl K′, and toothed wheel J, the whole constructed and arranged to operate substantially as described.

82,746.—JETHRO PECKHAM and JOHN PECKHAM, Middletown, R. I.—*Ventilator.*—October 6, 1868.—The ridge cover rests on vertically-sliding posts, a windlass being used for raising or lowering it to open or close the air passage.

Claim.—The combination, with the ridge cover A, supported on the vertically-sliding studs B, of the winding shaft C and cords D, substantially as and for the purpose specified.

82,747.—HENRY PEMBERTON, Allegheny City, Pa.—*Porous Alum.*—October 6, 1868.

Claim.—As a new article of manufacture, the sulphate of alumina, prepared in a porous or vesicular state, whether in lump or ground to a coarse or fine powder, substantially as described.

82,748.—STARR POLLEY, Brooklyn, N. Y.—*Machine for Stretching and Blocking Hats.*—October 6, 1868.—An improvement on his patent of April 2, 1867. The block is raised into contact with the stretched top of the hat, and then pushed up by means of a lever, so as to draw it up. The rubber band fits on the body, and holds it when the stretcher levers are separated at their upper ends.

Claim.—1. The arrangement of the flat, elastic ring or band T, of rubber, over or outside of the hat body *f*, as shown and described, in combination with the stretching device B, when arranged to operate relatively thereto during the stretching operation, substantially as and for the purposes herein set forth.

2. The elastic band T, in combination with a hat body, and with the block O and stretching device B, so as to perform the double function of clamping or holding the hat body in place upon the stretching machine in the act of stretching the tip, and also of holding the body upon the block during the subsequent operation, substantially as herein described.

82,749.—PETER PRESCOTT, Booneville, N. Y., assignor to ISAAC HALL, WILLIAM J. HALL, and C. M. PRESCOTT, same place.—*Horse Hay Rake.*—October 6, 1868.—The ends of the rod are attached to the shaft, and are inserted in the vertical plates affixed to the rake frame, several holes being formed in the plates for adjusting the shafts, and the arms, which are attached to the rake shaft, are also hinged to the rod.

Claim.—The plates *a a*, rods *i*, arms *b b*, arranged substantially as described, for the purpose of lessening the pressure of the shafts or tongue of a revolving horse rake, all as set forth.

82,750.—GEORGE W. PUTNAM, Boston, Mass.—*Lantern.*—October 6, 1868; antedated September 26, 1868.—The case in which is the magazine is fitted to slide within the lantern case, and when the magazine is removed and hooked on the side, the lantern may be put in and used.

Claim.—The employment or use, with a portable lantern, of a movable magazine, when all are constructed and arranged substantially as shown and described.

82,751.—GEORGE W. RAWSON, Cambridgeport, assignor to himself and MICHAEL HITTINGER, Somerville, Mass.—*Out-off for Steam Engine.*—October 6, 1868.—An improvement on the patent of George W. Rawson and Michael Hittinger, November 12, 1867. Slide valves are used instead of cut-off valves, and are moved in one direction and stopped in another by two chairs, and by an arrangement connected therewith, a steam balance of the cut-off valves, prior to the relative movement of the slide valves, is effected.

Claim.—1. The arrangement and combination of the stopping chains with the steam chest, the sliding, main, and cut-off valves, the springs *k k*, the rods *g g*, the pawls or catches *m m*, and the tripper *p*, to be applied to a governor, the whole being to operate in manner as described.

2. The arrangement of the valve-seat projections *c′*, or the equivalents thereof, in relation to the steam chest A, the main and cut-off slide valves B *e e*, the stopping chains, the springs *k k*, the cut-off valve rods *g g*, the pawls *m m*, and the tripper *p*, the whole being as specified, the valve-seat projections enabling the steam to effect the balancing of the cut-off valves, as explained.

82,752.—HIRAM RICHMOND, West Meriden, Conn., assignor to CHARLES PARKER, same place.—*Match Safe.*—October 6, 1868.

Claim.—The match safe, constructed as described, of the back plate A, the box B, having the vertical opening *b* for the thumb and finger, and the inclined hinged lid C, having the opening *c* corresponding to opening *b* in the box, all arranged as described, for the purpose specified.

82,753.—WILLIAM RODGERS, Linnville, Ind.—*Cultivator.*—October 6, 1868.—The rake is hung on the end of the beam, behind and under which is the steadying wheel, and a rod, attached near its center, with its top passing through the end of the beam, is adjusted by means of a screw on top, the rake being also braced by rods movably pivoted at its ends, projecting toward the main beam, thus allowing it motion, its teeth being slightly inclined inwardly.

Claim.—The rake K, supported and braced as described by the vertical and lateral rods, and having itself vertical teeth, in combination with the cultivator, provided with the steadying wheel H, all constructed and arranged as and for the purpose set forth.

82,754.—CHARLES C. SCHMITT and RUDOLPH WODRICH, New York, N. Y.—*Folding Easy Chair.*—October 6, 1868.—The upper ends of the chair are connected by means of an apron, which has one side wound around a roller, by means of which it is kept stretched, and the seat is pivoted to the rear section, while its front end rests on the rail connecting the upper ends of the stays to the front section.

Claim.—1. The application to the roller F, around which the band G is wound, of the spring *c*, ratchet wheel *a*, and spring pawl *b*, all made and operating substantially as herein shown and described, for the purpose of locking the chair automatically in any desired position, as set forth.

2. The cam J, arranged in connection with the spring pawl *b*, for the purpose of allowing the band to be unwound and the seat to be lowered, substantially as herein shown and described.

3. Pivoting the seat I to one set of supports only, of an X-shaped chair frame, when said frame is provided with a self-acting band, G, and roller F, substantially as and for the purpose herein shown and described.

4. The rod K and lugs *g*, when arranged on an X-shaped stool frame, to prevent extreme expansion of the same, as set forth.

82,755.—CHARLES C. SCHMITT and RUDOLPH WODRICH, New York, N. Y.—*Folding Chair.*—October 6, 1868.—The legs of the chair are pivoted to the seat, and connected with braces by bands or staples, so as to allow it to be folded up as desired.

Claim.—The folding chair, consisting of the combination of the seat A, which is pivoted or hinged to the legs B C, with the rods *a b d e*, bands or staples *c f*, rod *h*, slotted arms E, hinged to the legs B, pins *k*, and band *i*, all made and operating substantially as herein shown and described.

82,756.—CHARLES H. SEAWELL, St. Louis, Mo., assignor to GEORGE F. LEWIS, same place.—*Express Signal.*—October 6, 1868; antedated September 24, 1868.—A series of double signs are so arranged that the lettered sides may be thrown together and the blank sides also when a call is desired.

Claim.—The signs *c* and *c'*, placed in pairs on a pivot wire, *b*, and arranged with calling signs on one face, but blank on the reverse, so that the call shows on both sides when it shows at all, as described.

82,757.—THOMAS SHIELDS, Hillsboro, Ohio.—*Bee Hive.*—October 6, 1868.

Claim.—1. The two series of removable honey frames, of different widths, arranged the one above the other, between upper and lower ventilating air-chambers, substantially as herein set forth.

2. The glazing of the outermost of the lower series of honey frames in the hive, when the said glazed honey frames are located opposite to the removable sections B B of the side casings of the hive, substantially as herein set forth.

3. The glass face of the alighting board *h*, when he said alighting board is arranged with the other parts of the hive, substantially in the manner herein set forth.

82,758.—JAMES P. SIBLEY and ARTHUR WALSH, Bennington, Vt.—*Governor for Engine, Water Wheel, &c.*—October 6, 1868.—The slide has a reciprocating motion by means of an arm and an eccentric keyed to the lower part of the tubular shaft, two pawls operating with the under side of a ratchet wheel, and a collar, with a groove, for the pin of a lever fixed to a shaft, with its bearing on the framing, while a shell laps over the ratchet wheel to throw its pawls out of gear.

Claim.—1. The arrangement of the eccentric L on shaft B, for operating slide N, and the collar I, fitted on shaft B, and connected by shaft K, and levers J T, and arm S, for the purpose of operating the shell R, substantially as specified.

2. The slide N, provided with the pawls O O', in connection with the wheel P, all arranged substantially as set forth.

3. The metallic strap W, attached to the spool X, on shaft Q, connected with the shafts V and K, all arranged as specified.

4. The slide A', when arranged or placed in relation with slide N and wheel P, substantially as specified.

82,759.—L. T. SMART, Ossipee, N. H.—*Saw Set.*—October 6, 1868.—The bed die and the movable die have corresponding facets with varying inclinations, the latter being provided with a projecting stem fastened by a nut, and a spiral spring to keep it in its place and at a proper distance from the bed die.

Claim.—The die A, adjusted in the holder B by the screw F, and provided upon its upper face with facets of varying inclinations, corresponding to the inclinations of the facets upon the under side of the movable die D, all constructed, arranged, and operating as herein described and shown, for the purpose specified.

82,760.—CHARLES B. SMITH, Springfield, Ill., assignor to himself and QUINCEY A. FISK, same place.—*Spring Seat.*—October 6, 1868.—The main portion of the seat is made of thin strips of metal laid crosswise of each other, the ends formed with ears hooked into loops which project from double coiled springs secured to rods connected with the seat frame.

Claim.—The improved spring-seat bottoms, composed of the hooked strips A, riveted together as described, in combination with the double-coiled springs, supported on the frame, and provided with the loops B, substantially as and for the purpose described.

82,761.—CHARLES D. F. SMITH, Geneva, Ill.—*Stove Drum.*—October 6, 1868.—The spiral inclined plane, arranged within the annular space between the cylinder and air chamber, is made up of a series of graduated sections having at each end projecting lugs, and connected by a rod, and they may be all turned so as to form a circuitous flue.

Claim.—Constructing the inclined plane, forming the spiral flue, around a central drum, cylinder, or reservoir, wholly or in part in sections, susceptible of being adjusted to form a continuous circuitous spiral flue, or to open vertically and permit a direct vertical draught, substantially as and for the purposes set forth and described.

82,762.—H. P. STAFFORD and H. H. STAFFORD, Decatur, Ill.—*Water Gauge.*—October 6, 1868.—The metallic section is connected to the float by a shank and threaded sleeve, and has a pointer pivoted to it which is struck by the short pin of the float pointer vibrating by motion of the float attached to the shank outside of the section.

Claim.—1. The employment of an independent registering pointer, R, in combination with the float pointer P, substantially as and for the objects herein described.

2. Operating the registering pointer R by means of the float pointer P, substantially as and for the purposes shown and described.

3. Having the registering pointer R pivoted upon

the sector, substantially as and for the purpose hereinbefore shown and described.

82,763.—**George A. Starkweather**, Waymart, Pa.—*Process of Tanning Hides.*—October 6, 1868.

Claim.—1. The process of tanning hides or skins into leather, by the use of urine, alkali, fermented wheat bran, and decoction made from plants, salt, oil of vitriol, and tan liquor, as set forth.

2. The use of plants in laying away hides or leather.

82,764.—**David Stewart**, Corinna, Me.—*Clevis for Plow.*—October 6, 1868.

Claim.—In combination with the spiral shaft D and link E, the slotted plate F, clamp bolt C, and nut on the stirrup G, for adjusting the side draught, as herein set forth.

82,765.—**G. A. Stewart**, Des Moines, Iowa.—*Desk and Seat.*—October 6; antedated September 26, 1868.

Claim.—A combination of the standards A A, folding seat C, bars D D, blocks E E, folding desk F, shelf G, box H, and slide I, all arranged and operating as herein set forth.

82,766.—**John H. Stone**, Philadelphia, Pa.—*Sheet Metal Can.*—October 6, 1868; antedated September 26, 1868.—The end plates are secured to the side plates by means of an inside bead with a broad lap joint of three thicknesses, compressed and bent to form a right-angled flange, a sliding cover being made by a plate with a hole less than the mouth of the can, over which it is secured, so as to form laps for a slide.

Claim.—1. In combination with the internal bead a', a lap joint, consisting of three thicknesses of the sheet metal pressed closely together, and the upper half of the same then bent inward to a right angle, so as to produce the annular flange d around on the inner side of the chime of the vessel, and parallel with the end plate of the same, substantially as set forth and described, for the purposes specified.

2. The sliding stopper or cover E F, constructed and operated as set forth, for the purpose of closing the mouths of sheet-metal vessels, as described.

82,767.—**George W. Talcott**, Buffalo, N. Y., assignor to himself and **Isaac D. Voak**, same place.—*Combined Floating Fire Engine and Wrecking Pump.*—October 6, 1868.—A supply pipe through the bottom of the vessel, with a shut-off valve, has a branch pipe, also with a shut-off valve, extending up through the deck floor, and communicating with the wreck, the discharge pipe of the pump having branches which terminate in nozzles connected with the hose pipes.

Claim.—1. The pipes C D, provided with valve c, and valve f, or cap, and uniting and connecting with a force pump, B, arranged in the hold of a vessel, substantially in the manner and for the purpose set forth.

2. The combination and arrangement, within a vessel, of the pump B, pipes C, D, G G′, and nozzle chamber I, forming a combined floating fire engine and wrecking pump, in the manner described.

82,768.—**Samuel A. Tenny**, Muskego, Wis.—*Buckle.*—October 6, 1868.

Claim.—A clamp or buckle, consisting of the frame A, having inclined grooves, E, made in the side pieces D, and the block B provided with inclined flanges, F, and the loop G, all substantially as described.

82,769.—**Justus A. Traut**, New Britain, Conn., assignor to the **Stanley Rule and Level Company**, same place.—*Adjusting Spirit Level.*—October 6, 1868.

Claim.—1. Suspending the vial case c within the stock b, and adjusting the same to its relative position with the stock b, by means of the plate c', screw or screws e, and springs d, substantially as and for the purpose described.

2. The spirit vial case B, constructed as described, with the springs k, screws n, operated through orifices in the plate i, substantially as and for the purpose set forth.

3. The combination of the adjusting plate or nuts g, springs k, and screws n', substantially as and for the purpose described.

82,770.—**Lester Underwood**, Ottawa, Ill.—*Hay Raker and Loader.*—October 6, 1868.—The parts are so arranged that the machine can be operated without the attendant being required to come down to disengage or lift the rakes. The revolving teeth and elevator may be removed so as to obtain a simple horse rake when desired.

Claim.—1. The arrangement of the ropes $t\ t$ and $u\ u$, in combination with the standards $h\ h$ and braces $v\ v$, substantially as described, and for the purpose of enabling the machine to be used from the wagon.

2. The clevis D, and pin c', with rope attached, in combination with the loop b', substantially as and for the purpose described.

3. The peculiar arrangement of the shaft e', grooved pulleys $d'\ d'$, wheel f', lever h', and stirrup k', in combination with the rakes C C C, substantially as and for the purpose described in the foregoing specification.

82,771.—**Isaac Van Hagen**, Chicago, Ill.—*Die for Stamping Stove Pipe Dampers.*—October 6, 1868.

Claim.—A die, A G, the movable part, A, of which has a V-shaped projection, C, fitting in a corresponding depression, E, in the stationary part G, and the stationary part G having V-shaped projections D F, fitting in depressions B B in the movable part A, as and for the purpose described.

82,772.—**N. A. Vurgason**, Brooklyn, N. Y.—*Skirt Supporter.*—October 6, 1868.—The zone with a leather margin has hooks covered by a leather fillet and a hinge, the point of the spring catch fastening into holes, and the skirt being attached to the hooks by means of loops.

Claim.—The skirt supporter, constructed as described, of the hinged metallic zone A A, whose ends are secured together by the overlapping spring catch D, and whose outer surface is provided with the hooks $a\ a$, covered and protected by the flap or fillet B, said zone being attached at its lower edge to the inner curtain or flap G, all arranged as described, for the purpose specified.

82,773.—**William Webster**, Morrisania, N. Y.—*Loom for Weaving Pile Fabric.*—October 6, 1868; antedated August 24, 1868. The vibrating lever has two grooves, the inner walls of which are formed by the edges of the oscillating guide, and so arranged in connection with the sliding block and pusher that when the latter is drawn back the end of the lever with the wire is carried forward; the oscillating block having inclined planes, and working with its pin an oscillating lever and sliding rod to hold and liberate the wire.

Claim.—1. The guide C, pusher G, and sliding block B, in combination, when constructed, arranged, and operating substantially as described, and for the purpose set forth.

2. The vibrating lever D, having grooves E E′, and oscillating guide F, or its equivalent, in combination with the pusher G, or its equivalent, for the purpose set forth.

3. In combination with the vibrating lever D, with or without the grooves E E′, and oscillating guide F, the oscillating lever H, oscillating block I, having incline planes, and sliding rod J, substantially as herein described, and for the purpose set forth.

82,774.—**Andrew J. Weed**, Hardwick, Vt.—*Sugar Pan Derrick.*—October 6, 1868.—The frame has on its cross beam friction rollers for the circular track, while between them and on its slide bars rests and slides a frame, to which are pivoted three shafts connected by ropes, each of them having a drum, and the central one also an endless rope, a ratchet wheel and pawl.

Claim.—1. The pivoted or hinged frame A, constructed substantially as described, in combination with the circular track C, as and for the purpose set forth.

2. The combination of the adjustable sliding frame

D, shaft E, drum *e'*, shafts F F, cross bar I, adjustable vertical bar H, and pivoted bar G, with each other, and with the pivoted frame A, substantially as herein shown and described, and for the purpose set forth.

82,775.—N. W. WHEELER, Ripon, Wis.—*Combined Harrow and Cultivator.*—October 6, 1868.—On the upper part of the forward cross bar of an ordinary harrow is a series of oblique drag bars, held in place by removable iron rods. In each of the drag bars is secured an iron bar, to the lower end of which is fastened the cultivator tooth.

Claim.—The combination, and mode of attachment, of a harrow and cultivator, substantially as described, and for the purposes specified.

82,776.—OTIS C. WHITE, Hopkinton, Mass., and AUSTIN T. ASHMEAD, Hartford, Conn.—*Dentists' Chair.*—October 6, 1868.—The seat frame is upheld by a bar jointed to its ends that swivels on the upper part of a vertical spindle, on which rests a friction collar, against which latter and from the frame projects an arched and slotted bar.

Claim.—1. The combination and arrangement of the slotted arched bar H', the swivel bar G, the clamp screw I, and the friction collar *g*, applied to the spindle and the seat frame, as specified.

2. The arrangement of the metallic seat frame D, (made with the foot and arm holes, as described,) the foot-rest supporting frame E, and the elevating screws, and their operative shaft and gears, as explained.

3. The combination, applied to the stand and the seat frame for effecting the adjustment of the latter in vertical and horizontal planes, as set forth, such consisting of the spindle, the feather connection, the rack, the scroll cam, (with its cranked shaft,) the collar *g*, the clamp screw I, the arched bar H', and the swivel bar G, arranged as specified and represented.

82,777.—B. H. WILCOX, Petroleum Center, Pa.—*Horse Power.*—October 6, 1868.—A cam table is turned by a sweep bar, the cams of the table vibrating a roller lever as the table revolves. A connecting rod connects the lever with a saw or other mechanism.

Claim.—The combination of the table A, having cam profiles C, and mounted upon the cross timber and plate J I, the pivoted lever D, rollers *a a*, connecting rod E, dovetailed slide H, and bed G, all constructed and arranged to operate as described, for the purpose specified.

82,778.—FREDERICK WITTRAM, San Francisco, Cal.—*Button.*—October 6, 1868.—The movable section is depressed, the edge or point of the disk is inserted in the button hole, and the stud turned so as to work itself through the hole. The movable section being then released, the spring recloses it.

Claim.—1. A button or stud, having an opening in its fastening disk or plate, closed by a movable segment or piece, substantially as shown and described.

2. In combination therewith, a closing or retaining spring, substantially as set forth.

82,779.—WALTER D. WOODS, Bennington, N. H., assignor to himself and EBENEZER F. WOODS, same place.—*Cutlery.*—October 6, 1868.—The tang of the knife or fork connected to the handle and the bolsters, formed at the same time, by casting metal into and on the handle and tang while both are in a mold.

Claim.—1. The handle B, made tubular throughout its length, and having the connection piece E of the two bolsters arranged in the bore of such handle, as specified.

2. The handle, as made with the tang-socket chamber *g*, arranged in it in manner, and to open out of its upper end, and with a passage, *f*, extended from such chamber to the rear of the handle, as set forth.

3. In combination with the chamber or socket mold *g*, formed in the handle, as set forth, the metallic bolster C, and tang supporter *p*, cast in one piece in and against the handle, and on the tang, as set forth.

4. The combination of the rivet-projection passage *h* of the handle B with the bore *f g* thereof, as set forth.

5. In combination with the handle B and its metallic bolsters C D, and their connection E, when cast in one piece in the handle, as described, the rivet-projecting molding passage of the handle, and the metal *o* cast therein, and in one piece with the connection E, as specified.

6. The combination of the rear tang hole *l* with the metallic extension *n*, the rivet projection *o*, and its molding passage *h* of the handle B, as set forth.

7. The handle as formed tubular throughout, or from end to end, and with the two bolsters and their metallic connection cast in one piece with respect to such handle, and upon the tang of the blade, the whole being substantially as described.

82,780.—HORACE B. WOOSTER, Waterbury, Conn., assignor to WATERBURY BRASS COMPANY.—*Machine for Scouring Sheet Metal.*—October 6, 1868; antedated April 6, 1868.—For cleaning sheet brass and other metal after annealing. The metal being drawn through the machine is held against the wire brushes by the riders, and it is thus scoured and polished.

Claim.—1. The described arrangement of the revolving brushes B C, guide roller F, winding-up roller D, gearing E, and adjustable riders *b c*, all operating as described, to polish thin elastic strips of sheet metal, as herein set forth.

2. The revolving brushes B and C, in combination with the adjustable riders *b* and *c*, all made and operating substantially as herein shown and described.

3. The described arrangement of the cylinder D with relation to the revolving brushes B C, and adjustable riders *b c*, for winding and unwinding the sheet metal, in the manner herein set forth and shown.

82,781.—JOHN WYKOFF, Grant City, Mo.—*Compound Doubletree.*—October 6, 1868.—The draft may be equally apportioned among the three horses if they are of equal energy and strength, but either of the outside horses may be favored by shifting the pivot bolt of its doubletree.

Claim.—The doubletrees D D, tongues A A, singletrees E G E, chains *b b*, or their equivalent, all constructed and operating substantially as and for the purpose shown and described.

82,782.—GEORGE W. N. YOST, Corry, Pa., assignor to CORRY MACHINE COMPANY, same place.—*Harvester.*—October 6, 1868.—The finger beam is attached to the forward outer corner of the floating bar, through the medium of which the attachment of the cutting apparatus to the machine is made at the middle of the main frame thereof.

Claim.—The elastic floating bar S, rigidly attached to the main frame or body A and A', with the end *l* fastened to the middle of the hind end of the body, and with end *k* fastened to the middle of the fore end of the body, as described, for grass and grain cutting machines.

82,783.—ANSON T. ADAMS, Indianapolis, Ind.—*Furniture Caster.*—October 6, 1868.—A spherical ball made of any non-conductor of electricity rests in a spherical metal socket which is made in halves and held together by a nut.

Claim.—The combination of the spherical socket of the halves B C with the hexagonal edge, held together by the nut *d* and the conical screw *e*, as and for the purpose specified.

82,784.—DR. T. H. ASHTON, Defiance, Ohio.—*Clod Crusher.*—October 6, 1868.—The rollers break and crush the large clods, rendering the soil fit for the action of the harrow.

Claim.—The double harrows A A and rollers D D, when the same are so combined and arranged as to operate substantially as described, as and for the purpose specified.

82,785.—HARISON W. AUSTIN, Portage, Mich.—*Equalizing Whiffletree.*—October 6, 1868.—This device relieves the middle horse of a part of the reactionary check which is occasioned by the sudden starting ahead of one of the outside horses.

Claim.—1. The arrangement of the equalizing eveners E with both of the doubletree strips A, grooved pulley *p*, chain F, and whiffletrees D and D', all constructed and operating substantially as and for the purpose herein set forth.

2. The arrangement of the eveners E E in such relation to the whiffletree D', by means of the pulley P, and chain F, that when an outside horse starts, the reaction will be divided between the other horses, in the manner substantially as described.

82,786.—N. W. BANCROFT, Worcester, Mass.—*Gas Machine.*—October 6, 1868.—This invention relates to machines in which the atmospheric air is carbureted by passing it through the more volatile hydrocarbon oils.

Claim.—1. The pump or fan, consisting of the cylindrical case F, with the curved partitions *b*, and having the inlet openings *e*, and exit holes *o*, arranged substantially as described.

2. The air chamber C, having the partition *h*, with the valve *i*, and pipes *p*, arranged to operate as set forth.

3. The reservoir B, with the flexible diaphragm *f*, and the gas pipe X with its regulating valve Z, constructed and arranged to operate substantially as described.

4. The copper plate K, located under the chamber J, for the purpose of conducting and equalizing the application of heat to the fluid, as set forth.

5. The circulating chamber, formed by the application of the plate C, with its opening *m* arranged within the chamber J, substantially as described.

6. The use of the cement, herein described, for preparing the flexible diaphragm and other parts of the machine, as set forth.

82,787.—E. S. BARNES, Nebraska City, Nebraska.—*Propelling Apparatus.*—October 6, 1868.—The paddles are connected to sliding heads, and are caused to simultaneously approach and recede from the central joint pin of the lazy tongs arrangement, which connects them, devices being provided whereby the backward-moving paddle is made to act upon the water while the forward-moving one is feathered.

Claim.—1. The cogged sectors C C^1, in combination with the paddle D, when arranged and operated substantially as set forth.

2. The combination of the reversing sectors E E^1 and their operating bar E^2, when acting to operate the bar C^3 and rack c^3, for feathering the paddles at either end of stroke, and reversing the same, substantially as set forth.

82,788.—STEPHEN BARNES, New Haven, Conn.—*Composition Clock Dial.*—October 6, 1868.—The depressions in the die representing the letters and ornamental designs are filled first with a composition, colored black or otherwise, then the body of the die is filled with the white or other composition forming the main part of the dial, and a homogeneous character is given to the mass by fusion. A perforated plate imparts strength to the dial.

Claim.—1. A composition clock face or dial, formed from a plastic composition, substantially in the manner described.

2. A composition clock dial, in which the raised letters or ornamentations, while made in one piece with the body of the dial, are formed of a composition differing in color from that of which the body is composed.

3. The application, to a composition clock dial, of a perforated plate, or its equivalent, pressed into the dial while the latter is in a plastic state, substantially as set forth.

82,789.—FREDERICK BAUSCHTLIKER, Washington, D. C., assignor to himself and FREDERICK GENTNER, same place.—*Saw for Felling Trees.*—October 6, 1868.—A pair of saws is pivoted to a reciprocating frame and fed into the tree by a ratchet wheel attached to a right and left hand screw, which latter works in the ends of the saws.

Claim.—The double-bladed saws J J, screw N, ratchet P, and movable frame G, when arranged, combined, and operated as herein described, and for the purpose set forth.

82,790.—THOMAS BLAKE, Stockton, Cal.—*Bushing for Wheels.*—October 6, 1868.—When the eye of the bushing becomes worn by the friction upon its axle, the bushing can be driven out and replaced by a new one.

Claim.—The bushing C, provided with the cylindrical bore D, and having its external surface polygonal, as and for the purpose described.

82,791.—PETER BORN, New York, N. Y.—*Folding Chair.*—October 6, 1868.—The arms and front legs are connected by a cross bar and are hinged to the back, so that they can be folded closely. The seat is hinged to the back and supported by the cross bar when in use.

Claim.—1. The part C, composing the arm pieces and front legs, when constructed in one piece, attached to the back, B, by pivots, *a*, and arranged to fold up in the manner and for the purpose described.

2. The parts B and C, when constructed as described, in combination with the hinged seat D, substantially as and for the purpose set forth.

3. The stops *d* and cross bar *c*, in combination with the part C, seat D, and part B of a chair, all constructed and operating as and for the purpose set forth.

82,792.—T. J. BOWDLE, S. R. LAWDER, and F. E. JOHNSTON, Piqua, Ohio.—*Machine for Tenoning Blind Slats.*—October 6, 1868.—The movement of the T-shaped lever actuates the shoulder-cutting bits and the tubular rotary tenon-former simultaneously.

Claim.—1. A T-shaped vibrating lever P, in combination with toggle joint levers N N, suitable connecting links M M, and with sliding carriages C C, carrying the shoulder-cutting bits *a a* of a slat-tenoning machine, all arranged and operating substantially as and for the purpose herein set forth.

2. In combination with the foregoing devices, combining with one arm p', of said vibrating lever P, a connecting link R, pivoted to a collar, G, embracing the tubular center bit F of the machine for the purpose of operating the same, all substantially as is herein specified.

82,793.—JOHN BREWER, New Vienna, Ohio.—*Combined Land Roller and Clod Pulverizer.*—October 6, 1868.—Designed to break up the ground and cover the seed at the same time.

Claim.—The drums B B, provided with knives C C, in combination with the cultivator E, when constructed and operating substantially as and for the purposes herein set forth.

82,794.—JAS. H. BROWN, Mitchell, Ind.—*Peach Parer.*—October 6, 1868.—The fork has two prongs, one stationary, the other, pivoted to the fork shaft, has a handle resting over a spring, so that the fork can be adjusted to any sized fruit.

Claim.—The curved prong *a*, pivoted in its center to the arm H, above the stationary prong *b*, and its rear end resting on a spring, *d*, in combination with the knife-supporting shaft I, pivoted at its lower end, and working in a slot in the frame A, all as herein shown and described.

82,795.—SMITH S. BROWN, Woonsocket, R. I.—*Cheese Cutter and Box.*—October 6, 1868.—The cheese rests on pins at the center and near the periphery of a rotating table, which latter is provided with radial slots on which a wire is made to slide to cut the cheese.

Claim.—A cheese box and cutter, having tables D and E, pivot *d*, pin *e*, cover A, cutting wire H, and guide *g*, constructed, arranged, and operating substantially as specified.

82,796.—SMITH S. BROWN, Woonsocket, R. I.—*Curtain Fixture.*—October 6, 1868.—Designed to facilitate the mounting of the curtain roller, and to tighten the elevating cord.

Claim.—A fixture for window curtains, having roller B, slotted plates C, D, and G, with their respective thumb screws, head plate E, swinging plate O, pulley Y, and cord V, constructed, combined, and arranged substantially as herein specified.

82,797.—William Brown, Duncannon, Pa.—*Sash Fastening.*—October 6, 1868.—The slotted plates operate as dogs to sustain the respective sashes by engagement with the notches on the edges thereof. They also serve as shackles to lock the sashes by catching over the blocks.

Claim.—The device, composed essentially of the angular plate D, with the shafts E and F, bearing the slotted plates H H, and the weighted handles G G, when used in combination with the notches n n, and block I, upon a sash or door, substantially as and for the purpose specified.

82,798.—B. Q. Budding, Worcester, Mass.—*Boot and Shoe Heel-polishing Machine.*—October 6, 1868.—Improvement on the subject of his patent of May 3, 1864. When the shoe is being jacked or clamped, pressure upon a treadle forces the jack away from the polisher. This pressure being withdrawn the spring carries the heel up to the polisher, and the edge of the heel against the polisher flange, which prevents the outer lift from spreading away at its edge while the jack is being rocked to bring the whole edge of the heel under the action of the stationary polisher.

Claim.—1. In combination with the jack supporting bearing or bracket, a jack, held up toward the polishing tool by a spring, substantially as set forth.

2. In combination with the jack plate r, the heel-clamping mechanism, substantially as shown and described.

82,799.—F. P. Canfield, Brighton, Mass.—*Hoisting Apparatus.*—October 6, 1868.—The rope barrel is suspended upon levers so arranged that the weight on the barrel shall apply sufficient friction to the brake wheel to hold it, and enable the machine to sustain the suspended weight. Levers combined with the brake device are connected with the pull-rope, by means of which the friction may be taken from the brake wheel.

Claim.—1. The hoisting barrel C, when supported independently of the fixed bearings K K′, arranged and operating substantially as shown, and for the purpose set forth.

2. The levers L L′, when so arranged, in relation to the winding barrel C, as to convey a portion of the weight suspended therefrom to act upon the brake device, substantially as described, and for the purpose set forth.

3. The general arrangement of the levers Q Q′, bar R, and guide rollers S S′, when acted upon by the laterial motion of the pull rope T, substantially as described, and for the purpose set forth.

82,800.—John Christie, Lowell, Mich.—*Bed Bottom.*—October 6, 1868.—The short removable portion of the bottom, which is to be elevated for invalids, is supported by the cross bars and held in the desired position by tightening the thumb screw.

Claim.—In a bed bottom, composed of the springs A A, connected and constructed as described, the arrangement of the short bars C C, cross bar E, and slotted diagonal bars F F, and screw G, the whole operating as specified.

82,801.—John J. Clark and Thomas Clark, Elgin, Ill.—*Blind Slat Tenoning Machine.*—October 6, 1868.—The slat is held in slots in the gear wheels by springs; the gear wheels are revolved to bring the slat in position to have the tenon and shoulders of the same cut, by means of cutters and saws on a rotating cylinder.

Claim.—Cylinder P, provided with saws e and e'', knives 1, 2, and 3, in combination with wheels W and W″, constructed and arranged to operate together substantially as and for the purpose set forth.

82,802.—Lyman S. Colburn, Oberlin, Ohio.—*Slat Machine.*—October 6, 1868.—The heads hold the slats to be operated upon, and the work is so presented to the machine that the ends are first sawed off, and the pivots or tenons formed by rotating it against the cutters. A staple-inserting mechanism is operated automatically and in concert with the cutting and tenoning mechanism, devices being employed to support the stuff against the lateral force of the staple driver.

Claim.—1. The revolving heads I, constructed with apertures therethrough, corresponding with the form of the cross section of the slat, for its insertion therein endwise, substantially as set forth.

2. The combination of the arms H H′, carrying the revolving heads I, the wheel X, segmental rack J, and notched hub f, all supported on the rock shaft G, for operation, substantially as described.

3. The arrangement and combination of the sliding bar M and head N with the holding block W, operating together by means of the wrist t, toe r, and springs x x', substantially as shown and described.

4. The staple-holder, supported on the sliding head N, consisting of two vertical standards p' p'', provided with a lower outlet at right angles to their position, for the passage of and to guide a single staple, when propelled by the driver q, substantially as set forth.

82,803.—Lyman S. Colburn, Oberlin, Ohio.—*Machine for Boring Window Blinds.*—October 6, 1868.—For boring the sides to prepare them to receive the pivots of the slats, and marking the position for the mortises for the insertion of the cross-bars. The mechanism marks both stiles at a time, and simultaneously with the boring operation.

Claim.—1. The marker m, arranged and operating in combination with the notches e, in the under side of the feed strip N, the pawl q, and reciprocating frame F, essentially as specified.

2. The feed-strip N, pawl w, pitman t, and wrist s, arranged and operating substantially as shown and described.

3. The combination of the reciprocating spindle frame F, the eccentric pin k, and wrist s, on the revolving head J, and the pitman t and pawl w, when said pin and wrist are so arranged as to raise the bits i into the wood as soon as the pawl w has finished each feed-motion of the stuff, substantially as set forth.

82,804.—Henry N. Conklin, Indianapolis, Ind.—*Door and Gate Closer.*—October 6, 1868.—A chain fastened to the gate is secured to the upper end of a weighted lever, pivoted in such a manner as to close the gate.

Claim.—A gate or door-closing device, having lever a, pivot b, and chain d, constructed, arranged, and operating substantially as herein specified.

82,805.—Jules Converse, Paris, France.—*Making Crank Shaft.*—October 6, 1868.

Claim.—The improved method, herein described, of making crank axles, by forging them first, as usually done, in one solid piece, then boring the shouldered parts thereof, and strengthening the same by introducing separate pins, D, of steel or other strong material, embraced entirely within the metal, as and for the purposes herein set forth.

82,806.—William J. Cowan, Cortland, N. Y.—*Potato Digger.*—October 6, 1868.—The share enters and passes under the hill, dirt and potatoes being forced over the curved rods which separate the dirt by means of the jar of the machine. The potatoes are fed over the apron on to the ground, which has been smoothed by the apron.

Claim.—The combination of the sides b b, the point or share a, and the curved rods c c, with the apron d, when constructed substantially as above described and for the uses and purposes set forth.

82,807.—R. A. Cowell, Cleveland, Ohio.—*Railway Car Coupling.*—October 6, 1868.—A bolt is pivoted to rods, (which slide vertically in the draw-head,) and is held in position by a spring, so that when the coupling enters the bolt rotates until the end of said coupling passes, when the bolt drops.

Claim.—1. The connecting bolt or pin C, constructed with the pivots a and arms x, and operating in combination with the spring f and slot b, substantially as and for the purposes described.

2. In a railway car draw-head, arranging the chamber D with the superior recess or apartment E, in combination with a connecting bolt or pin, as C, having a rotary and vertical action, all constructed and operated substantially as herein described.

82,808.—Charles B. Curtis, Jordan, N. Y.—*Machine for Grinding Cutters of Mowing Machine.*—October 6, 1868.

Claim.—1. A frame for supporting a cutter-bar upon the frame of an ordinary grindstone, constructed with an adjustable slotted bed piece, A, and clamp hooks B, and an oscillating support for the clutches, by which the cutter bar is secured, substantially as described.

2. The combination of the bed piece A, so constructed that it may be adjustably attached to the grindstone frame, the side pieces E, attached to the bed piece, so as to be vertically adjustable, and the clutches, for holding the cutter bar, substantially as described.

3. The clutches H, attached to the frame by crank rods, so arranged that the knives may be set at any required angle, substantially as set forth.

4. In combination with the end clutches, an intermediate clutch, attached to an adjustable standard, and sliding upon the cross bar G, substantially as and for the purpose set forth.

82,809.—S. T. Denise, Red Bank, N. Y.—*Plow.*—October 6, 1868.—The colter is provided with a sharp inclined front edge, and its top is so bent that the weeds, sticks, &c., which may be forced to its top, will be dropped on the mold-board side of the plow, and not catch under the beam.

Claim.—1. The colter, when terminating at its lower end in the point A, and its upper end in the bent lip, *c′*, between which is the sharp cutting edge *c*, the whole being constructed substantially as described.

2. The brace rod F, when constructed of a single piece, uniting the beam and both handles, substantially as and for the purpose specified.

82,810.—Isaac Dripps, Fort Wayne, Ind.—*Railroad Car Heater.*—October 6, 1868.—A current of air from the top of the car is carried through or over a body of water, then passed around a stove or heater, then into the car through registers in the floor.

Claim.—An apparatus for heating and ventilating railroad cars, combining the following elements, viz, a double funneled hood, A, with a centrally suspended oscillating valve, V, pipe, B, water tank, C, heater, D, with inclosing casing, arranged as described, a pipe, E, and registers, R, and a ventilator so constructed as to create an outward draught, substantially as described.

82,811.—J. B. Driscole, New York, N. Y.—*Hot Air Furnace for Heater.*—October 6, 1868.—The fire box is provided with a lateral extension, in which is placed a supply of fresh fuel ready to be delivered into the fire.

Claim.—The fire pot A, with a horizontal extension, G, of pyramidal or conical form, constructed and operated substantially as and for the purpose set forth.

82,812.—Ernest Marie Du Boys, Paris, France.—*Liquid Meter.*—October 6, 1868; antedated May 9, 1867.—The interior of the gauging vessel is divided into two compartments by a movable diaphragm. A distributing cock puts one of the compartments in communication with the entrance pipe, and the opposite pipe with the delivery pipe, said cock being operated by suitable mechanism connecting with the diaphragm.

Claim.—In combination with the shallow gauging vessel, divided into two compartments by an elastic diaphragm, which moves to and fro therein, by the pressure of the liquid on one side and then on the other side thereof, a mechanism constructed and operated substantially as herein described, for putting the compartments in alternate communication with the entrance and exit pipes or passages, as and for the purpose herein described.

82,813.—William Duncan, Vinton, Iowa.—*Horseshoe Calk Sharpener.*—October 6, 1868.—The cutting wheel fits in the end of a spring, which latter is secured to a bar expanded and sharpened near the cutting wheel.

Claim.—The shank or bar A, spring *b*, and cutting wheel B, all combined and operating substantially in the manner and for the purpose specified.

82,814.—Daniel S. Early, Hummelstown, Pa.—*Cultivator.*—October 6, 1868.—A central beam has pivoted to it two side beams which fit in clasps attached to a cross-bar which slides over the central beam, thus regulating the width of the rows, and is held in position by a bolt passing through it and one of a series of holes in the beam.

Claim.—1. The sliding bar E, in combination with the central beam A, the hinged side beams D D′, and the fastening *p*, substantially as described and for the purpose specified.

2. The arrangement of the beams A, D D′, slide E, clevis F, wheel B, handles C C, and plows or teeth P P P, in the manner shown and described.

82,815.—Albert G. Eaton, Governeur, N. Y.—*Apparatus for Tanning Hides.*—October 6, 1868.

Claim.—1. In combination with vats for tanning hides, a series of lifting pumps, arranged in and operated at the bottom of the vat, for raising the heavier and stronger liquids from the bottom to the top of the vat, and thus by mixing render it of more uniform strength throughout, substantially as described.

2. In tanning hides, the throwing of the tanning liquid against the hides, suspended in the air, by a force pump, or in a forced column or spray or jet, substantially as described.

3. In combination with a series of pumps, arranged in and operated at the bottom of the vat for raising the liquid in the bottom of the vat to the surface, an agitating or circulating pump, also arranged in and operated at the bottom of the vat, for keeping the liquid mixed there, and of uniform strength, substantially as described.

4. In combination with a series of hides suspended in a vat, and at times dipped into the liquid and then raised therefrom and suspended in the air, a circulating and a lifting pump, or two more of each, operated by or with the vibrating frame, carrying said hides, substantially as described.

82,816.—Jacob Felber, St. Louis, Mo.—*Machine for Mortising, Slotting, and Dovetailing.*—October 6, 1868.—One of the rotating arbors carries the tool at one end and has a rotary motion about its axis and a pendulous motion of its tool end, which latter motion is for the purpose of giving the required length to the mortise; the line of this motion may be straight in a vertical, horizontal, or angular plane, or it may be a curved line of any desired radius.

Claim.—The combination of the arbor B, pivoted by ball-and-socket bearing at D^1, and guided by ball-and-socket bearing in the sliding head D, with said head D, the segmental plate D^2, pedulum D^3, its slot d^2, and the pivot pin d^3, when operating substantially as and for the purpose set forth.

82,817.—George Fenn, Boston, Mass.—*Wash Boiler.*—October 6, 1868.—An additional boiler provided with a perforated bottom and cover, is so arranged within the main boiler as to leave a space around the sides and bottom of the inner boiler to allow the water to pass up and over the perforated cover and down through the inner boiler.

Claim.—The combination, with the external boiler *a*, of an internal boiler, *b*, provided with a perforated bottom, *c*, cover *d*, and springs *i*, and surrounded at the bottom and sides with a space, *h*, substantially as and for the purpose set forth.

82,818.—Joseph B. Fleming and Daniel J. Fleming, Xenia, Ohio.—*Construction of Powder Kegs.*—October 6, 1868.

Claim.—1. The process of making sheet-metal kegs, cans, &c., as above described, the essential feature of which process consists in leaving a large opening, E E, in the head that is last attached, through which opening a mandrel is inserted, upon which to form the joint around the edges or chimes, after the removal of which the opening is closed up by means of a piece soldered over it.

2. A keg or can, constructed as above set forth.

82,819.—Valentine Fogerty, Roxbury, Mass.—*Magazine Fire-arm.*—October 6, 1868.—Designed as improvements on his patents of February 21, 1865, and October 23, 1866.

Claim.—1. In combination with the magazine, the rocking finger *i*, for throwing the cartridge laterally from line with the magazine into line with the barrel, substantially as set forth.

2. Throwing the finger *i* laterally forward by the rear movement of the guard lever against the arm *l* on the finger journal or rock shaft, substantially as described.

3. Throwing the finger back to its former position by the forward movement of the breech pin, directly against it, substantially as described.

4. Combining with the breech block a notch, l', for receiving the cartridge flange and for preventing undue movement of the cartridge moving forward at the side thereof, when the same, in its retrograde motion, releases one cartridge and takes the next in rotation, substantially as described.

5. The lever *q*, with its tongue *v* and tip *w*, constructed substantially as shown, and operating in conjunction with spring *t*, to withdraw and expel the cartridge shell and to guide the cartridge into the barrel,s ubstantially as set forth.

6. The combination, with lever *q*, having projections *y* and e' thereon, of the studs or pins a' and d', for tripping the lever in its forward and back movements, upward and downward, by positive action in both directions.

7. Connecting the lever *q* with the breech block *e* by the link *r* by means of a pin, b^2, projecting into a groove c^2, in the block, substantially as and for the purpose set forth.

8. Combining with the magazine slide and the breech block the pin f' and its notched spring, for arresting positively the feed of the cartridges, substantially as described.

82,820.—CHARLES G. FOOTE, Indianapolis, Ind. —*Rotary Engine.*—October 6, 1868; antedated September 21, 1868.—The piston is provided with an eccentric abutment which operates the slide valve, the latter being attached to a piston working in a cylinder in such a manner that the pressure of the steam prevents the valve from falling rapidly, and thus pounding or jolting.

Claim.—1. The valve C D E, constructed substantially as set forth.

2. The combination of all the parts described in one device, constructed in the manner and for the purpose substantially as set forth.

82,821.—MERWIN FOWLER, Wolcottville, Conn. —*Buckle.*—October 6, 1868.—The tongue and loop are formed in one piece by bending the wire around the end of the frame.

Claim.—A buckle, consisting of the frame A, the loop B, and tongues C C, the said loop and tongues being formed in one piece, and hinged to the frame, so as to be retained in their proper relative position, substantially as herein set forth.

82,822.—C. O. GARDINER, Springfield, Ohio, assignor to J. H. THOMAS and P. P. MAST, same place. —*Grain Drill.*—October 6, 1868.—The cup is made of a thin shell of cast iron in two parts, bolted or riveted together, and is provided with flanges by which it is secured to the hopper. A flange projects inwardly around the apertures in which the shaft is inserted, forming a bearing for the cylinders.

Claim.—1. The cup A, formed substantially as described, with the inwardly-projecting flanges *e* on the inner face of its sides, as set forth.

2. In combination with the cup A, the cylinder B, so constructed as to leave a space between its ribs *o* and the sides of the cup, to prevent the crushing of the grain, as described.

82,823.—W. C. GARRETSON and ELWOOD DRAPER, assignors to W. C. GARRETSON, Oskaloosa, Iowa.—*Branding Stamp.*—October 6, 1868.—The stamp composed of some good conductor of heat is secured to bent wire which is attached to a shaft, which latter is provided with a handle and a spiral spring to draw the stamp back into the flame of a lamp. The post mark is burned into the letter and the stamp is cancelled by burning.

Claim.—The device herein described and set forth, consisting of the lamp *e*, the stamp *a*, actuating lever *b* with suitable base *j*, arranged substantially and to operate as described and set forth, for the purposes specified.

82,824.—AMOS F. GERALD, Kendall's Mills, Me., assignor to B. B. BELCHER, Chicopee, Mass.—*Curtain Fixture.*—October 6, 1868.—A spiral spring secured to a disk sets in a hollow cup-shaped head of a bracket; the disk resting and pressing against the end of the roll causes the curtain to remain in position. A tongue on the other bracket prevents the cord from escaping from the spool.

Claim.—The construction and arrangement of the cup-shaped bracket C, and the conical spiral spring B, contained within it, and having the disk A rigidly attached to its smaller end, in combination with roll R and bracket C′, having projection J and tongue D′, all arranged, constructed, and operating as herein described and shown, substantially as described.

82,825.—WM. E. GOODENOUGH, Newark, N. J. —*Saw Set.*—October 6, 1868.—The hammer is operated in the manner similar to the hammer of a pistol. A guide secured to the stock supports the sides of the saw teeth when being set; an adjustable arm secured to the guide has friction rollers which act as guides to the upper edge of the teeth. Another roller on the end of an adjustable arm projecting from the frame, guides to the blade and regulates the set.

Claim.—1. The combination of the guide bar *s* and adjustable frame *p*, carrying the guide rollers *s* *n*, with the stock A, hammer B, and adjustable guide roller W, all arranged and operating substantially as shown and described.

2. The spring *c* having a projection *h*, and notch *i*, attached to the sector D, in combination with the stud *a* on the trigger, and adjustable stud *e*, for operation together, substantially as set forth.

82,826.—D. W. GOULD, Fostoria, Ohio.—*Sled.*—October 6, 1868.

Claim.—The cast-iron bob sled, when each side, including runners, knees, and fender, is cast entire in one piece, as herein set forth and described.

82,827.—PATRICK H. GRIFFIN, Albany, N. Y.—*Key for Hydrant Cock.*—October 6, 1868.—The key is composed of an oblong hollow block fitted to pass freely over the faucet handle; the upper part has a tapering socket to receive the end of the lower part of the rod.

Claim.—As an article of manufacture, the cast-metal socket C, constructed substantially as described and for the purpose set forth.

82,828.—STINSON HAGAMAN, Weissport, Pa.—*Machine for Grinding and Polishing School Slates.* —October 6, 1868.—The slate carriages, fastened to an endless belt, are mounted on four friction rollers (which run on rails on the frame) by two springs, which hold the slates against the rubbing wheels. The beds of the carriages are guided by shoulders when passing under the rubbing wheels.

Claim.—1. In combination with one or more horizontally rotating rubbing wheels, an endless belt, with slate carriages mounted thereon, for the purpose of carrying the slates under the rubbing wheel or wheels, substantially as described.

2. In combination with one or more rubbing wheels, as described, and an endless belt, for the purpose of carrying the slates, as set forth, the slate carriages H, with their friction wheels and springs, as described.

3. In combination with the endless belt, and slate carriages mounted thereon, as described. the ledges or tracks *l* and shoulders *t*, on the rails of the machine, for the purposes set forth.

4. The combination of the driving shaft G. the pulley wheels E, F, and F′, with the endless belt E′, for rotating the rubbing wheels, and the pinion I, worm screw J, and pulley wheels C and C′, for carrying the endless belt D, all arranged and operating substantially as described.

82,829.—HENRY J. HALE, Indianapolis, Ind.—*Bed Bottom.*—October 6, 1868.—Lateral motion is prevented by attaching friction rollers to the under side at the corners of the upper frame and allowing them to run in vertical guide pieces.

Claim.—The corner guide pieces C, in combination with the friction rollers D, hung in adjustable bearings *e*, attached to the upper metallic frame, substantially as and for the purpose set forth.

82,830.—A. F. Hammel, St. Louis, Mo.—*Breast Yoke for Double Harness.*—October 6, 1868.—The breast yoke is jointed and attached to the breast collar, the forward part being divided for the reception of the swivel which has a lateral motion on its pivot. The swivel has a loop for the reception of the pole strap, said loop having a vertical motion.

Claim.—1. The collar A and yoke B, jointed at *b* and *b'*, when combined and arranged substantially as described,

2. The swivel C *c*, in combination with the breast yoke B, as and for the purpose set forth.

82,831.—Elam Harter, Dowagiac, Mich.—*Automatic Gate.*—October 6, 1868.—The wheels of a vehicle, in passing upon the platform, depress an arm from which a system of levers is actuated to withdraw the spring catch that locks the gate.

Claim.—1. The combination of the gate, truck wheels, inclined bars or rails, and vibrating platform, with the levers and chains, (or equivalents of the latter,) by means of which, pressure upon the platform causes the gates to run asunder on the inclined rails, substantially as described.

2. The mechanism, herein described, for locking and unlocking the gate, substantially as shown and described.

82,832.—William H. Hawley, Utica, N. Y.—*Grappling Iron.*—October 6, 1868.—A hooked bar suspends a pulley from a grappling iron of the kind described in letters-patent No. 69,992, to same inventor, October 27, 1867.

Claim.—The combination of the pulley A with the grappel, constructed and operating substantially as described, and for the uses and purposes mentioned.

82,833.—Charles H. Hersey, Boston, Mass.—*Rotary Pump.*—October 6, 1868.—Has reference to the situation of the ingress and egress passages and to a construction by which the fluid is prevented from choking and retarding the pump at certain positions of the pivoted piston piece.

Claim.—1. The pump, constructed as described, with semi-spherical shell or body, conical diaphragm, and flat-surfaced head, when the inlet and outlet passages are located and arranged as and for the purpose set forth.

2. In combination with the parts last above named, the construction shown at 5, for the purpose specified.

82,834.—W. O. Hickok, Harrisburg, Pa.—*Paper-ruling Machine.* — October 6, 1868. — The beam which holds the pens may be adjusted with accuracy, to suit any inequality in the paper passing under them, without binding or straining; this is due to the provision for the exact longitudinal and vertical adjustment of the pen beam.

Claim.—1. Suspending the pen beam of a paper-ruling machine by means of the ball joints D and D', in combination with sliding standards B and B', operating together, substantially as and for the purpose described.

2. The ball joint D', consisting of the socket h^4 and the perforated ball therein, in combination with the stem a''' on the end of the pen beam, the said parts operating together substantially in the manner described.

3. In combination with the pen beam A and sliding ball joint D', the solid ball joint D, consisting of the spherical cavity within the clamp a' a'' on the end of the pen beam A, and the solid ball g^4 on the end of the screw g'', the said parts being constructed and arranged to operate substantially as and for the purpose described.

4. In combination with a pen beam, A, suspended upon the ball joints D and D', as described, the sliding standards B and B', operated by means of their respective screws c''' c''', substantially as and for the purpose described.

5. In combination with the pen beam of a ruling machine, the stem a''', constructed and applied substantially as and for the purpose described.

82,835.—P. V. Hixon, Tioga, Pa.—*Harrow Teeth.*—October 6, 1868.—The teeth of the harrow can be withdrawn and turned so as to present new cutting edges toward the front.

Claim.—The gib A, provided with projections *a*, in combination with the shank B, provided with corresponding indentations in all of its four faces, and tightening key D, all constructed and operated in the manner and for the purpose set forth.

82,836.—B. H. Hobard and D. C. Lampman, Troy, Pa.—*Fastening Horse Collar.*—October 6, 1868.

Claim.—The hollow end piece B, provided with a spring-actuated catch concealed within the same, when secured to one side of the horse collar S, and made to fit into a socket, A, secured to the other side, the whole constituting an improved fastening for the collar, substantially as herein set forth.

82,837.—Asa Hockett and Albert C. Hockett, Plainfield, Ind.—*Tile Machine.* — October 6, 1868.—The clay, being fed to the front of the follower from the tub, is forced through the screen, and when the space between the screen and die is filled by the continued reciprocations of the follower, the latter presses the clay through the die, thus forming the tile.

Claim.—The arrangement of the frame or box A, tub B, sliding frame H, follower G, gravel screen L, and die M, all constructed as described, and operating substantially as and for the purposes herein set forth.

82,838.—Alfred Hosmer, Watertown, Mass.—*Stall for Horses.*—October 6, 1868.—The gutters receive and discharge the liquid excrement which passes through the interstices of the stall floor. The space under the manger may be closed and a current of air admitted thereto to dry the bedding.

Claim.—1. The animal stall A, when constructed and arranged substantially as and for the purpose described.

2. The gutter B, provided, by means of its position or form, with an inclined groove, having one or more outlets, and applied to a double or single floor, for the purpose of draining the same, substantially as described.

82,839.—Joseph Howe, Mount Pleasant, Iowa.—*Brace for Carriage.*—October 6, 1868.—The braces prevent the carriage body from swaying or pitching longitudinally. The ring turns to allow the braces to conform to the vertical motions of the body.

Claim.—The ring *a*, ball and socket joints *c* and *d*, and plate *b*, in combination with braces C, attached to the body of a carriage, as described, and operating as and for the purposes set forth.

82,840.—Liverus Hull, Charlestown, Mass.—*Whip Handle.*—October 6, 1868.

Claim.—1. The improved whip handle or manufacture, as having one or more knit, woven, or braided bands, laid in one or more helices, about and cemented to a braided or wound covering of thread, previously laid or formed on the stock of the handle.

2. The combination and arrangement of the "Turks' heads," or their equivalents, the body covering of thread, and the helical bands, laid on and cemented to such body covering, as set forth.

82,841.—Hosea H. Huntley, Quincey, Ill.—*Steam Boiler Furnace.*—October 6, 1868.—Cold air is passed into the apertures and through the passages and tubes, and is drawn from the chambers connected therewith, in a heated condition, to the fire. The air is thus converted into inflammable gas, increasing combustion and obviating smoke.

Claim.—A furnace, having grate bars C, with apertures D, passage G, tubes O and K, and chambers B, H, L, and M, constructed, arranged, and operating substantially as specified.

82,842.—A. B. Hurd, Watkins, N. Y.—*Combined Measure and Weigher.*—October 6, 1868.—Combined with a suitable receptacle is a hinged handle that serves as a balance or scale, and also a hook by which solids are attached.

Claim.—1. The combination of the hook *l* with receptacle A, and hinged balance handle *b*, in the manner and for the purpose specified.

2. The combined arrangement of the receptacle A, stiff arm *a*, hinged handle *b*, with balance *f*, and the hook *l*, the said receptacle answering the double purpose of weighing and measuring, and the balance being adjustable by nut *k*, the whole as described, and operating in the manner and for the purpose specified.

82,843.—Charles F. Jauriet, Aurora, assignor to himself and A. J. Ambler, Chicago, Ill.—*Steam Generator.*—October 6, 1868.—Consists in flanging out both the inner lining and outer jacket of the fire box, and riveting the two flanges together, thus forming a door frame and a wall for the water space around the door way.

Claim.—The construction of the inner lining C and outer jacket of the door way B, riveted together at the outside of the fire box, whereby a single sheet of metal forms the lining for the water space around the door way, and another single sheet the frame for the door, as herein set forth.

82,844.—Nathaniel Jenkins, Boston, Mass.—*Steam Globe Valve.*—October 6, 1868.—In the event of the destruction or weakening of the elastic packing, the metallic portions of the joint come in contact and effect a tight closure of the same.

Claim.—The arrangement of the bearing surface *l* of the valve head and the elastic packing, held in an annular recess in the valve head, as described, with the valve seat *f'* and the raised seat *f*, in the manner as shown and specified.

82,845.—Abijah Johnson, West Newton, Ind.—*Saw Set.*—October 6, 1868.—The stock has guide jaws and plates adjustable to the thickness of the blade and size of the teeth; a reciprocating setting bar actuated by cams in a disk rotated by a crank, and a mechanism which feeds one tooth at a time to the action of the setter.

Claim.—1. The reciprocating bar B, furnished with the adjustable setting nibs C C, and, in combination therewith, the adjustable guides D and P, all arranged and operating substantially as set forth.

2. Actuating the bar B by means of the disk F, furnished with the cams *r* and *s*, arranged and operating substantially as set forth.

3. The feed mechanism, consisting of the lever G, bent lever H, catch N, set screw I, spiral springs X and M, cam J, and pins *t*, all arranged and operating substantially as set forth.

82,846.—Isaac B. Jones, Xenia, Ohio.—*Ditching and Boring Machine.*—October 6, 1868.—The rotation of the gears may be changed by means of a shifting lever, in order that the machine may be moved forward or backward by the movement of the sweep. The auger, backed or followed up by the sheath, upheaves the earth during its rotary and progressive movement, the mold board preventing the earth from falling back into the ditch. The auger is made to penetrate the earth by a screw shaft and crank.

Claim.—1. In combination with a ditching machine, the auger H, constructed as described, in whole or in sections, with a cutting edge at the lower end, and the edge along its pod, turned up and sharpened, substantially as and for the purposes herein set forth.

2. The combination of the cogged hub of the master wheel E, feed wheel V, and miter wheel W, for the purpose of communicating motion to the wheels B B, substantially as herein set forth.

3. In a combined boring and ditching machine, the shaft Y, miter wheels X X, pinion *b*, and wheel *c*, in combination with the lever Z, and notched latch *a*, substantially as herein set forth.

4. The combination of the auger H, sheath T, and mold board U, all constructed as described, and operating substantially as and for the purposes herein set forth.

5. The screw rod *d*, provided with a crank, *e*, at one end, and attached to the axle of the hind wheels, for the purpose of turning the machine to the right or left, substantially as herein set forth.

6. The arrangement of the movable cross head S, provided with a shaft and pinions, as described, and operating on rack bars and slides on each side of the auger H, substantially as and for the purposes herein set forth.

82,847.—Henry H. Kelley, Philadelphia, Pa.—*Sash Fastener.*—October 6, 1868.—The wedge on the sash and roller on the frame co-operate to tighten the sash in its normal position, thus preventing rattling.

Claim.—The arrangement of the elastic roller C, and wedge E, and operating substantially as herein represented and described.

82,848.—John C. Kennedy, Chicago, Ill.—*Stove-pipe Damper.*—October 6, 1868.—Consists in the employment, instead of an ordinary damper, of a truncated hollow cone, open at both ends, and of smaller diameter than the stove-pipe within which it is fitted and which has a co-operating register.

Claim.—A cone, B, or its equivalent, applied to a stove-pipe, substantially as described, and employed in conjunction with a register, in the manner and for the purpose set forth.

82,849.—John F. H. King, Port Richmond, N. Y.—*Signal Flag for Vessels.*—October 6, 1868; antedated September 25, 1868. — The signal flag is held in an extended position, so that the figures thereon may be easily and distinctly read from a passing vessel.

Claim.—The constructing and combining the two frame pieces *a b* and the check chain or cord *g* with the halyards, for displaying or folding a signal flag, the whole arranged and operating substantially in the manner and for the purposes described.

82,850.—George Kneip, New York, N. Y.—*Fountain Pen.*—October 6, 1868.—The central ventage tube insures the flow of ink to the pen when the valve is open, by pressure upon a button on the end of the valve lever. The situation of said tube does not admit of the escape of ink through the ventages. There are lateral openings for inspection of the reservoir.

Claim.—1. The ink cistern B, provided with a central tube, *d*, in its receiving end, and with a valve, *f*, at the discharging end, in combination with the pen holder A, constructed and operating substantially as and for the purpose described

2. The opening *c* in the sides of the pen holder, in combination with the transparent ink cistern B, substantially as and for the purpose described.

82,851.—Jotham R. Lawrence and Isaac G. Johnson, Cutler, Me.—*Boring Faucet.*—October 6, 1868.—The ends of the clamp, together with the screw, bear upon the gate, and the screw passes entirely through the lever. The effect is to hold the gate close against the face of the faucet, and rigid upon the lever.

Claim.—A faucet, having boring tool C, core chamber B, clamp E, thumb screw G, lever F, gate H, pin I, and cleats *o*, constructed, combined, and operating substantially as specified.

82,852.—Charles Leroy, Mexico, N. Y.—*Apparatus for Attaching Horses to Vehicles.*—October 6, 1868.—The springs and rods take the place of traces and obviate jerks and sudden strains upon the draught bar in stopping or rotating.

Claim.—1. The clips C C, constructed as described, and secured to the shafts of the vehicle as and for the purpose described.

2. Draught bar A, rods or traces B B, spiral springs D D, and clips C C, all combined, arranged, and operating substantially as and for the purpose set forth.

82,853.—M. F. Lowth and Thomas J. Howe, Owatonna, Minn.—*Grain Drill.*—October 6, 1868.—A cylinder, provided with grooves extending part of the way across its face, rotates under the mouth of the hopper, and is made to slide horizontally so as to present the whole or part of the grooves to the mouth of the hopper by means of a lever, one end of which is attached thereto, the other sliding over a graduated arc which indicates the number of bushels to be sown to the acre.

Claim.—1. The device, consisting essentially of the shaft G, pinion H, bearing J, sleeve L, and cylinder M, having the grooves *m m*, when constructed and operating together, as described, and in connection with a driving shaft F, seed hopper D, and a lever, K, for moving the shaft back and forth, substantially as described.

2. The combination of the graduated plate N, index lever K, and clamp *o* , for confining the lever at any point of the plate when employed in connection with the apparatus above described, and for the purpose set forth.

82,854.—Amos B. Lovell, Pomfret, N. Y.—*Elastic Apron for Paper Machine.*—October 6, 1868.—The tension of an endless rubber belt passing between the couching rollers is regulated by a tightening roller over which the belt passes.

Claim.—The combination of a rubber or gutta-percha apron with the couching press rolls of a paper machine, when the same is provided with a tension roller, in the manner and for the purpose set forth.

82,855.—Ellis Luther, West Troy, N. Y.—*Horse Rake.*—October 6, 1868.—The rake is kept from revolving, when in position to gather hay, by a foot resting against one of the teeth and secured to a screw rod, and when the rake is raised the rod turns the foot around, which releases the rake, at the same time the slack in the chain supporting the rake is taken up by a windlass actuated by a rubber spring.

Claim.—1. The screw or twisted bar E, with the foot D, substantially as described and set forth.

2. The said bar E and foot D, in combination with the transverse bar L, and aperture *a*, substantially as herein specified.

3. The said bar E and foot D, in combination with the tooth, *t*, of the rake, substantially as specified.

4. The windlass N, in combination with the chain M and the head, A, of the rake, substantially as herein shown and specified.

5. The wheel I, in combination with the chain M and windlass N, substantially as specified herein.

6. The ratchet and pawl *o*, combined with the windlass N and chain M, substantially as herein set forth.

7. The cord *b*, attached to the chain M, substantially as and for the purposes herein specified and set forth.

82,856.—Andrew J. Maris, New York, N. Y., assignor to himself and William H. Burnap, same place.—*Indicator for Steam Boiler.*—October 6, 1868.—The expansion tube is so connected to the gauge cock that the trying of the latter keeps the expansion tube free from sediment, and induces a circulation which draws away the accumulated air or gas.

Claim.—The expansion tube, alarm, and gauge cock, arranged in substantially the manner set forth.

82,857.—Leslie Marmaduke, Arrow Rock, and Sydney T. Bruce, Marshall, Mo.—*Mode of Attaching and Detaching Shafts and Poles of Carriages.*—October 6, 1868.—A rock shaft attached to the front of the vehicle has secured to each end a cylindrical head piece recessed to fit over a cylindrical block secured to the vehicle. Notches are made in the bottom side of both cylinders for the reception of a coupling block to which the shafts are secured. The rock shaft is turned by a lever and spring, and the head revolving covers the coupling block.

Claim.—1. The coupling heads D a^2 and the coupling block E, when arranged and operated substantially in the manner and for the purpose herein shown and described.

2. The arrangement of the axle piece A, traction rods *a* a^1, rod B, lever C, and coupling heads D a^2 E, substantially in the manner shown and described.

82,858.—Daniel Mater, Bellmore, Ind.—*Plow.*—October 6, 1868.—The coulter is attached to a lapped hanger which regulates the distance the coulter shall run from the shovel. The standards to which the shovels are secured are braced by rods extending from the beam and secured to the standards by clamps.

Claim.—1. The arrangement of the transversely adjustable coulter or cutter F, with reference to the beam of the plow and shovel C, substantially as shown and described.

2. In combination with the beam and standards, the brace rods H, clamps I, and nuts I′, arranged substantially as and for the purpose set forth.

82,859.—Hugh McQuaid, Canyon City, Oregon.—*Preventing Incrustation in Steam Boilers.*—October 6, 1868.—The sediment remains free by reason of the contraction of the mercurial surface upon cooling.

Claim.—The application in steam boilers of an amalgamated surface to the parts liable to incrustation; the iron plated with copper being coated with quicksilver, and being a liquid on the surface of the copper, expands, as herein set forth, using for that purpose the aforesaid metals, or any other substantially the same, which will produce the intended effect.

82,860.—George R. Metten, Cleveland, Ohio.—*Mechanical Movement.*—October 6, 1868.—Rotary motion is given to the balance wheel by the vibration of a treadle acting through the medium of vibrating arms and pawls, which latter operate noiselessly upon a friction band applied to the hub of the balance wheel.

Claim.—A balance wheel, B, constructed with a flanged hub, having a friction band, *p*, applied thereto, in combination with a treadle motion and vibrating pawls *c c*, arranged to operate substantially as described.

82,861.—James W. Milroy and John Cook, Galveston, Ind.—*Machine for Making Drain Tiles.*—October 6, 1868.—A longitudinal box provided with suitable molds at the ends, has sliding in it a box resting on friction rollers above and below, which, being reciprocated by ratchet gearing, forces the clay which is introduced at openings at either side of the block into either end of the box, making the lower and upper tile alternately. Knives are arranged at each end to cut off the tiles as they are formed.

Claim.—The combination and arrangement of the box A, sliding block B, shaft C, cog wheel *b*, ratchet plate *c*, friction rollers *d d*, and friction roller D, molds E and F, knives G G, and table G′, substantially in the manner and for the purposes as herein set forth.

82,862.—W. H. Mitchell and J. F. Mitchell, Macomb, Ill.—*Broadcast Seed Sower.*—October 6, 1868.—Two wires passing through and into the hopper are actuated by a crank, and stir up the seed in front of the slides. The scatterer has two wings tapering toward their outer ends and forming tubular spouts. The slides are arranged so that each will cover half of the opening.

Claim.—1. The stirrers *c*, operated by the compound crank R, when arranged to operate substantially as described.

2. The distributer *l*, constructed and arranged to operate substantially as set forth.

3. The two slides *h* and *f*, arranged to be operated independently or jointly, as herein described.

82,863.—Edward W. Munson and William P. Thomas, Waterbury, Conn.—*Window Spring.*—October 6, 1868.—A rod is secured to the bolt so that on withdrawing the latter from the sash a shoulder on the rod engages with the side of a rose and holds the bolt back, allowing both hands to be used in raising or lowering the window.

Claim.—The case A, within which is arranged the bolt C, and combined with the rod D, constructed with a shoulder, *a*, and with a rose, F, the whole constructed and arranged so as to operate in the manner substantially as specified.

82,864.—George D. Neal, Mt. Vernon, Ohio.—*Horse Rake.*—October 6, 1868.—The frame supporting the rake is provided with double-hinged platforms to allow it to support a load. A standard supporting the rake, slides through a mortise in the central beam, and is provided with notches on the rear side into which a rod provided with a spiral spring is forced for holding the rake in position.

Claim.—1. The arrangement of the trap doors on the described frame, in combination with any suitable holding devices, as and for the purpose set forth.

2. The central standard E, connected to the rake beam and sliding through the mortise of central beam and in combination with the outer standards and arms, substantially as shown and described.

3. In combination with such standard, the spring detent, with its catch, all constructed and operating substantially as and for the purpose set forth.

82,865.—A. M. OLDS, New York, N. Y.—*Portable Folding Fence.*—October 6, 1868; antedated September 26, 1868.—The ends of the boards are connected together by wires passing through them, serving as hinges when folded for transportation. Braces secured to horizontal pieces are provided with notches in which the boards rest.

Claim.—The herein-described combination, consisting of a fence constructed in pivoted panels, and supported by clamping braces, substantially as described, and for the purposes set forth.

82,866.—JOEL A. OTIS and THOMAS BARBER, Watertown, N. Y.—*Apparatus for Treating Milk* —October 6, 1868.—The furnace is surrounded by a jacket and the space filled with water. A horizontal flue extends the length of the boiler and is bent around and returns, terminating at a smoke-stack. The boiler resting over this flue receives a uniform heat and transmits it to the milk.

Claim.—The arrangement of the double-walled furnace A, with the boiler B and flue C C, when the furnace is made a part or extension of the boiler, and the flues are convoluted or bent back and forth, as shown, all the said parts being constructed, combined, and arranged in the manner described.

82,867.—OSCAR PADDOCK, Watertown, N. Y. —*Horse Hay Fork.*—October 6, 1868.

Claim.—The combination, with the center or claw-operating bar in a fork, such as described, of a vibratory locking-lever arm, arranged to catch over and press upon the head or upper end of the center bar, when the latter is depressed, and connected with a tripping cord, or other suitable means for effecting its disengagement from the said center bar, substantially in the manner herein shown and set forth.

82,868.—BENJAMIN M. PARKS, St. Louis, assignor to himself, A. C. ROBINSON, and WILLIAM SEYMOUR, Louisiana, Mo.—*Pruning Hook.*—October 6, 1868.—A pair of pruning shears attached to the upper end of a rod is operated by a sliding handle which is so connected with the shears as to regulate the opening for different-sized branches.

Claim.—The hand slide D, when operating by the rods *d* and *c*, the lever C, rod *b*, lever B, the lower knife *a′*, against the pressure of the spring E, and arranged in combination with the rod A, and the hook knife *a*, substantially as herein set forth.

82,869.—JULIA W. D. PATTEN, New York, N. Y.—*Ice Preserver.*—October 6, 1868.—The walls are made of a non-conductor of heat, to prevent the melting of ice or the decomposition of food.

Claim.—An ice preserver, consisting of a box or cover, having an outside wall of paper or pasteboard, lined with mica on the inside, substantially as described.

82,870.—BENJAMIN F. PERKINS, Holyoke, Mass. —*Globe Valve for Steam Engines.*—October 6, 1868. —A lock nut prevents the packing nut from turning when the spindle is rotated to open the valve.

Claim.—The combination and arrangement of the lock nut D with the stand A and packing nut C, of a globe or angle valve, substantially as herein described.

82,871.—DR. M. PERL, Houston, Texas.—*Mode of Preserving Meat.*—October 6, 1868.—The meat is sewn up in a bag which is rendered air-tight by saturation in a compound including tar, linseed oil, yellow ochre, and rock lime.

Claim.—Covering meat with a flexible material, when said covering is saturated with a compound prepared substantially as herein set forth.

82,872.—D. J. POWERS, Madison, Wis.—*Harvester Rake.*—October 6, 1868; antedated September 28, 1868.—The gaveler sweeps across the platform as the swinging apron is pressed up to meet the gaveler at the end of the platform, thus collecting the grain in bundles ready to be bound.

Claim.—1. The combination of a hinged, pivoted, or yielding platform, located in the rear of the cutter bar, with a gaveler or rake, operating substantially in the manner for the purpose described.

2. The combination of lever *a*, cam *p*, and sweep lever *g*, operating substantially as specified.

3. The combination of the lever *a*, yielding platform B, and spring *c*, so arranged that the driver, while in his seat, may adjust the spring and regulate the size of the gaveler, substantially in the manner and for the purpose set forth.

4. The combination of gaveler D with swinging apron G, when said apron and gaveler are arranged to be operated by means of cord *y* and sweep lever *g*, all being arranged and operated in the manner and for the purpose set forth.

82,873.—JOHN RAMSBURGH, Sr., New Madrid, Mo.—*Medical Compound.*—October 6, 1868.—Remedy for pulmonary affections. Spikenard, elecampane, comfrey, and Indian turnip, mixed with honey and whisky.

Claim.—The improved medicine, prepared of the materials and substances as set forth.

82,874.—JOHN H. RANDALL and CHARLES E. RANDALL, Boston, Mass.—*Steam-engine Governor.* —October 6, 1868.—The fluid is forced from a pump connecting with the engine into a cylinder provided with a waste pipe and cock and with a piston connecting with the throttle valve. The cock is opened to allow part of the water to escape, but if the speed of the engine increases, the piston is raised and the throttle valve closed, and *vice versa.*

Claim.—1. The combination of the double-acting force pump with the pipe *h″*, cylinder *i*, and with the throttle valve *m* and waste pipe *n*, as herein specified.

2. The arrangement of the cock *p* with the waste pipe *h*, cylinder *i*, pipe *h″*, and double-acting force pump, substantially as herein set forth.

82,875.—SIMON B. REEDER, Meacham, Ill.—*Corn Planter.*—October 6, 1868.—A roller placed beneath the hopper contains two or more boxes, which are provided with spring levers to drop the corn. Two cam catchers, immediately over the ends of the spring levers, are so arranged that when the boxes are immediately over the mouth of a funnel reaching to the ground, they press upon the spring levers, thus opening the boxes and allowing the corn to enter the funnel.

Claim.—A corn planter, when the same is provided with a roller, C, having in it two or more dropping boxes *a*, with springs *b* attached, which springs are operated upon by a cam catch, *c*, substantially as described and for the purpose specified.

82,876.—JACOB REESE, Pittsburg, Pa.—*Machine for Working Iron.*—October 6, 1868; antedated October 2, 1868.—The object is to reduce blooms to "muck bars" by means of compression, as distinguished from the rolling process. The compressing dies are of such shape and so combined with operating cams that the balls or blooms, when placed in the machine, are fed through, worked, and reduced to the required size and shape, and then discharged; the length of the bar thus formed being limited, not by the size of any single ball, but by the quantity of iron fed into the machine.

Claim.—1. The combination of a pair of reciprocating and compressing die blocks (or jaws) with one or a pair of non-reciprocating compressing die blocks, (or cheek plates,) acting perpendicularly thereto and alternately therewith, substantially as described.

2. An arrangement of mechanism for imparting to one or both of a pair of compressing die blocks a reciprocating movement simultaneously or alternately with a movement of approach toward or recession from each other, substantially as described.

3. In combination with one or more compressing die blocks, a pair of reciprocating and compressing die blocks, the coacting faces of which are, in their normal condition, more widely separated from one another at the point where the metal is introduced between them than at the point where the metal is extruded from them, substantially as described.

4. In combination with one or more compressing die blocks, a pair of reciprocating compressing die blocks, the coacting surfaces of which, one or both, are curved, substantially as described, for the purpose, in part, of permitting and aiding to produce a more or less retrograde or backward movement of the metal while the same is being acted on alternately with the general forward movement of the same, substantially as hereinbefore set forth.

5. In combination with a pair of reciprocating and compressing die blocks, operating substantially in the manner described, an inclined feeding trough, for guiding and facilitating the forward movement of the bloom or puddle ball to and between said die blocks, substantially as herein described.

6. As a whole, the improved machine, consisting of the several parts, constructed and combined substantially as and for the purpose described.

82,877.—William H. Remington, Boston, Mass., assignor to himself, Sarah A. T. Peabody, and George D. Allen.—*Process of Electroplating with Nickel.*—October 6, 1868.—A solution is prepared by dissolving refined nickel in nitric acid, then precipitating the nickel by the addition of carbonate of potash, washing the percipitate with water, and dissolving it in a solution of sal-ammoniac, after which it is filtered.

Claim.—1. Suspending or supporting or holding a mass of the particles of nickel within the solution, so as to present an extended surface, and connecting them with the positive pole of the battery by means of platinum, or other suitable conductor of electricity, not materially affected by the electric current or the solution employed, substantially as described.

2. A positive electrode, composed of a plate of metal, carbon, or other conductor of electricity, upon which a coat of nickel of sufficient thickness shall have been deposited, substantially as set forth.

3. The within-described solution, prepared of the ingredients and in a manner substantially as described.

4. A substance coated or plated with nickel, as herein set forth, as a new article of manufacture.

82,878.—David M. Reynolds, Port Deposit, Md.—*Lubricator.*—October 6, 1868.

Claim.—The employment, in combination with the oil vessel, having arranged in the bottom thereof an internal chamber or receptacle, so that the sediment or other impurities of the oil shall collect around said chamber, of a fibrous or other suitable filtering substance, together with a disk, whether perforated or not, but provided with a regulating screw, the whole being so arranged within said internal chamber that the filtering medium may be more or less compressed, thereby regulating both the supply of the oil and the density of the filtering medium, substantially as herein set forth.

82,879.—Charles H. L. Roberts and William C. Dudley, Morrison, Ill.—*Collar Fastening.*—October 6, 1868.—The buckles are made of bent wire, the ends catching on hooks in the side of the collar. Elastic straps pass through holes on one side of the collar and through the hooks on the other, and are held by loops. A slotted housing is secured by a hook. A pad protects the horse from this fastening.

Claim.—The arrangement of the adjustable straps D D, looped wires *j j* and *l l*, with the collar A, provided with the pad B, loop *g*, and slotted housing C, all constructed and used as and for the purposes set forth.

82,880.—George C. Schneider, Adrian, Mich.—*Bee Hive.*—October 6, 1868.—The bottom of the feed box forms the top of the hive, which is composed of sections, one above the other, and between this bottom and the cap is an opening, the passage between which and the inside of the hive is covered by a small, movable lid, which may be set aside to allow the bees to go through it.

Claim.—A bee hive, constructed of three or more similar interchangeable sections, D, D′, and D″, &c., in combination with the hollow cap A, feed-box B, opening S, and small movable lid *h*, the whole constructed and operating in the manner and for the purposes set forth and described.

82,881.—Edwin R. Shepard, Scranton, Pa.—*Railroad Rail.*—October 6, 1868.—The two sections of the rail are secured together by bolts, the inclined heads of which conform to the inclined side of the rib of the lower section, fitting tightly into it, and serving also to keep the upper section down to its lower bearing, without interfering with the downward movement of the rail.

Claim.—1. A rail, consisting of two sections, A B, the former having an inclined bearing below the head, adapted to the inclined edge of a rib on the lower section, and the latter having at the base an inclined bearing for the rib on the upper section, substantially as and for the purpose described.

2. The lower section B, with its rib *d*, the upper section A, with its slotted rib *b* inclined at the outer side, and the bolt D, with its head bearing against the inclined side of the rib *b*, the whole being constructed and arranged substantially as and for the purpose specified.

81,882.—Samuel Shepherd and Ammi M. George, Nashua, N. H., assignors to Samuel Shepherd and Joseph Greeley, same place.—*Machine for Polishing Paper.*—October 6, 1868.

Claim.—1. The combination with any number of burnishing rolls, B, operating substantially as described, of a revolving annular bed, C, supported at or near its periphery, and of open character or construction at its center, or within its interior periphery, for operation relatively to each other, essentially as and for the purpose or purposes herein set forth.

2. The combination, with a circular traveling bed, C, of a reducing emery, or other equivalent roll, D, having a rotary and longitudinal reciprocating action on or against, and in contact with said bed, substantially as and for the purpose specified.

82,883.—Samuel Shepherd and Ammi M. George, Nashua, N. H., assignors to Samuel Shepherd and Joseph Greeley, same place.—*Burnisher for Enameled Paper.*—October 6, 1868.—Calcined and powdered flint and feldspar are mixed with potter's clay and water, worked till sufficiently fine and solid, molded, dried for eight or nine days, then put into a furnace and intensely heated for fifty hours, allowed to cool two or three days, then fitted and ground to present a smooth burnishing surface.

Claim.—A polishing surface or device made of stone ware, substantially as specified.

82,884.—John Siddons, Rochester, N. Y.—*Fruit-jar Cover.*—October 6, 1868; antedated September 26, 1868.—A corrugation, forming a shoulder on one of two disks joined together, is made to fit the inside of the corrugations of the other.

Claim.—Providing fruit-jar covers, consisting of two metal disks, *a b*, with a corrugation, *c*, or its equivalent, for the purposes herein set forth.

82,885.—Thomas Smith and John O. Reilley, Baltimore, Md.—*Railroad-Car Heating Apparatus.* October 6, 1868.—The air from the pump is forced into a receiver, within which is a furnace, and thence by pipes, connected by a coupling and knuckle joint, onto the reservoir in the car, which has also a pipe guarded by a check valve opening upward, and held so by a clutch screw, and in case the heat in the reservoir is not enough, a cock allows the air to escape into pipes under the seats and discharge it into the cars.

Claim.—1. The compressed-air reservoirs and radiators H, located in the passenger cars, in combination with a heating apparatus, located outside of said cars, substantially as set forth.

2. The combination of the air pump A, compressed air receiver B, and furnace C, substantially as described.

3. The combination of the pipe coupling F and conducting knuckle joint G, as and for the purpose set forth.

4. The combination of the elastic conducting pipes D E E′, air-forcing and heating apparatus A B C, and reservoir H, substantially as described.

5. The construction and arrangement of the valve mechanism I J K, in combination with the pipes E′ and reservoirs H, for the purposes explained.

6. The air-conducting and discharging pipes M N, in combination with the reservoirs H, and cocks or valves L, as and for the object specified.

82,886.—THEODORE SNELL and WILLIAM TUCKER, Philadelphia, Pa.—*Apparatus for Cutting Metallic Bars.*—October 6, 1868.—A pair of die stocks into which the dies are mounted in a frame, one of them turning on the other, from which projects a pair of rigid arms, while a segment lever with ratchet teeth projects up from the turning die, and a pair of arms turn concentrically on both of the die stocks. A screw of unequal threads fits into nuts mounted on trunnions in the ends of the different arms, which have pawls attached to them engaging with the ratchet of the lever.

Claim.—1. Locating the two cutting dies in their respective die stocks, so that a bar placed within them to be cut shall extend in the direction, and occupy the position, of the axis of rotation of one or both of said cutting dies, substantially in the manner described.

2. In a rotary shears, constructed as specified in the preceding clause, the dies K L, made each in two parts and pressed together by screws C″, for the purpose of clamping the metal bars between them, as explained.

3. The differential screw H H′, in combination with the levers B′ E, die stocks B and C, and supporting frame A, substantially as described.

4. The pawl J and toothed segment lever D *d*, in combination with the arm E and the stock C, for the purpose stated.

82,887.—DANIEL E. SOMES, Washington, D. C.—*Canal Boats and Other Vessels for the Transportation of Grain.*—October 6, 1868.—The vessel or car is provided with a perforated lining at the bottom and walls of the grain chamber with an air space around it, in which are inclined partitions forming flues, air tubes connected with air ducts opening above the deck, and pipes by means of which steam may be applied to heat the grain.

Claim.—1. A canal boat or other vessel or vehicle, having a perforated lining or casing, with spaces for the circulation of air between it and the walls of the vessel or vehicle, substantially as and for the purpose set forth.

2. A canal boat or other vessel or vehicle, with a perforated false floor, with air space between it and the bottom of the vessel or vehicle, substantially as set forth.

3. Heating apparatus, in combination with ventilating tubes G, perforated tubes E, and hoods *f*, substantially as set forth.

4. Perforated lining B, ventilating tubes G, hoods *f*, openings *c*, guards c^1 c^2, substantially as described.

5. A canal boat or other vessel or vehicle, having a perforated casing or lining, inclosing air flues and a heating apparatus, substantially as and for the purpose set forth.

6. The perforated lining B, perforated tubes E, and air ducts F, or their equivalents, substantially as described.

7. The perforated lining, with inclined partitions, forming flues between it and the walls or bottom of the vessel, or both, substantially as described.

8. The heating apparatus, in combination with the perforated lining and ventilating tubes G, as set forth.

9. The air tube E, in combination with the ventilating tubes G, as set forth.

82,888.—HENRY STANLEY, St. Louis, Mo., assignor to G. and W. TODD & CO., same place.—*Oil Cup.*—October 6, 1868.

Claim.—The combination of the oil cup A, stopper *a′*, wooden end piece B, slotted at b^2, and capped by the metallic cap C, having the minute perforation *c*, substantially as hereinbefore set forth.

82,889.—EDWARD J. STEPHENS, North Providence, R. I.—*Machinery for Printing Yarn.*—October 6, 1868.

Claim.—The contrivance and arrangement of the color carriers, F F, as shown in the drawings, and their combination with the color rollers E E and the fluted or ribbed rollers A A, so as to put different colors upon different flutes or ribs of the rollers A A, and thus to print the yarn with different colors, with distinct intervals or spaces between.

82,890.—LYMAN B. STILSON, Woodland, assignor to himself and AUGUST LEICH, St. Anthony, Minn.—*Harvester.*—October 6, 1868.—The cutter bar is attached in front of the main axle by cross pieces, which are hinged at right angles from the bar to the axle, the heavy end of the bar being sustained by an arm and caster wheel, and the light end sliding on the ground.

Claim.—The arrangement, in a front draught machine, of the finger bar A and bars B B, the latter hinged to the axle of the machine and connected with the bar A, as shown and described, and constructed and operating substantially as set forth.

82,891.—THOMAS TAYLOR, Washington, D. C.—*Mode of Preparing Plaster Casts.*—October 6, 1868.

Claim.—1. The use of silicate of soda or other soluble silicate, with or without glycerine, as a varnish, for the purposes as substantially set forth and described herein.

2. The use of alkalies, or their equivalents, when used as solvents of silicates, when used substantially as in the manner herein set forth and described.

82,892.—MORGAN H. THOMAS, Dansville, N. Y.—*Churn Dasher.*—October 6, 1868.

Claim.—The cone-shaped top, A, perforated with holes *a a*, as described, and dasher rod B, in combination with the cross bars C C, when the latter are hinged to the lower part of the top, A, on one side, and fastened to the opposite side of said top, A, by a clasp, all arranged, constructed, and operated in the manner and for the purpose set forth.

82,893.—C. F. TRILL, Baltimore, Md.—*Steam Generator.*—October 6, 1868.—The boiler is wound tightly around by wire, the shell being divided into three chambers, the lower one of which has a supply pipe and branches, with burners, while the central and longest one, is provided with vertical pipes resting on the floor, over the burners, the upper ends being fixed to an upper partition, so that the products of combustion pass into the upper chamber, which has also steam pipes, and thence to the open air.

Claim.—1. The combination of the boiler A with the layer or layers of wire *a a*, wound around it, as described.

2. The arrangement, within the steam generator A, of the chambers E F G, with the pipes D J K and burners *i i*, ubstantially as described.

82,894.—S. N. TRUMP, Baltimore, Md.—*Tea Tray.*—October 6, 1868.—Nearly around the upper edge of the wooden body, made single or in panels, extends a metallic rail supported on short posts, the whole resting on legs.

Claim.—As a new article of manufacture, a tea tray, composed of the wooden body A, metallic rail B, standards C C, and feet D D, substantially as described.

82,895.—ALBERT M. UTLEY, H. N. KIMBALL and WILLIAM REYNOLDS, Watertown, N. Y.—*Boxing, Bandaging, and Preparing Cheese.*—October 6 1868.—Strips of paper, of a hoop-shape form, are secured at their ends by metal fasteners bent over and clasped, flaps being attached at top and bottom, and over the top and bottom of the cheese, so prepared, are fitted paper covers for transportation.

Claim.—1. The use, in connection with covers for the top and bottom of the cheese, of a paper bandage, encircling and permanently united, during the process of curing, with the sides of the cheese, substantially in the manner and for the purposes set forth.

2. The combination, with the paper bandage for encircling and holding the sides of the cheese, of top and bottom flaps of cotton or other suitable fabric, applied and used in the manner specified.

82,896.—Medders Vanderpool, Polk County, Oregon.—*Grain Harvester.*—October 6, 1868.

Claim.—1. The arrangement of the spiral screw A with the right head board of the concave 20, whereby the standing grain is conducted to said head board without being pulled from the ground, as herein shown and described.

2. The combination of the obliquely-ribbed drums O, ribbed concaves 20, and spiked drums 2 2, substantially as described, for the purpose specified.

3. So constructing and arranging the rod D D, provided with tapering spurs, that the standing straw is forced to the rear, to deposit the threshed grain upon the bed X, before said straw is drawn out of the machine, substantially as herein shown and described.

4. The combination of the ribbed drums O O, spurred wheels 2 2, ribbed concaves 20, and troughs 40, substantially as described, for the purpose specified.

82,897.—Nicholas S. Vedder, Troy, N. Y.—*Cooking Stove.*—October 6, 1868.—Two upright pieces and a cross-piece form a three-sided hollow piece under the ash guide slides, and connected by a channel with the air chamber formed by a rear, a sliding, and a bottom plate of the stove.

Claim.—1. The piece F, when constructed as and for the purposes herein described.

2. The plate C, forming the air chamber E, when made sliding, as herein shown and described.

82,898.—J. C. Wagoner, St. Louis, Mo.—*Smut Mill.*—October 6, 1868.—A feed shoe, with inclined floors, is connected by a blast pipe with a pocket, whence the grain, by means of distributors, is thrown upon beaters, and by the discharging wings it escapes into the upcast blast tube.

Claim.—1. The feed shoe F, arranged with two short inclined floors, *f*, upon which the falling grain shall strike and from which it shall be precipitated in a "shower" upon the pocket G^1, and in combination with the superpoised blast tube G, substantially as set forth.

2. The discharging wings H, in combination with the curved beaters C, acting substantially as set forth.

3. The blast tubes G and K, and their ducts, G^2 K^2, the regulating slides L and L', and the fan E, all acting substantially as and for the purpose set forth.

82,899.—F. F. Wagner, Harrisburg, Pa.—*Railway Car Seat.*—October 6, 1868.—The body is held on its supporting rail by clips, its end being joined by rails parallel to the seat. At each end of the seat are two arms, one being pivoted to the middle of the arm seat, and the other to the center of the base of the rails and connected to the back. The seat is moved and the sliding body locked by a pin traversing a cam.

Claim.—1. The curved body frame K K', connected to the arc rails *x* of the support by means of the clips P, and with the sliding seat by means of the cams S, pins *n*, and the fulcrum rods B O *n*, all constructed and arranged substantially as and for the purpose specified.

2. The slotted connecting rods N A, in combination with the fulcrum rods B O *n*, when arranged on the sides of the sliding frame N K K', to effect reversion in the manner as herein expressed.

82,900.—R. K. Walton, Clarington, Ohio.—*Spike.*—October 6, 1868.

Claim.—A spike, formed with an opening, *o*, through it, and a guide groove, leading from its upper end to the opening, substantially as above set forth.

82,901.—Mrs. Ruth Ann N. Atwood Ward, Philadelphia, Pa.—*Brace and Skirt Supporter Combined.*—October 6, 1868.—Three lines of bracing are connected by means of straps; the first for the upper part of the body, the second to throw back the shoulders, and the third to balance the others and support the back.

Claim.—The improved brace and supporter, consisting of pieces *a*, straps of belting *b*, *d*, *e*, *f*, and *l*, buckle straps *i* and *m*, and elastic straps *g h k*, when arranged to operate for bracing and supporting, substantially as described.

82,902.—William Ward, Cleveland, Ohio.—*Metallic Roofing.*—October 6, 1868.—On each side of the plate, near the end, is cut a small slit, below which the metal is turned up, oppositely for the two, to form a flange. The end is also turned up and flanged; the portion of the plate at the sides without flange is then bent down and forms a return, the flanges overlapping and interlocking together.

Claim.—The metal roofing, composed of sheets of metal cut and bent, as shown in Figs. 3 and 4, having flanges or lips turned thereon, as described, and used with strips D to form the roof, all constructed and arranged in the manner and for the purpose as described.

82,903.—Winthrop Ward, Mystic Bridge, Conn.—*Window-strip Attachment.*—October 6, 1868.—A spring expanding pin is attched to the window strip and engages with a tubular socket inserted in the frame.

Claim.—The provision, on a window strip, of spring pins, adapted to slip into tubular sockets in the window frame, for the purpose of attaching said strip, substantially as described and represented.

82,904.—John T. Waring, Yonkers, N. Y.—*Felted Fabric.*—October 6, 1868; antedated September 28, 1868.—The jiggering table has a steam box in the middle, with a perforated top plate, and a jiggering board held down by a vibrating standard pivoted in the cross-frame, and a crank shaft and connecting rod, by which motion is given to the board.

Claim.—1. The new manufacture of a tufted fabric, having tufts of wool or other fibrous materials and a felt body wholly of wool or other suitable felting material, or of mixed felting and non-felting materials, the body and tufts being made into a fabric by the process of felting in the manufacture of the fabric, substantially as hereinbefore described.

2. The perforated tuft holders, or their equivalent, in combination with the jigger board and steam box, substantially as herein described.

82,905.—E. K. Warren, Rochester, N. Y.—*Tank for Fermenting Ale, Beer, &c.*—October 6, 1868.—An improvement on patent No. 63,994. The pontoon has a conical top connected with a chamber into which the concentrated yeast is discharged, while a double coil of pipe is so arranged that the water first cools the fermenting mass, and then passes to the upper surface of the top to condense the liquid, which is brought back to the pontoon by means of pipes.

Claim.—1. The employment of the conical or inclined top C, in combination with pontoon A, for concentrating the yeast and facilitating its escape, as herein described.

2. The combination and arrangement, with the pontoon A, and conical top, B, of the two coils, E E', of water pipe, the water passing first into E and then upward into E', the whole as described, and for the purpose specified.

82,906.—Fayette M. Weller, Chicago, Ill.—*Trace Fastener.*—October 6, 1868; antedated September 24, 1868.—An improvement on his patent of January 17, 1864.

Claim.—1. The curved hook A', to be placed on the whiffletree, in the manner as represented by

Figs. 1, 2, 3, and 4, is the improvement which I desire to secure by letters patent; hence—

2. The curved hook A′, constructed and arranged substantially as and for the purposes herein set forth and described.

82,907.—CHRISTOPHER C. WELSH, Pleasant Valley, Pa.—*Machine for Converting Rotary into Reciprocating Motion.*—October 6, 1868.—The wheels, pinions, shafts, weights, cords, and sleeves are so arranged with an arm and a rocking lever pivoted to a rod connecting with a swinging lever, that as the shaft connected with the crank wheel rotates it, a vibrating motion is given to the arm and thereby a swinging up-and-down motion to the arms of the rock shaft.

Claim.—In combination with the single set of gearing, the arrangement of the swinging lever V, vertical connecting rod U, rocking lever R S, vertical arm T, and crank O, when constructed and operating substantially as herein represented and described.

82,908.—DANIEL WERNER, St. Louis, Mo.—*Breech-loading Pistol.*—October 6, 1868.

Claim.—The barrels B, of the described pistol, provided with the catch *f*, located as shown and described, and having the studs *c c*, sliding upon the rod *d*, and operated in connection with the spring *o*, as described, when said barrels are combined with the stock and locks of an ordinary pistol, in the manner and for the purpose set forth.

82,909.—MINNA WESSELHŒFT, Baltimore, Md.—*Extract of Barley Malt.*—October 6, 1868.

Claim.—A new of article of manufacture for dietetic and remedial purposes, a concentrated extract of malt, prepared in the manner described.

82,910.—ERASTUS D. WESTON, Taunton, Mass.—*Cooking Stove.*—October 6, 1868.—Each of the sectional plates which is connected with the top of the plate by its circumscribing flange has a flange which overlaps the next one, the two inner lateral sectional plates having also flanges extending up to the plate.

Claim.—1. The bottom plate of the air flue, as made of the five sections *c d e f g*, having their joints arranged transversely and longitudinally of the top plate, and provided with overlapping flanges, *h*, as described, in order that the lateral and longitudinal expansion of the top plate may freely take place.

2. When the series of partition plates of the air flue is extended partially across the space underneath the top plate, the combination of the end flanges *m m* with such plates, and the extension of the jambs and end plates of the stove body up against the said flanges, the partition and top plates, and these latter with the partition and top plates, beyond the jambs and end plates or body of the stove, in the manner as represented.

3. The said end flanges *m m*, as constructed with notches or openings *o o*, for the exit of air from the air flue into the smoke flue over the oven.

82,911.—RUDOLPH WHITE, Newport, Pa.—*Clothes Line Adjuster.*—October 6, 1868.—The hook has a swivel joint connected with a spring and pulley within the bearings and turns so that when the clothes line is slipped between the spring and the open bearing it is held in the groove of the pulley and can be fitted to any angle.

Claim.—The arrangement of the spring D, in combination with the swivel hook A, and bearings B B′, in the manner and for the purpose set forth.

82,912.—JOHN C. WILMARTH and AVERY FOBES, St. Louis, Mo.—*Knife Ring.*—October 6, 1868.—The knife blade is secured to a stud on the back of a finger ring, overlapping the front edge of the blade, and, though partly covered by a shield, can be adapted for cutting the strings of packages.

Claim.—The combination and arrangement of the ring A, having the stud *a*, knife a^1, and shield a^2, as and for the purpose described and set forth.

82,913.—GEORGE D. ALLEN, New York, N. Y.—*Eel Pot.*—October 13, 1868.—A perforated funnel of India rubber with a contracted mouth is forced over the mouth of the basket and by contracting holds itself. Needles pointing toward the neck of the funnel prevent the retreat of the animal.

Claim.—1. The eel-pot funnel, of India rubber, and perforated substantially as above set forth.

2. The eel-pot funnel, formed of India rubber, with a contracted mouth, substantially as before set forth.

3. The combination of the eel-pot funnel with needles pointing toward its neck, substantially as before set forth.

4. The eel-pot funnel, having the two characteristics of perforation and a contracted mouth, substantially as before set forth.

5. The combination of the body of the trap with a funnel of India rubber, substantially as before set forth.

82,914.—CHRISTIAN BARRY, Philadelphia, Pa.—*Alkali Can.*—October 13, 1868.—Clay is introduced between the covers and body of the can for making a tight joint capable of resisting the penetrating action of the alkali.

Claim.—An alkali can, in which clay is used for producing a tight joint, substantially in the manner described.

82,915.—ELIAS BLAIR, Bucyrus, Ohio.—*Corn Husking Pin.*—October 13, 1868.—An eye is made through the body of the husker between two blades for the insertion of the finger, the instrument being adapted to be used by either the left or right hand.

Claim.—An instrument for husking corn, constructed substantially in the manner shown and described.

82,916.—CHARLES J. BOUCHÉ, Louisville, Ky.—*Pen Rack.*—October 13, 1868.—Four plates are hinged at their vertical edges and maintained in a rectangular form by a rod. Two hinged plates form the roof. The ends of the stand are provided with pen racks, and lips are placed on the margin of the side plates for the reception of cards.

Claim.—A pen rack, composed of the sides A B C D, connected by hinge joints, as shown, the hinged roof H I, brace F, and racks M, all constructed and arranged substantially as described, and provided with calendars O P Q and lips S, for the reception of cards, substantially as set forth.

82,917.—GEORGE W. BROOKS, Clinton, Mass.—*Centering Square.*—October 13, 1868.—The angle of 90° in a centering square is divided equally by a movable tongue secured to the square by a bolt and thumb nut.

Claim.—In combination with the square, the adjustable slotted bar *b*, when constructed as and for the purpose substantially as described.

82,918.—JOHN A. BURCHARD, Beloit, Wis.—*Corn Planter.*—October 13, 1868.—The device is so arranged that the operator has in view the several cells containing seed for successive hills, and is enabled to discover any failure to plant correctly.

Claim.—1. Broadly, the employment of the dropping device D, when constructed and arranged substantially as herein described and set forth, and used for the purpose of enabling the operator to know by ocular demonstration whether the machine is dropping the seed with certainty and accuracy.

2. In combination with the device D, the pawl K and stop latches *g* and *l*, when used for the purpose herein set forth.

3. The combination and arrangement of the several parts of the planter herein described, when used for the purpose set forth.

82,919.—T. A. CAMBENSY, Chicago, Ill.—*Hollow Window Cross Bar of Sheet Iron.*—October 13, 1868.—A strip of sheet iron of the proper dimensions is bent and placed on a suitably-formed bar of iron or lead and passed through suitably-formed rollers.

Claim.—As a new article of manufacture, the hollow sheet-metal window bars, constructed substantially as shown and described.

82,920.—CHARLES B. CLARK, Buffalo, N. Y.—*Blind Hinge.*—October 13, 1868.—The pintle of the lower hinge has a longitudinal angular recess on one side. The socket to receive the pintle is notched to form a projecting catch. When the shutter is opened a positive lock is produced, but in all other positions the pintle forms a close joint with the eye and prevents rattling.

Claim.—Forming the cylindrical pintle *a*, with the depressed slot *b* and the circular eye *c*, with outside catch *d*, the whole combined and arranged as described, and operating in the manner and for the purpose specified.

82,921.—John L. Cooper, Preston, Conn., assignor to himself and Joshua E. Fellows.—*Metallic Counter Brace.*—October 13, 1868.—The spur is secured to a gutta-percha counter brace which is attached to the counter of the boot or shoe.

Claim.—The new article of manufacture of a spur socket, in combination with a counter brace, when made and applied substantially as herein described.

82,922.—William Cooper, Paris, Me.—*Ox Yoke.*—October 13, 1868.—A slotted plate, to which is fastened the ring which attaches the yoke to the shaft of the cart, is secured to the yoke by two staples and can be adjusted to regulate the leverage of the yoke of a pair of oxen.

Claim.—The sliding slotted plate *a*, held by staples *b b′*, and adjusting nuts *c c′*, and carrying the shaft ring *f*, as and for the purposes set forth.

82,923.—Andrew J. Craig, Ashmore Station, Ill.—*Harrow.*—October 13, 1868.—The teeth are bent over forward and riveted together at the point where they are bent so as to form two sides of a triangle.

Claim.—The bent teeth A A, pivoted together as described, so as to form a harrow with flexible sides, substantially as and for the purposes herein set forth.

82,924.—Charles H. Cramer, Rutland, N. Y.—*Washing Machine.*—October 13, 1868.—A corrugated roller has bearings in a hinged frame which is raised and lowered by a treadle connecting therewith. Screws are provided at the end of the frame for regulating the pressure of the roller on the clothes.

Claim.—The combination of the adjustable frame B, and the treadle I for raising the same, and the screws H for regulating its pressure, substantially in the manner and for the purpose described.

82,925.—Sutton Edward Crow, Stratford, England.—*Hydrocarbon Burner.*—October 13, 1868; patented in England June 14, 1867.—The object is to adapt steam boiler and other furnaces for burning creosote and other combustible liquids.

Claim.—The arranging the apparatus in such manner that a jet or jets of steam, under pressure, (or, it may be, of air,) issues into the furnace in a direction parallel, or nearly parallel, to a pipe or passage by which combustible liquid is led into the furnace, such jet being immediately in rear of and below the mouth of such pipe or passage, substantially as described.

82,926.—Franklin A. Deland and Luke Phillips, Memphis, Mich.—*Mortising Machine.*—October 13, 1868.—A collar is rigidly attached to the spindle and revolves in a guide which is provided with jaws fitting over a perforated plate secured to the frame. The back rest is hinged and can be set at any angle by means of a slotted lever to which it is secured, and which is provided with a pin fitting in a series of holes in the side of the bed.

Claim.—1. The combination of the vertical guide C′, bed C, slotted lever D′, and pin E′, substantially as and for the purposes herein set forth.

2. The independent perforated guide plate O, in combination with the jaw guide N and vertical bar E, when constructed, arranged, and operating substantially as and for the purpose herein set forth.

82,927.—William L. Denio, Rochester, N. Y., assignor to himself and Irwin Davis, same place.—*Attaching Rosettes to Harness.*—October 13, 1868.—The screw loop is secured to the head stall, and, being a fixture, facilitates the application and detachment of the rosette.

Claim.—The rosette A, provided with the screw socket or nut *b*, in combination with the screw loop B and attaching straps *g h*, the whole arranged as described, and operating in the manner and for the purpose specified.

82,928.—Charles H. De Vine, Buffalo, N. Y., assignor to De Vine Brothers.—*Piano Forte Bridge.*—October 13, 1868.—The ivory bridge cap aids in holding the cut-off pins firmly in the wood, and permits the strings to slide freely in tuning.

Claim.—The curved bridge A, composed of veneers *a a a* and *b*, having the ivory or equivalent top plate F attached, as herein described.

82,929.—David Ducharne, Mechanicsville, N. Y.—*Apparatus for Setting Axles to Wagons.*—October 13, 1868.—The guide serves to indicate when the crooked or bent axle is set or straightened under the action of the screw jack.

Claim.—1. The hook or jack B C, and the upright fulcrums or studs E and E′, in combination with the horizontal cross bar F, each being constructed and operated substantially in the manner and for the purposes herein described and set forth.

2. The triangular-shaped guide H, in combination with the jack B, studs E and E′, and cross bar F, substantially in the manner and for the purposes herein described and set forth.

82,930.—Charles N. Dunham, Philadelphia, Pa.—*Mounting Spectacle and Eye Glasses.*—October 13, 1868.—The pieces to which the nose spring is fixed and those which hold the glasses together when folded up, are cemented instead of being riveted to the glass.

Claim.—The glasses A A, having the pieces B B, D D, cemented to them, as a new article of manufacture.

82,931.—John Enright, Louisville, Ky., assignor to himself, William Wall, and Thomas Enright, same place.—*Core Bar for Casting Pipes.*—October 13, 1868.—Longitudinal bars and levers are actuated by means of screw nuts so as to expand and contract the segments. Iron pipe are cast upon the cylindrical coating of clay, which is applied to the cylinder, and when the iron begins to cool and set the segments are allowed to contract.

Claim.—The collapsable metallic core rod or cylinder, having four longitudinal segments A, so constructed and arranged as to be operated independently of each other, as herein shown and described.

82,932.—Rufus B. Ferris, Holland, Mich.—*Stump Extractor.*—October 13, 1868.

Claim.—The combination of the lever H, sheave F, chain I, rope J, sheave blocks 3 and 4, sills A, post B, tie beams C, standards D, pulley E, and halyard K, when constructed, arranged, and operating substantially as described, and for the purposes set forth.

82,933.—E. B. Foster and John G. Witt, Elmira, N. Y.—*Adjustable Square and Bevel.*—October 13, 1868.—The wings, in conjunction with the ruler of the T-square, may be used after the manner of the common center square, and they are also set at any angle by means of the screw, so as to serve as a bevel.

Claim.—The combination, with a try or T-square, of the wings D D, and the screw F, for adjusting the angle of the same, substantially as described.

82,934.—Andrew Friberg, Moline, Ill.—*Plow.*—October 13, 1868.—The interposed plate supports the attached end of the handle in a position sufficiently removed inward from the landside to avoid friction with the land and the consequent wear.

Claim.—The plate C constructed and applied between the landside A and the handle B of the plow, substantially as described.

82,935.—Joel Garfield, Groton, Mass.—*Ratchet and Pawl Mechanism.*—October 13, 1868.—

By adjustment of the screw pin the pawl may be fixed out of engagement with the ratchet teeth.

Claim.—1. In combination with the ratchet wheel and pawl, arranged substantially as shown and described, the loose collar or disk *h*, having an inclined slot, into which the pawl pin projects, rotation of the pawl plate in one direction forcing the pawl up into engagement with the ratchet teeth, and its rotation in the opposite direction carrying it out of engagement therewith, substantially as set forth.

2. In combination with the ratchet wheel and pawl and the loose collar, the stud *l*, and adjustable screw or pin *n*, operating substantially as shown and described.

82,936.—Richard Gornall, Baltimore, Md.—*Steam Engine Piston Valve.*—October 13, 1868.—An extra valve extends longitudinally through the main valve. When the piston is upon the point of terminating its stroke, steam from the cylinder enters a chamber in the end of the extra valve, and, acting thence against the end of the steam chest, moves the extra valve until its flanges come in contact with the main valve; thereupon more direct communication is established between the extra valve and the steam cylinder, and the steam from the cylinder acts with great force to slide both valves to the remote end of the steam chest and thus reverse the piston. The auxiliary steam ports prevent the induction steam from being shut off by the valve when it is midway between the ends of the steam chest.

Claim.—1. The combination of the main valve C with the interior sliding valve D, having the flanges *e e*, substantially as and for the purposes specified.

2. In combination with the valve C and the interior sliding valve D, the auxiliary steam ports *n n'*, substantially as and for the purpose specified.

82,937.—Josiah Gray, Chicago, Ill.—*Railway Frog.*—October 13, 1868.—In the passage of the wheels over the frog the flange traverses the shield and raises the wheel, thus preventing undue wear of the "point."

Claim.—1. The shield H, constructed substantially as described, in combination with the point C and guard bars B, as and for the purposes set forth.

2. The combination of the chairs E, bars F, guard bars B, shield H, and point C, all operating substantially as set forth and shown.

82,938.—B. F. Guy and J. V. Guy, Macomb, Ill.—*Cultivator Plow.*—October 13, 1868.—The forward end of each plow beam is jointed to a rod fitted to turn in the forward cross bar of the frame. Upon the rod is mounted a shoe which holds horizontally a spring bar connected to the plow beam by a chain to regulate the depth of plowing. A transverse rod or rack is raised upon its pivoted arms to elevate both plow beams and sustain them.

Claim.—1. In combination with plows thus hung in a frame, the spring bars and connecting chains or cords, as and for the purpose set forth.

2. In combination with the plows, their bifurcated rods, and spring bars, the shoes *e e*, substantially as and for the purpose described.

3. In combination with spring bars and plows of described cultivator, the rack *i* with its handle *i'*, as and for the purpose described.

4. The cultivator plow, when constructed of the several parts, all arranged to operate substantially as and for the purposes set forth.

82,939.—Earl Guyer, Wolcott, Vt.—*Butter Tub.*—October 13, 1868.—The cross bar and the keys serve as alternative means for holding the cover in order to keep the butter down in the brine. The cross bar is only serviceable when the cover is at the top.

Claim.—The combination of the butter tub A, cover B, keys C C, cross bar D, and bent metal bars E E, or their equivalents, substantially as and for the purposes herein set forth.

82,940.—John W. Habberley, South Malden, Mass.—*Anchor.*—October 13, 1868.

Claim.—An anchor, when constructed of the shank A of wrought iron, inserted into the cast hub B, which latter is provided with sockets for the reception of the square inner ends of the flukes D, which are secured by pins or keys, substantially as described.

82,941.—Thomas C. Hargrave, Boston, Mass., assignor to himself, William B. Charlton, and H. K. Moore.—*Device for Changing the Speed of Machinery.*—October 13, 1868.—The speed of the shaft to be driven is determined by the action of the driving belt upon one or the other of the pulleys, but owing to their constant gear connection with said shaft the pulleys revolve simultaneously, though at different speeds.

Claim.—The pulleys B C, secured to independent shafts *d* L, revolving one within the other, and connected, by means of gears I K and *g* M, to the driving shaft of the machine, the pulley A and belt shipper E, by means of which the rate of speed may be expeditiously changed, the whole combined and arranged substantially as described.

82,942.—David M. Harkrader, Chili, Ill.—*Combined Harrow and Cultivator.*—October 13, 1868.—The two frames united together, with all their appurtenances, constitute a harrow, but the detachable inner frame may be used alone as a cultivator.

Claim.—1. The knives or cutters Q Q, combined with the frame pieces B, C, D, and E, and the shovels P P, teeth O O, handles K K, cross pieces R R, bows S S'', and hitching device T T U, constructed and arranged as described, and for the purpose set forth.

2. The combination of the frame A F, substantially as described, with the frame B, C, D, and E, constructed and arranged as described, and for the purpose set forth.

82,943.—William T. Harvey, Jr., Philadelphia, Pa., assignor to himself and Peter Grimes, same place.—*Saw Handle.*—October 13, 1868.—The two screws which secure the fastening pin pass through the plates and the pin, and into the wood of the handle.

Claim.—The combination of the handle A, metallic plate M', with lug L, for fitting into the notch N, plates M M, pin P, confined by screws S S, for retaining a saw blade, the whole constructed to operate in the manner and for the purpose set forth and described.

82,944.—John Haskin, Boston, Mass.—*Elastic Goring for Boots and Shoes.*—October 13, 1868.—The attaching stays and the rubber goring are saturated with an elastic varnish which protects them against the rotting effect of oil from the leather.

Claim.—As a new article of manufacture, a goring for boots and shoes, made of perforated rubber sheets, with stays B B, saturated with an elastic varnish, as and for the purposes described and specified.

82,945.—A. J. Haswell, Circleville, Ohio.—*Heating Stove and Fireplace.*—October 13, 1868; antedated October 6, 1868.—The smoke and gases pass over the top of the back wall of the fire chamber and thence descend in order to reach the exit flue through an opening in the division plate. Air is heated while passing from the exterior of the stove to the combustion chamber through the tubes and orifices of the division plate.

Claim.—1. The division plate *b*, applied in connection with the stove A in the rear of the fire plate *a*, to produce the passages *h* and *i*, in the manner and for the purpose explained.

2. The division plate *b*, provided with the tubes *b' b''*, and the orifices *d*, substantially as described.

82,946.—Cyrus Hay, Stoneham, Mass.—*Boot and Shoe Bottoming.*—October 13, 1868.—Any suitable binding or covering texture is made to encase the sole or simply embrace the edges. The covering is applied to such soles as are unfit for exposure or incapable of receiving the proper finish, as, for example middle soles.

Claim.—A shoe "bottoming," made substantially as described and for the purpose set forth.

82,947.—MARTIN HELIKER and ORSAMUS A. WHITE, Norwalk, Ohio, assignors to themselves and J. W. BOSTWICK, same place.—*Churn Dasher.*—October 13, 1868.

Claim.—The concentric circles or coils of wire C, as arranged in combination with the radial arms B, for the purpose specified.

82,948.—JOHN I. HESS, Philadelphia, Pa.—*Hot-air Furnace.*—October 13, 1868; antedated September 26, 1868.—The products of combustion, on their way to the discharge pipe, are checked by passing through winding passages in the drums, in order to utilize the heat. The grate rests upon a turn-table supported beneath the bed plate of the stove. An annular water box or evaporator surrounds the base of the fire chamber.

Claim.—1. The combination and arrangement of bed plate B P, fire chamber F C, heating drums H D and H D′, and C D and C D′, with their spirals, connecting pipes P, P^1, P^2, P^3, P^4, P^5, P^6, and P^7, turn-table, composed of parts L P and T P, water box W B, for the purpose specified.

2. The application of the within described turn-table to stoves or other heating apparatus, for the purpose specified.

82,949.—LUCIUS C. HEYLIN, Philadelphia, Pa.—*Compartment Cane.*—October 13, 1868.

Claim.—A cane arranged as herein described, whereby one portion thereof is adapted to be used as a pipe, the handle of which is contained in a compartment formed in the same, and other portions of the body of the cane being provided with receptacles for cigars, tobacco, and matches, the whole constructed as herein described.

82,950.—D. K. HICKOK, Morrisville, Vt.—*Potato Washer.*—October 13, 1868; antedated September 30, 1868.

Claim.—The arrangement of the arm D and shaft C with the vessel B, when provided with a lid and feet and perforations, as described, the several parts being constructed and used as and for the purpose herein set forth.

82,951.—BENJAMIN HITCHINGS, Lynn, Mass.—*Last.*—October 13, 1868.

Claim.—Attaching the block of a last to the body of the same by means of a continuous dovetail-formed bead C′ D′, said bead being curved longitudinally, forming an arc of a circle, which fits into corresponding dovetailed groove C D, formed in the body of the last, substantially as described, and for the purpose set forth.

82,952.—HORACE B. HOOKER, Rochester, N. Y.—*Skate.*—October 13, 1868; antedated October 6, 1868.—The toe is bent back in front, being held to the plate by means of a depression between two holes, and a clamp on each side of it, the heel plate being supported by three posts, having a flange in front with spurs, and from the ends of which is a bail running back, part of it being a spiral spring, and with a cam on its rear portion.

Claim.—1. A skate, having a heel plate, H, with its flange *q* and spurs *d*, in combination with the bail D and cam *v*, all acting conjointly, as and for the purposes herein set forth.

2. The tripod heel-plate support, composed of the post F, as herein described.

3. The adjustable toe plate B, in combination with the self-adjusting clamps G, as and for the purposes shown.

82,953.—HORACE B. HOOKER, Rochester, N. Y.—*Skate.*—October 13, 1868; antedated September 28, 1868.

Claim.—A skate, having a heel plate, D, with its flange *a* and spurs *b*, in combination with the adjustable clamp G and jam nut C, all acting conjointly, as herein shown, and for the purpose set forth.

82,954.—JOHN HUGHES, Newark, N. J.—*Gig Saddle.*—October 13, 1868; antedated October 3, 1868.

Claim.—1. The seat A, with the recesses B and R, the piece C, and back piece E.

2. The crupper loop F, arranged with the recess, and piece of leather I.

3. The plate L, with the pins M, or their equivalents, in combination with the frame G.

4. The construction of the jockey P by encasing the extra plate L, and fitting the upper end of the jockey to the shape of the seat A, substantially as and for the purpose specified.

5. The whole in combination, substantially as and for the purposes specified.

82,955.—JAMES INGRAM, Troy, N. Y.—*Folding Camp Stool.*—October 13, 1868.—To the upper part of the center piece are hinged arms, and at the lower end legs, to which the springs are attached to keep them apart for sitting, the whole being so arranged that they can be readily folded.

Claim.—The arms D D′, legs E E′, hinged to the center piece A, and the springs F F′, each and all being constructed, arranged, combined, and operated as a whole, in the manner and for the purposes substantially as herein described and set forth.

82,956.—W. A. IVES, New Haven, Conn.—*Expansive Bit for Wood Boring.*—October 13, 1868.—The stock has a groove in which the upper edge of the cutter is received, held, and forced back by means of a wedging screw in the slot of the cutter.

Claim.—1. The mode of holding in place the adjustable cutter C by its upper edge, by means of the groove B, the wedging screw *a*, and slot *b* in the cutter C, and set screw *d*, constructed and arranged substantially in the manner as above specified.

2. The adjustable cutter, when constructed in such a manner as that all the wood is removed without the necessity of the ordinary fixed central cutters upon the stock, substantially as set forth.

82,957.—W. A. IVES, New Haven, Conn.—*Hollow Auger.*—October 13, 1868.—The circular stock has a slot into which are fitted two movable dies or knife holders with grooves, and into one side is inserted a screw which is held by a collar in the center.

Claim.—The combination of the circular stock A, slot B, and screw E, and two movable jaws or knife holders C C, constructed and operated substantially for the purposes and manner as above specified.

82,958.—DANIEL L. JOHNSON, Yorkville, Mich.—*Flour Dispenser.*—October 13, 1868.

Claim.—The construction and arrangement of the hopper A, tube B, and vertically-adjustable spindle D, having disk F and wing *w* attached thereto, with the casing C and guard L, all combined and operated substantially in the manner and for the purposes set forth.

82,959.—GEORGE W. KEELER, New Haven, Ohio.—*Plow.*—October 13, 1868.—The standard is fixed to a metallic plate to which are hinged wings or mold boards, connected to each other by adjusting segments or braces secured by a pin, and also to a plate which has a shoe bolted to it.

Claim.—1. The wings F, when hinged to the plate D and standard B, so as to allow of their being contracted or expanded, in the manner as and for the purpose specified.

2. The plate I, as arranged in combination with the plate D and wings F, for the purpose set forth.

82,960.—J. B. KELLEY and N. P. KINGSLEY, Brandon, Vt.—*Spring Bed Bottom.*—October 13, 1868.—The springs of three pieces of wood placed crosswise, and at each end of the bedstead, rest on blocks, the two lower ones being fastened in the middle by a clamp screw with two blocks between them, and the upper one also, supporting the top spring, having on it slats held in place by ropes.

Claim.—1. The combination and arrangement of the springs *c′ c″*, blocks B B, and clamp screw *s*, substantially as and for the purposes set forth.

2. The arrangement and combination of the springs *c′ c″*, blocks B B, and clamp screw *s*, with the spring *c*, blocks *b b*, and slats *a a a*, substantially as and for the purposes set forth.

82,961.—JACOB F. KNOOR, Orange, N. J., assignor to FRANK K. HIPPLE, Philadelphia, Pa.—*Har-*

ness Saddle-tree.—October 13, 1868; antedated October 3, 1868.—The saddle-tree has tubular openings for the crupper loop, saddle hook, and back band, the burrs or nuts being carried through an opening also in the lower end of the jockie, and fixed to the end of a back-band, to receive the screw end of the terrets.

Claim.—1. A loop or bridge spanning the avenue through which the back-band, crupper-loop, and saddle-hook pass, substantially as described, and for the purpose set forth.

2. The affixing the burrs or nuts of the terrets to the back-band, and conveying it beneath the bridge, to receive the screw end of the terrets, substantially as described, and for the purpose set forth.

82,962.—E. J. Leyburn, Lexington, Va.—*Wrench.*—October 13, 1868.—On one end of a tubular hub in the eye-piece is formed a ratchet wheel, and on the other is an enlargement from which extend arms, to which are fixed adjustable jaws, while on the handle is pivoted a pawl which engages in the ratchet wheel, by which it is turned.

Claim.—1. The arrangement of the arms E E and jaws F F, in relation to the unbroken ratchet, (which ratchet is capable of being turned through a complete circle,) so that said jaws are adjustable for large and small nuts, within the capacity of the wrench, without a corresponding enlargement of the ratchet wheel being necessary, substantially as described.

2. The combination of the pivoted right-and-left pawl *a a* with the arms E E and adjustable jaws F F, substantially as and for the purpose described.

3. The jaw-holding portion D^1, E E, hub D^2, ratchet-wheel D, adjustable jaws F F, handle A, and pawl C, *a a*, all combined and arranged substantially as described.

82,963.—Conrad Locher, Oroville, Cal.—*Agricultural Locomotive, with Spading Apparatus.*—October 13, 1868.

Claim.—1. The application of equalizing gears between the axles of a wagon, so, in turning a curve, each wheel adopts the speed which the curve requires, and receives its propelling motion from the engines, by means of gearing, or their equivalent.

2. The gearing and connection through the king bolts.

3. The spaders, so constructed that they enter the soil like a pick, (nearly vertical,) cut off a slice like a spade, and turn it over like a plow.

4. Turning the spaders in the same direction as the wagon, thereby assisting locomotion.

5. The combination of the whole, in the way and manner herein set forth.

82,964.—John J. P. Lyon, Ypsilanti, Mich.—*Apparatus for Producing Reciprocating Motion.*—October 13, 1868.

Claim.—The wheel A, support B, lever C, connecting rods D, and counterpoise-weight F, when used in connection with pump rods E and weights G, and operating substantially as and for the purposes herein described.

82,965.—William S. McIntosh, Alleghany City, Pa.—*Grate Bar.*—October 13, 1868.

Claim.—Grate bars having a broad upper face, with sides tapering downward, when made hollow, for the passage of water through them, substantially as and for the purpose hereinbefore described.

82,966.—Samuel Madden, Eureka South, Cal.—*Car Coupling.*—October 13, 1868.

Claim.—The above-described combination and arrangement of devices to form an automatic car-coupling, consisting of the sliding bumper E, with the slots G and G′, opening J, and spring F, the pin I, with collars H and H′, and the guiding plate K, with or without the rollers D at the end of the link, substantially as specified.

82,967.—John Maslin and David Birdsall, Jersey City, N. J.—*Water-Level Detector for Boilers.*—October 13, 1868.—On the outer end of the plug is a two-horned cam, which, by the action of the float on the plug, serves to depress a disk connected with the valve of a steam whistle, a spring around its stem keeping it closed before the steam is on.

Claim.—The combination, with the stem or plug D, of the cam K, disk L, the valve *d* of the whistle with its stem, and the spring *f*, as described.

82,968.—Elisha Matteson, Brooklyn, N. Y., assignor to himself and James M. Trippe.—*Buoyant Propeller.*—October 13, 1868.

Claim.—The cylinder A, air tight, and provided with independent air-tight V-shaped buckets C, arranged on the exterior of said cylinder, and within a suitable frame, B, to operate substantially as set forth

82,969.—La Fayette H. Mayott, Springfield, Mass.—*Gauge.*—October 13, 1868.—The gauge has a screw-nut which turns upon a thread cut in its beam, and is so connected with the slide as to carry it with it when it turns.

Claim.—The construction and arrangement of the graduated beam A, having a thread cut thereon, in combination with the sliding arm B, and nut C engaging therewith, set screw and stationary arm, the whole constituting an adjustable slide gauge, substantially as described.

82,970.—Alexander McCreight, Tranquillity, Ohio.—*Saw Mill.*—October 13, 1868.—A moving frame held on the fixed frame, by guides which slide in grooves, carries two ratchet bars, which gear into ratchet wheels, on a bar, having its bearings in the fixed frame, while an upper wheel gears into and is revolved by a cog wheel, on the shaft to which the power is applied, and an under wheel is revolved by a worm screw on the same.

Claim.—1. The ratchet bars *g g*, ratchet wheels *h h*, and bar K, when combined with the fixed frame *b b b′ b′*, moving frame *d d d′ d′*, and operated substantially as described.

2. The shaft C, of the described mill, in combination with the shafts H and H′, with their connections of gearing upon the shaft C, and bearings in the levers *m m′*, and connecting bands with roller M, all as and for the objects described.

82,971.—Peter B. McKelvey, Albany, N. Y.—*Machine for Cutting Soap.*—October 13, 1868.—Stationary wires are placed in notches in the plates, and tightened by nuts and screws, and the soap on a carriage moved up against them and cut into bars.

Claim.—1. The carriage I, constructed and operated substantially as hereinbefore specified and set forth.

2. The said carriage, when combined with stationary wires, in the manner and for the purposes above described and set forth.

3. The combination of the stationary wires with the notched plates B and C, the screws G, and nuts F, substantially in the manner and for the purposes hereinbefore specified and set forth.

82,972.—G. M. L. McMillen, Dayton, Ohio.—*Horse Rake.*—October 13, 1868.—The lug bolted to the axle has a hollow, and a flat, wide, slotted arm, and is connected with another sliding lug, through which extends the hollow arm, and is adjusted by a screw bolt through the slotted arm, thus forming a joint, from which each tooth passes over a spring bar and through a slotted guide standard, having a spring with a head to keep it in place.

Claim.—1. The adjustable fastening for the rake teeth, consisting essentially of the lugs D and G, and screw bolt and nut H, the lugs being constructed with the flanges and arms as described, and the whole operating together in the manner and for the purpose set forth.

2. The guide standards J J, when constructed with the head *j*, and the slot *i*, extending about half way from the spring bar to the head *j*, and when made adjustable in relation to the spring bar by means of the screw thread and nut, or any equivalent device, and operating in connection with the spring K and the rake teeth, substantially as described.

82,973.—Franklin S. Miles, Philadelphia, Pa.—*Bolt Head.*—October 13, 1868.—The under part of the shoulder of the bolt is riveted into the under part of the washer into which it is forced.

Claim.—As a new article of manufacture, a bolt head constructed as above described.

82,974.—William Moore, Kokomo, Ind.—*Low Water Indicator.*—October 13, 1868.—An improvement on his patent of June 5, 1866.

Claim.—The combination and arrangement of the chamber A, index lever, and scale, with the water regulator, all for the purposes and substantially as herein described and set forth.

82,975.—Albert G. Morey, Chicago, Ill.—*Mattress.*—October 13, 1868; antedated September 30, 1868.

Claim.—1. A mattress or cushion composed of alternate layers of elastic sponge and some semi-elastic material, substantially in the manner and for the purpose set forth.

2. Supporting one or more layers of elastic sponge with some less elastic substance in the construction of mattresses or cushions, substantially in the manner and for the purposes described.

82,976.—Charles G. Murch, Chicago, Ill.—*Coffee and Tea Steamer.*—October 13, 1868.—Vessels with double walls extending nearly to the bottom are placed in the boiler so as to allow the water to pass all around them, while upon them set vessels with perforated bottoms and containing each a strainer in which the coffee is placed.

Claim.—In a coffee or tea apparatus, the inner vessels A A G, with the stop-cocks and the upper vessels B B, pipes E, and strainer C, the whole combined and arranged substantially as and for the purposes shown.

82,977.—William H. Nobles, St. Paul, Minn.—*Railway Frog.*—October 13, 1868; antedated October 10, 1868.—Across the rails are ordinary flange grooves, which cut one rail so as to leave a piece, the facings being so bent and arranged that the bent ends lie parallel with the rails, leaving between them space enough for the flanges of the wheels.

Claim.—A railway frog, when constructed with the rails B B, with their flange grooves and facings C C, all arranged as described, and for the purpose set forth.

82,978.—William H. Nobles, St. Paul, Minn.—*Car Wheel.*—October 13, 1868; antedated October 10, 1868.

Claim.—The construction of the wheel A with two flanges B B and three threads C C C, as shown and described and for the purposes set forth.

82,979.—John K. O'Neil, Kingston, N. Y.—*Horse Hay Fork.*—October 13, 1868.—To a strong iron lever is pivoted a short one, each having a half hook beak at one end which are held together by a detent hinged to the long lever and with a catch for the heel of the other, and acted on by a spring, the forks being connected therewith and operated by means of rods, arms, and cords.

Claim.—The two levers A B, with their beaks *a b*, and spring detent *c*, connected and operating in combination with the prongs G G of the fork, substantially as and for the purpose herein specified.

82,980.—Oscar Paddock, Watertown, N. Y.—*Blind Shutter Fastening.*—October 13, 1868.—A segment of a crown wheel is secured to one of the blind slats. A worm mounted in bearings formed in the blind frame engages with the segment, and upon said worm being rotated the blind slats are opened or closed without raising the window.

Claim.—1. A device for opening or closing and fastening blind slats, composed of the herein-described toothed segment and endless screw for operating the same, the said parts being applied to the blind slats and shutter or blind frame, respectively, and combined for operation in the manner shown and specified.

2. The combination, with the hollow plunger, or sliding rod and set screw, or equivalent device, upon the same, of an auxiliary adjustable rod, supported in said plunger, and provided with a follower, for engaging with the blind-slat fastener, substantially as described, for the purposes shown and specified.

82,981.—Henry Palmer, Evanston, Ill.—*Voltaic Battery.*—October 13, 1868.—The positive and negative elements are so connected by means of wires, which are concealed and protected from the corrosive action of the solution used in moistening the cloth as to prevent deposits on such connections.

Claim.—The combination of the plates B and the positive and negative elements, when arranged to operate in the manner and for the purposes specified.

82,982.—William Patton, Springfield, Mass.—*Apparatus for Dyeing Hair.*—October 13, 1868.

Claim.—1. In combination with a comb A, or other suitable device for applying them to the hair, beard, or moustache, simultaneously, for the purpose of coloring either, alternate coats of nitrate of silver and gallic acid, conveyed and attached to such comb, or other device, by means of suitable vehicle, such as gum arabic, gum tragacanth or caoutchouc, substantially in the manner herein described.

2. The combination of the nitrate of silver with the gum arabic, or other suitable gelatinous vehicle for the purpose, prepared and applied substantially in the manner described.

3. The arrangement of the comb A with two rows of opposite teeth, one row prepared with nitrate of silver and the other with gallic acid, in the manner described.

82,983.—John P. Pears, Birmingham, Pa.—*Manufacture of Glass Ware.*—October 13, 1868.

Claim.—A mold for making footed or footed and stemmed glass ware, whereof that part in which the body, stem, and foot are formed is in a single piece, without part or division, in combination with the bottom plate having a projecting core, substantially as and for the purpose described.

82,984.—Edward Prevear, Leominster, Mass.—*Meridian Time Indicator.*—October 13, 1868.—A fixed bed plate formed with bearings to receive a swinging meridian arm is supported, so that the bearings for the arm stand east and west. A lens is attached to the top of the arm and an index plate divided into minutes to the sides of the nonius at the bottom.

Claim.—The meridian arm *g*, fitted to swing, in combination with the lens *i* and index *k*, substantially as specified.

82,985.—Elijah K. Purdy, Schoolcraft, Mich.—*Clamp.*—October 13, 1868.—The short arms of the clamps are pointed and engage with the boards, the long arms, being forced apart by the lever, press the boards together. A brace secures the clamp at any angle.

Claim.—1. The floor clamp, consisting of the clamps A, hinged together at B, and provided with prongs C, the curved lever D, and slotted lever E, with holes F, all constructed and arranged substantially as and for the purposes set forth.

2. In combination with the above, the brace A, provided at its lower end with a sharp serrated edge and hole, I, substantially as and for the purpose described.

82,986.—Williaim K. Rairigh, Rural Valley, Pa.—*Clamp for Saddlers, &c.*—October 13, 1868.—A shaft, journaled in the rigid jaw of the clamp, has secured to one end a ratchet wheel which revolves in a chamber in the end of the clamp, and is provided with a pawl, the end of which projects beyond the chamber. A strap secured to the movable jaw and to the shaft closes the jaws when the shaft is rotated.

Claim—The shaft B, with its ratchet D, the chamber C, pawl *e*, and spring *g*, when arranged upon and made to operate the jaws of a clamp, substantially as and for the purposes specified.

82,987.—Amos Rank and Joshua H. Cox, Salem, Ohio.—*Harvester.*—October 13, 1868.—An overhung reel, made adjustable vertically, is driven by a pinion made to slide on a shaft having bearings in brackets on the reel post. The teeth of the wheel secured to the reel shaft and also of the pinion driving it are cut tangentially so as to mesh without having a common center.

Claim.—1. The combination, substantially as set forth, in a two-wheeled hinge-joint harvester, of an overhung reel, adjustable vertically on a single post mounted on the shoe, with a driving shaft mounted on the reel post, and carrying a sliding pinion, for the purposes specified.

2. The combination, as set forth, with the reel and reel post of the clasp I, bracket i^1, pinion *m*, wheel M, and driving shaft L′, whereby the reel can be raised or lowered without deranging the gearing.

3. The combination, substantially as set forth, of the reel shaft and its driving shaft, with tangentially-toothed gearing, for the purpose specified.

82,988.—LOUIS RANSOM, Lansingburg, N. Y., assignor by mesne assignment to LOUIS RANSOM and EUGENE HYATT, same place.—*Clasp for Trunk, &c.*—October 13, 1868.—Each of the two parts is provided with a longitudinal slot in which fits a tongue pivoted to the upper part. When the tongue is shut down its outer surface is flush with the two parts, and its head fits into a recess in the lower part, and is held by a spring.

Claim.—A trunk clasp, consisting of the two parts A and B, the clasp-tongue *c*, and spring *d*, constructed, combined, and operating substantially as described.

82,989.—P. N. RECKER and JOSEPH RECKER, Dayton, Ohio.—*Grain Separator.*—October 13, 1868.—The grain is cleaned by several distinct currents of air which can be regulated at pleasure. A valve in the bottom of the feeding tube regulates the quantity of grain to be fed. The discharge tube is also provided with a valve.

Claim.—1. The triangular shaped horizontal bars *m m*, and perpendicular bars *n n*, constructed as described, and forming a frame, to be covered with wire netting, for the purpose of scouring grain, substantially as and for the purposes herein set forth.

2. The wire netting N, when constructed in sections, or otherwise, of square wire, and used substantially as and for the purposes herein set forth.

3. The arrangement of the valve *a*, rod *b*, slotted bar *c*, and screw *d*, for the purpose of regulating the discharge of grain out of a tube, substantially as and for the purposes herein set forth.

4. The arrangement of the chamber D with valve *e* and valve *g*, covering the entrance to the chamber G, constructed as described, and operating substantially as and for the purposes herein set forth.

5. The arrangement of the hopper H, passage I, and valve *h*, constructed as described, and operating substantially as and for the purposes herein set forth.

6. The arrangement of the passage Q, chamber R, with its valve *w*, and the valve *y*, covering the entrance to the chamber S, constructed as described, and operating substantially as and for the purposes herein set forth.

7. The arrangement of the chambers C, D, G, Q, R, and S, passage I, and the hopper H, carrying the different currents of air through the chamber E, and into the drum F, substantially as and for the purposes herein set forth.

82,990.—FRANCIS REESE, Elyton, Ala.—*Plow.*—October 13, 1868.—A guide plate secured to the main frame runs near the ground and prevents the scraper from breaking the ground that the plant stands on, and also the hilling plow from covering the plant.

Claim.—The guide plate, and the combination of the scraper, hilling plow, and other parts, as described.

82,991.—THADDEUS S. REEVE and CHARLES D. SMITH, Chicago, Ill., assignors to themselves and WILLIAM SCHWARTZ, same place.—*Harvester Rake.*—October 13, 1868.—The reel and apparatus are arranged to gather the grain at any angle. The reel is provided with sliding sections which descend and deliver the grain at the rear of the machine.

Claim.—1. The adjustable plate C, in combination with the standard D, sleeve J, and lever H, for supporting the reel, as fully set forth and shown.

2. The boxed sleeve J, oscillating on the standard D, in combination with the adjustable lever H, pin A″, or its equivalent, and slotted standard F, substantially as set forth.

3. The sliding section of the reel M, slide N, and lever G, as fully set forth and shown.

82,992.—CHARLES RICH, Poughkeepsie, N. Y., assignor to SARAH A. RICH, same place.—*Baby Jumper.*—October 13, 1868.—A spring can be adjusted on the rocker so that its resilient power will agree with the weight of the child. The seat rail is hinged under the saddle and can be swung up to allow the child to mount and dismount.

Claim.—1. The rocking yoke C, pivoted to the base, A, supporting the seat bar D, and connected with the up-and-down adjustable spring E, all made, arranged, and operating substantially as herein shown and described.

2. The post B, which carries the spring E, when arranged in combination with the base A, yoke C, and seat bar D, all made and operating substantially as herein shown and described.

3. The bow-shaped swinging railing F, when attached to a standard, *f*, which is pivoted to the under side of the seat, and when fastened with its ends to the fixed horn *d e*, substantially as and for the purpose herein shown and described.

4. The projecting lugs *h*, and the pin *i*, in combination with the swinging standard *f* and rail F, for locking the same, substantially as set forth.

5. A baby jumper, consisting of the base A, post B, swinging yoke C, spring E, seat bar D, saddle G, horn *d e*, and swinging rail F, all made, arranged, and operating substantially as herein shown and described.

6. The sliding foot rest H, in combination with the wedge *j* and seat bar D of a baby jumper, substantially as and for the purpose herein shown and described.

82,993.—WILLIAM T. RICHARDS, Bridgeport, Conn.—*Punching Machine.*—October 13, 1868.—A vertical slide provided with two inclined grooves receives motion from a crooked lever secured to the punch slide. The ends of two levers pivoted to a supplemental frame on the bed plate fit in the inclined grooves, while the opposite ends of the levers carry guides which insure the central position of the plate to be punched.

Claim.—The arrangement, herein described, of the gauge levers *k* and *l*, slotted plate H, lever I, and the punch stock or gate *c*, as and for the purpose set forth.

82,994.—EDWIN P. RUSSELL, Manlius, N. Y.—*Wrench.*—October 13, 1868.—One of two levers is provided with a tongue over which slides a jaw provided with a pin which fits in a slot and is actuated by the other lever.

Claim.—The jaw C, when operated upon the tongue *c*, by means of the lever B, the pin *p′*, and the slot *s*.

82,995.—LARKIN S. SAFFORD, Hope, Me.—*Stanchion for Fastening Cattle.*—October 13, 1868.—The upright parts of the stanchions hang loosely in the top of the frame. A yoke connecting their lower ends is secured to the floor by a link.

Claim.—1. The manner of hanging the pieces D E loosely in the top piece A.

2. The yoke L.

3. The combination of the link T, the yoke L, the pieces D E, and the top piece A, substantially as and for the purpose set forth.

82,996.—ADISHA SCOFIELD, Starkey, N. Y.—*Grape Trellis.*—October 13, 1868.—A socket attached to a stake in the ground supports a standard to which arms are secured that support the bars. A screw in the socket secures the standard in position, and when loosened, allows the trellis to be rotated or removed.

Claim.—In combination, the post A, socket B, set screw G, standard C, arms F F′, and bars D, arranged as and for the purpose set forth.

82,997.—MATTHEW SCRANNAGE, Boston, Mass.—*Tumbler Washer.*—October 13, 1868.—The tumbler placed on arms attached to a swivel is rotated by jets of water flowing tangentially from a rose.

Claim.—1. The swivel K H H H on the stem E, arranged and operating substantially as described, and for the purpose set forth.

2. The rose D, when provided with tangentially discharging orifices *d d′*, &c., operating in combina-

tion with the swivel K H H H, arranged substantially as described, and for the purpose set forth.

82,998.—George A. Seaver, New York, N. Y. —*Swing.*—October 13, 1868.—An additional pair of ropes is attached to the upper part of the frame, slightly in advance of the points of suspension of the swing, and also attached to handles sliding on the suspension ropes, so that the swing can be operated without being pushed.

Claim.—The combination of the propelling rope or ropes with the movable handles or sliding sockets, substantially as described.

82,999.—N. Mendal Shafer, New York, N. Y. —*Washing Machine.*—October 13, 1868.—The clothes and soap are placed between two wire boxes, the lower one of which is stationary, while the upper one is connected to the pump handle and has a vertical motion. Water is forced through the lower box into the clothes by a pump, while the upper box squeezes the suds through them.

Claim.—The method of squeezing the suds through the clothes, by means of unresisting wire boxes B and L, or their equivalent, in combination with the pump H E and D, as herein described and set forth.

83,000.—George C. Shaler, Gilboa, and Harry Barlow, Herbert, N. Y.—*Horse Rake.*—October 13, 1868.

Claim.—The platform *a*, rigidly attached to the revolving axle *b*, in which the curved teeth are fixed, and the platform *c* hung between the projections *d d* of the axle-tree, and carrying the clearers *e*, as herein shown and described, whereby, as the driver steps from *a* to *c*, the latter is depressed, the axle partially turned, and the teeth and clearers operated as set forth and shown.

83,001.—Jacob J. Smith, Philadelphia, Pa.—*Bed Bottom.*—October 13, 1868; antedated October 1, 1868.—The cord is wound or tightened on a cylinder which is provided with a ratchet and pawl.

Claim.—1. An elastic bed bottom, consisting of a series of separate wooden slats B B, arranged parallel with each other and with the side rails of the bedstead, and having a round knob *b'*, fixed near each end, in the middle of the width of the under side of each slat, B, and the said slats suspended by means of two single cords, C and C', which respectively pass in a strained or stretched manner from the knobs *b'* of the slats to like knobs *a''*, fixed in the head and the foot rails A A', in the zigzagged or laced manner shown and described, for the purpose specified.

2. In combination with the mechanical devices claimed in the preceding clause, the winding apparatus D, arranged to operate substantially as and for the purpose described.

83,002.—John B. Smith, Newton, assignor to himself, James B. Stevens, and U. G. Stevens, Jasper County, Ill.—*Horse Rake.*—October 13, 1868. —The inner sides of the hubs of the wheels are formed with ratchet teeth which engage with slides on the rake shaft and revolve the rake. The slides are operated by crank arms engaging with the ends of levers which connect with the slide.

Claim.—The levers D D, in connection with the slides *f f* and clutches D^x, oblique arms *h* at the front ends of the levers, the crank ends *i* of shaft E^x, and the projections on the slides *f* and thills, all arranged to operate in the manner substantially as and for the purpose specified.

83,003.—George R. Sneath and C. H. Sneath, Wilmington, Del.—*Dumping Wagon.*—October 13, 1868.—The wagon body is arranged to tip backward on a trunnion shaft which has bearings in the bed frame. Bolts attached to a crank shaft release or secure the wagon body on the frame. The bed frame is braced and provided with devices for relieving the trunnion shaft from the weight of the wagon body when the latter is in a horizontal position.

Claim.—1. The combination, in a dumping wagon, of the box A, hung on trunnions, with bed frame timbers *h h*, cross-bar *t*, bent axle-tree *s*, all operating substantially as shown and described, and for the purpose set forth.

2. The crank shaft *v'* and hinged bolts *v v*, arranged to operate as herein described, for the purpose specified.

3. The bed frame of a dumping wagon, when composed of the parts *h h*, *t*, *i i i*, *u u*, and *j*, arranged as herein described.

4. The arrangement of the frame *l l o* with the fifth wheel *k* and springs *m n n*, substantially as described, when forming part of the running gear of a dumping wagon, substantially as herein described.

83,004.—Greenleaf Stackpole, New York, N. Y.—*Toy Pistol.*—October 13, 1868.—A slot is made in the bottom of the pistol in which a screw fastened to the plunger slides. A rubber band fits over this screw and is secured to the front of the barrel. A spring trigger is arranged to hold the screw which, on being released, discharges the pistol.

Claim.—A pistol or gun, having the spring trigger E and slot A, in combination with the rubber band B and plunger F, when the parts are constructed and operated substantially as set forth.

83,005.—Noah Swickard, Galva, Ill.—*Wagon and Car Unloader.*—October 13, 1868.—The wheels of the wagon rest on bars pivoted in slots in the platform. The bars are connected together at one end by a plank which rests on spring toggle keys. When the keys are drawn back the platform drops and the wagon is prevented from moving by dogs pivoted to the bars.

Claim.—1. The slotted platform A, in combination with the pivoted balance bars B B, board C, end bars I I, and stops H H, all constructed and operating substantially as and for the purposes herein set forth.

2. The pivoted balance bars B B, provided with one or more self-acting dogs, G, in combination with the spring toggle keys E E, and key F, all constructed and operating substantially as and for the purposes herein set forth.

3. The arrangement of the slotted platform A, balance bars B B, and lid D to the hopper, substantially for the purposes set forth.

83,006.—Joseph Taney and John H. Brown, Bangor, Me.—*Railway Car Bumper.*—October 13, 1868.—A rubber spring is inserted in the head of the draw beam, which gives additional elasticity to the draw bar, and prevents the breaking of the transient beam or center pin.

Claim.—The rubber spring D, when constructed as described, and inserted into the draw head C, substantially as and for the purposes herein set forth.

83,007.—Nelson C. Thomas and Jacob H. Coe, Brighton, Mich.—*Hay Elevator.*—October 13, 1868. —The conveyor slides on a tight rope and is held in position while the hay is being elevated by a lever operating a catch which engages with a stop secured to the rope. The lever disengages the catch when a projection on the elevating rope near the hay comes in contact with the lever.

Claim.—The conveyor H, when constructed as described, traveling on the rope D, provided with stop F, having pivoted in it the lever N, and operating in combination with the ropes S and J, screw bolts A, with hand nuts E and blocks C G, all arranged and operating substantially as described.

83,008.—W. O. Trowbridge, Newton Corner, assignor to "Mason & Hamlin Organ Company," Boston, Mass.—*School Desk and Musical Instrument.* —October 13, 1868.—The case containing the reeds and key board, is arranged to slide on ways under the desk and can be drawn out when used as a musical instrument, or pushed back and concealed by a lid hinged to the front edge of the key board, when used as a desk.

Claim.—In combination with a desk, a keyed musical instrument, so arranged that its keys may be concealed from view, or may be brought into position for playing, substantially as set forth.

83,009.—Jesse Tucker and Abel B. Palmer, Adrian, Mich.—*Water Wheel.*—October 13, 1868.—The wheel is provided with an upper side issue, a bottom issue, and an auxiliary series of buckets projecting outwardly over the lower part or bottom issue.

Claim.—A water wheel, having three series of buckets C, *d*, and *e*, constructed as shown, and arranged in relation to each other, substantially as and for the purposes set forth.

83,010.—Peter Walrath and Jesse Walrath, Chittenango, N. Y.—*Brick Machine.*—October 13, 1868.—An endless chain of molds, hinged together and running over two sprocket wheels, are provided with movable bottoms, which are acted upon to press the contents of the mold and also to force the brick out of the mold at the proper time.

Claim.—The grind mill and crowding devices *a b c*, endless chain of molds D D, with movable bottoms *d*, delivering wheel L *m*, press I H, with the intermittent operating devices $F\ f^2\ G^2$, and ratchet *e*, with throwing devices F *f* G, all constructed and operating as herein described, and for the purpose set forth.

83,011,—Arthur L. Waring, Coshocton, Ohio.—*Animal Trap.*—October 13, 1868.—The cover is composed of four square sections pivoted to the sides of the box. A diaphragm with spikes on its under side and an opening in the center is placed beneath the cover.

Claim.—The described trap, consisting of the box A, having the hinged covers *b b b b*, arranged as described, and diaphragm B with points *x x* arranged as described, the whole being combined as and for the purpose set forth.

83,012.—John W. Wetherbee, Charlestown, assignor to himself and Richard Rowse, Chelsea, Mass.—*Reclining Chair.*—October 13, 1868.—The front and back pieces are hinged to the main frame and connected together by a bar which is provided with notches in which a latch is dropped when the back is in the proper position.

Claim.—1. In combination with the stationary seat frame and stationary arms, the swinging back *e*, and foot-and-leg frame *f*, pivoted to the side frame, and jointed together by links *k*, and moved from vertical to inclined or horizontal position, or *vice versa*, (one frame by the other,) substantially as described.

2. In combination, with the adjustable back and foot piece and stationary seat, the links *k*, the notches *m*, and latch *n*, arranged to operate substantially as set forth.

83,013.—John R. Widgeon and Fred. E. Frey, Bucyrus, Ohio.—*Automatic Boiler Feeder.*—October 13, 1868; antedated September 26, 1868.—A hollow cylinder revolves in and has its seat on the bottom of a case provided with four pipes. It is provided with two parts diametrically opposite, which alternately allow the steam from the boiler to enter the chamber while the water escapes into the boiler, and the steam to escape from the chamber as the water enters.

Claim.—The combination of the case Q with the chamber A, having ports *l m*, and with the seat B provided with holes *d e f g*, substantially as herein described.

83,014.—John E. Wiggin, Stoneham, Mass.—*Automatic Punching Machine.*—October 13, 1868; antedated September 26, 1868.—Designed for punching holes in material of boots and shoes, for the insertion of eyelets.

Claim.—1. In combination with a punching device, an automatic intermittent moving feed, to which the material to be punched is affixed, substantially as and for the purpose described.

2. The combination of the coupling *i k* with the work-feeding device through the piece *x*, the rocker *y*, lever *l l'*, latch pull *o*, and spring *n*, or their equivalents, substantially as described.

3. The combination of the brake *m* with the lever *l l'*, spring *n*, and fixed part *k* of the coupling.

4. The combination of a segmental rack with clamping jaws, substantially as described.

5. The combination of the piece *h'* with the pull *o*, for throwing the pawl *w* out of gear with the rack.

6. The employment of a friction-applying device arranged to operate on rack *t* to steady its movement, and to prevent it from moving beyond the distance intended, substantially as described.

83,015.—Samuel Yates, Marshall, Mo.—*Churn Dasher.*—October 13, 1868.—A tubular churn-dasher shaft has an air chamber at the lower end which is provided with a valve opening downward. The air is conducted into the cream by air tubes on top of the dasher connecting with the air chamber.

Claim.—The combination of the hollow or tubular shaft A with air chamber B, valve C, dasher D, and air tubes E, as constructed and arranged, substantially in the manner and for the purpose described.

83,016.—V. D. Anderson, Milton, Wis.—*Steam Generator.*—October 13, 1868.—The boiler consists of two cylindrical parts, each provided with water spaces, said parts being placed one within the other and secured together with a communication between them. The steam is superheated in a pipe coiled in the furnace and leading from the reservoir.

Claim.—1. The arrangement of the parts A and B, when constructed and joined together, substantially as set forth.

2. The arrangement of the boilers A and B and the reservoir of the superheater Q, substantially as described.

83,017.—W. H. H. Babbitt, New Corner, Ind.—*Gaiter Boot.*—October 13, 1868.—A slotted plate secured to the outer edge of the leg of the gaiter by a folding leather, fits over a lip on a plate attached to the other edge of the leg of the gaiter.

Claim.—1. In combination with a gaiter, the plates A and E, and the folding leather D, arranged substantially as described, for the purposes set forth.

2. The flap G, in combination with the plates A and E, arranged and operating substantially as described, for the purposes set forth.

83,018.—Joseph Backus, Green Vale, Ill.—*Device for Unloading Hay.*—October 13, 1868.—A beam over which the elevating chain passes is hinged by a universal joint to the top of the derrick. The front end of the chain is provided with a hook which engages with one end of the strap encircling the hay; the other end of the strap is provided with a latch hook which is fastened to the chain. The hay and end of the derrick are raised by the chain.

Claim.—The derrick A B C, in combination with the beam D, chain *d*, and hooks *e* and F, all made and operating substantially as herein shown and described, and for the purpose of unloading hay from wagons, as set forth.

83,019.—Thomas Baggott, Baltimore, Md.—*Wire Cloth.*—October 13, 1868.—The warp is formed by winding spiral cords of wire, one inclining to the right the other toward the left; these coils placed side by side are filled with wires bent like a staple.

Claim.—The production of wire cloth, constructed as herein described, whether the ends of the webs are joined together or not, as an article of manufacture.

83,020.—William Banzett, Brooklyn, N. Y.—*Leach Tub.*—October 13, 1868.—An elastic packing strip is interposed between the edge of the tub and the cover. A series of hooks pivoted to the tub securely clamp the cover.

Claim.—A leach tub, constructed as described, namely, with the cover C, battened around its edges on top, and having the hinged portion *c*, and held by the clamps B, having beveled forward ends, said clamps being hinged to the ears *a*, which are secured to the sides of the tub, all arranged as herein shown, for the purpose specified.

83,021.—Arthur Barbarin, New Orleans, La.—*Combined Hatchet, Hammer, and Scraper.*—October 13, 1868.—A scraper projects laterally from one side of the head.

Claim.—As a new article of manufacture, a combined hammer head, nail puller, hatchet blade, and scraper, formed of one piece of metal, substantially as herein shown and described.

83,022.—Arthur Barbarin, New Orleans, La. —*Box Opener.*—October 13, 1868.—A circular flange formed on a metal shank serves the purpose of a hammer. A blade with its edge rounded is formed beyond the shank so as to be readily inserted between the parts of the box to be separated.

Claim.—The herein-described tool for opening cigar boxes and other articles, as a new article of manufacture.

83,023.—Arthur Barbarin, New Orleans, La. —*Shoemakers' Implement.*—October 13, 1868.—Combines in one implement, such devices, as a shoemaker requires most in cutting out, fitting, and securing together the different pieces of which a shoe or boot is made.

Claim.—As a new article of manufacture, a tool, the shank and handle of which are combined with the hammer head, claws, and rotary-cutting disk, with or without the screw-driver, in the manner and for the purposes set forth.

83,024.—Arthur Barbarin, New Orleans, La. —*Liquid Sampler.*—October 13, 1868.

Claim.—1. The combination of the induction tube of a siphon with a discharge pipe provided with a throat for receiving said induction tube, a vacuum-creating rubber bulb, and stop-cocks *c d''*, located, one on each side of the said throat, with or without the reservoir C between them, substantially in the manner and for the purposes shown and set forth.

2. The receiving chamber or reservoir C, arranged between the induction end of the pipe and the rubber bulb, substantially in the manner herein shown, and for the purposes described.

3. Providing the liquid-receiving chamber or reservoir of the siphon or liquid sampler with a discharge tube and cock, as shown in Fig. 4 of the accompanying drawings, by means of which the liquid in said chamber can be drawn off, substantially as and for the purposes specified.

4. The combination, with the screw-threaded end of the siphon, of a nut, grooved and provided with pins by which the said siphon may be held to the vessel to which it is applied, substantially in the manner herein shown and set forth.

5. A liquid sampler, consisting of a hollow rubber bulb in combination with a tapering tube provided with a stop-cock at or near the point where it is united with the said bulb, with or without a reservoir of glass or other suitable material interposed between the said stop-cock and the open end of the said tube, substantially as and for the purposes herein shown and specified.

83,025.—William P. Barclay, Chicago, Ill.—*Sofa Bedstead.*—October 13, 1868.—The back of the sofa is turned forward on the seat and forms a bed without using the seat. Hinged end pieces serve as head and foot boards when open, and when closed keep the bedding in place. The ends of the sofa have hinged arms which when open serve as legs for the bedstead.

Claim.—1. Constructing the back of a sofa so that the same forms a complete bed, substantially as specified.

2. The frame C C', D D', in combination with the seat and ends of the sofa, and forming the back thereof, and pivoted to the ends, so as to turn forward, substantially as and for the purposes specified.

3. The folding head and foot boards herein described, in combination with the frame C C', D D', and ends and seat of a sofa, substantially as and for the purposes specified.

4. The supporter *f*, in combination with the head-board herein described, and frame of the back of the sofa, substantially as and for the purposes set forth.

5. The jointed arm I J, constructed substantially as and for the purposes specified.

6. The pieces C C', in combination with the end pieces E of a sofa, and slats *a*, when so constructed as to form both the back of a sofa and also a complete bed, substantially as described.

83,026.—John A. Bassett, Salem, Mass.—*Gas Generator.*—October 13, 1868.—An ordinary wet meter is used in connection with a chamber containing hydrocarbon. The air passes through the chamber and enters successively the compartments in the chamber of the wheel, by the revolution of which the evaporation of the hydrocarbon is secured.

Claim.—An apparatus for charging air with hydrocarbon vapor, automatically revolved by the weight of the column of vapor, and used in combination with the chamber C, substantially as set forth.

83,027.—William D. Baxter, New York, N. Y.—*Pump.*—October 13, 1868.—The air vessel forms the fulcrum for the lever, the ends of which latter are provided with rollers which slide in yokes secured to the top of each piston rod. A water way is provided above the pumps.

Claim.—The pistons *e* and yoke pieces *p*, actuated by the rollers *o* and lever *l*, in combination with the pumps *d d*, and water way *f*, provided with stuffing boxes for the piston rods *n*, and an air vessel, *k*, the parts being arranged and constructed substantially as specified.

83,028.—Benjamin S. Benson, Baltimore, Md. —*Pipe Molding Machine.*—October 13, 1868.—The flask is revolved and the screw packer is not revolved, but rises as the flask becomes packed.

Claim.—In combination with a revolving flask, a non-revolving but rising and falling screw packer, which rests upon and rises with the sand packed in the flask, and is guided in its rising, substantially as and for the purpose set forth.

83,029.—Bejamin S. Benson, Baltimore, Md.—*Packer for Packing Sand in Molders' Flasks.*—October 13, 1868.—Two-thirds of the length of the screw is made of zinc, the other third of steel plates.

Claim.—1. The packing instrument, with a screw thread of gradually diminishing pitch from its first end, and a zinc or other soft metal or alloy-of-metal fillet under and around it, as and for the purpose herein described and represented.

2. In combination with the screw thread and fillet, the sectional and removable steel plates D and E, substantially as and for the purpose described.

83,030.—M. Berdan, Maumee City, Ohio.—*Plow.*—October 13, 1868.—A screw rod connecting the handles passes through an oblong slot in a bar secured to the share. The bar is held in position by nuts on the screw rod placed on each side of the rod.

Claim.—The slotted bar F, and screw rods E and H, so arranged that the share G can be adjusted both vertically, laterally, and longitudinally, as specified.

83,031.—Samuel C. Bishop, New York, N. Y. —*Compound for Insulating Telegraph and Electric Wires.*—October 13, 1868.—Composed of asphaltum, gutta-percha, crude rosin, spirit of turpentine, boiled linseed oil, and umber, and applied to wire covered with a layer of flax, jute, &c.

Claim.—The insulating compound for telegraph and other electric wires or conductors, composed of the ingredients described, in, or about in, the proportions specified.

83,032.—Simeon R. Bolton, Prescott, Wis.—*Wagon Brake.*—October 13, 1868.—The shoes are wedge-shaped and made to slide on rollers in a box secured to the brake bar so as to release the wheels when the wagon is backed.

Claim.—1. The brake shoe *e*, constructed as described, with its rear face inclined downward, and sliding by the dovetailed edge *i* and bent plate *h* upon the rollers *g* in the box *f*, all arranged as described, for the purpose specified.

2. The arrangement of the bent lever *j*, connecting rods *k l m*, lever *n*, spring *p*, rod *o*, guide iron *d*, brake bar *a*, box *f*, and sliding shoe *e*, all operating as described for the purpose specified.

3. The arrangement of the brake bar *a*, sliding by means of staples upon the guide iron *d*, the box *f*, rollers *g*, and sliding shoe *e*, as herein described, for the purpose specified.

83,033.—David Bookwalter, Gardner, Ill.—*Corn Husking Machine.*—October 13, 1868.—Grooves are so disposed on the husking rollers that the teeth on one roller are opposite the grooves on the other. The cleaning plate is provided with slots through which the teeth pass and free themselves.

Claim.—The combination of the rollers A, provided with the grooves *a* and the teeth B, and the shields or cleaners C, all constructed and arranged as shown and described.

83,034.—Asahel C. Boyd, Grafton, Mass.—*Folding Chair.*—October 13, 1868.—The seat is hinged to the back legs and connected to the front legs by rods; when open it rests on the top of the front legs, and when folded back it causes the leg to be folded.

Claim.—The standards A A, B B, pivoted at *a a*, and provided with strengthening rounds or cross bars, in combination with the pieces H H, curved hinges I I, or their equivalent, and hinged connecting rods or plates J J, when the several parts are constructed to operate together in the manner and for the purposes above described.

83,035.—Charles K. Bradford, Lynnfield, Mass.—*Velocipede.*—October 13, 1868.—The steering rope is applied directly, or nearly so, to the axis of revolution of the steering wheel.

Claim.—1. Connecting the body of a velocipede to its driving shaft, in such manner as to vary the position of such body, and its seat, with respect to such driving shaft, in manner and for the purpose as hereinbefore explained.

2. Combining with a velocipede a compound crank, or series of cranks, or eccentrics of different radii, for enabling the speed and power of the vehicle to be varied, essentially as herein shown and described.

3. The arrangement of the rope *n*, or its equivalent, as affixed to the forked bar *m*, and supported and guided by the guides o, o^1 o^2 o^3 o^4 o^5, or their equivalents, substantially as before described, and herein shown.

4. The combination, with the body of a velocipede, of a seat adjustable thereon, substantially in the manner and for the purposes set forth.

5. The combination of the body of a velocipede, formed as described, and its adjustable seat, with a compound crank, or its equivalent, substantially as and for the purposes set forth.

83,036.—James Campbell, New Town, Ill.—*Plow.*—October 13, 1868.—The plows are secured to the beam by iron stirrups. A cross piece parallel to the beam is provided with hooks to which the colter chains are attached. A lever secured to the beam fits in notches in a bar and raises or lowers the plows.

Claim.—1. The partially-revolving square beam B, carrying plows or shovels, secured to the plow frame at an acute angle to the line of the draft, constructed and operating substantially as and in the manner set forth.

2. In combination with the above, the stirrups F F, lever D, notched bar E, brace chains M M, cross piece P, and the angle axles N N, the whole arranged and operating substantially as set forth.

83,037.—Samuel E. Carr, Danville, Pa.—*Composition for Forming Building Blocks, Pavements, Tiles, &c.*—October 13, 1868.—Composed of sand, hydraulic cement, ground slate, lampblack, and a solution of sulphate of zinc.

Claim.—An improved composition for forming building blocks, pavement tiles, &c., formed of the ingredients, and in the proportions and manner substantially as herein set forth and described.

83,038.—J. M. Chapin, Middleport, N. Y.—*Fence.*—October 13, 1868.—The wires are attached at one end to a wooden spring, at the other to wheels which are revolved to tighten the wire and then held by pins passing through into the post. The wires fit in oblique slots in the pickets which prevent the latter from moving laterally.

Claim.—The wires C C, with the wheels E E, spring D, and pickets B, all arranged in connection with the posts A A′, substantially as and for the purpose set forth.

83,039.—Carl August Class, St. Louis, Mo.—*Child's Pedal for Pianos, &c.*—October 13, 1868.—Pressure slides are secured to the stool so as to be readily attached to the pedals of the piano. The upper part of the slides affords the necessary footing for the operation of the pedals.

Claim.—The stool A and the pedal slides B, when employed as and for the purpose described and set forth.

83,040.—George R. Clements, Prescott, Wis.—*Dropper for Harvester.*—October 13, 1868.—A lever is composed of two parts which are connected together and pivoted, on the stud to which the rods operating the cut-off and grain platform are attached. The lower end of one part is pivoted to the frame of the machine, and the end of the other has attached to it a rod which causes the grain platform to swing around.

Claim.—The lever H, composed of two parts *l l′*, connected by a pivot, *m*, in combination with the cut-off and grain discharger, connected to said lever in the manner substantially as and for the purpose specified.

83,041.—David Clemons, Scranton, Pa.—*Hames for Harness.*—October 13, 1868.—A lever pivoted to one end of the hame is provided with a hook on which the chain is placed. By drawing back the lever the chain is fastened. The lever is held back by a ring sliding on a staple.

Claim.—The lever E, hook F, and holding ring G, in combination with the chain D and the lower end of the hames A, substantially as shown and described, and for the purposes specified.

83,042.—Joseph Cockshoot, Jr., and Henry Weatherill, Manchester, Great Britain.—*Car Brake.*—October 13, 1868; antedated October 10, 1868.—The pinions on the axles actuate the racks to apply the brakes. The springs restore the brakes to their normal positions.

Claim.—The combination of the longitudinal bar or plate *b*, and its racks, the pinions on the axles, and the springs *m m*, the whole being arranged and applied to a railway car, substantially as and for the purpose herein set forth.

83,043.—Jackson Corriston, Sandusky City, Ohio.—*Air Spring.*—October 13, 1868.—Perforated concave diaphragms are arranged in pairs and united together at their outer and inner edges. A valve in the bottom of the spring has a hollow nut on its stem by which the valve may be closed tightly.

Claim.—An air spring, constructed as herein described, and provided with the valve *f*, in combination with the spring A B, composed of metallic disks, substantially as and for the purpose set forth.

83,044.—Gardner Cox, Pierpont, N. Y.—*Water Wheel.*—October 13, 1868.—The upper parts of the buckets are inclined at an angle of 15° or 20° with a horizontal plane. The lower parts are inclined in the opposite direction, the two parts being connected by a quick curve.

Claim.—The buckets G, composed of three parts, *a b c*, arranged as shown, when said buckets are attached to the concave periphery of the hub or body F of a wheel, as and for the purpose herein set forth.

83,045.—John C. Crumpton, Philadelphia, Pa.—*Vise.*—October 13, 1868.—The sliding jaw is cast with the nut, and slides in slots in the stationary jaw. The rear end of the screw rests in a cup which fits over the rear of the bed plate and shield.

Claim.—1. The bed piece A, jaw B, and shield C, when cast in one piece, and provided with the slots D D, substantially as and for the purpose described.

2. The combination, with the same, of the sliding jaw F, when fitted to operate in connection therewith, and provided with the nut G, substantially as and for the purpose described.

3. The arrangement of the cap I, and screw L, and stationary jaw B, with the remaining parts of the vise, in the manner and for the purpose described.

83,046.—Stephen S. Davis, Edgerton, Wis.—*Gate.*—October 13, 1868.—The gates are pivoted at their lower extreme ends and connected to a lever which is provided with suspended handles, so that the gates are opened or tilted back when the handles are lowered.

Claim.—The combination of the wires *a a*, levers F F, and handles G G, or their equivalents, for the purpose of opening and closing the gates C C, substantially as herein set forth.

83,047.—E. C. Dicey, Montague, Mich.—*Feeding Roller for Circular Saws.*—October 13, 1868.

Claim.—The feed roller for edging-saws, provided with V-shaped grooves and projections at right angles to its axis, for the purpose of preventing lateral movement of the board, while being fed to the saws, as herein shown and described.

83,048.—Valentine Doane, Jr., Harwich Port, Mass.—*Fish Bait Cutter.*—October 13, 1868.—Knives are secured to plates on the periphery of a cylinder, which rotates in a box provided with knives and having a hinged bottom.

Claim.—A mill for cutting fish bait, having cylinder A, plates *f* and *h*, and the series of knives connected therewith, as described and shown; plank C, block D, bottom E, and cover K, constructed and arranged substantially as specified.

83,049.—C. S. Doolittell, Mansfield, Ohio.—*Coal Stove.*—October 13, 1868.

Claim.—1. The arrangement of the air pipe C, fire chamber B, slotted pipe H, and flattened flues F, whereby the current of air entering the pipe C is heated in its passage through the fire chamber, and distributed through the slotted pipe H into the series of flattened flues E, where it mingles with the cool air entering said flues through the pipes D, as herein shown and described.

2. The flattened air flues E, constructed as described, and arranged in respect to the outer case F and egress draught openings of the fire chamber B, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the slotted pipe H with the flattened flues E, and with the pipe or pipes C passing through the fire chamber B, substantially as herein shown and described and for the purpose set forth.

4. The combination and arrangement of the air-pipes D with the fire chamber B and with the flattened flues E, substantially as herein shown and described, and for the purpose set forth.

83,050.—William C. Douthett, Rochelle, Ill.—*Churn.*—October 13, 1868.—Designed as an improvement on his patent No. 77,873. A rod secured to the dasher fits in a swivel which is pivoted in a ring, which latter is hung in jaws on the arm attached to the crank shaft. The arm is adjustable in the shaft and held by a set screw.

Claim.—1. The double-oscillating or swing joint, when constructed substantially as above described, and for the purposes set forth.

2. The hub P, in combination with the adjustable rod F, arms H, ring I, piece K, and rod O, all operating to regulate the length of the stroke of the dasher C, as well as to produce the stroke itself, substantially as described.

83,051.—C. H. Dreyer, Nashville, Tenn.—*Pump.*—October 13, 1868.—The cylinder is made to reciprocate on a fixed hollow piston rod, which is provided with a piston made in two parts, the lower one of which has four valves on its upper face, two of which alternately open and close communication to the lower part of the cylinder, while one of the others governs the passage from the lower portion of the cylinder to the exhaust and the other from the upper part of the cylinder to the exhaust.

Claim.—The fixed piston D E, constructed of two parts, and provided with the valves *a* and *b*, *c* and *d*, and their passages *e f g*, and *h i*, leading to the lower and upper parts of the cylinder, and the passages *k l*, all substantially as and for the purpose described.

83,052.—Albert J. Elder, Kansas City, Mo.—*Automatic Car Coupling.*—October 13, 1868.—The spring bar has a head to its free end which projects over upon the tooth of the draw head, and a hook which catches under the link, to lift it and uncouple the cars, by means of the lever pivoted to the draw head.

Claim.—The spring bar D, when provided with the hook *m*, and arranged in the open draw head A, to operate in connection with the tooth *a*, in the manner and for the purpose specified.

83,053.—Frederick Engel, Romeo, Mich.—*Window Shutter.*—October 13, 1868.

Claim.—A window shutter, composed of metal plates, C, which are separately formed with rolls and overlapping edges, and connected by metal rods, D, forming hinges that work in opposite directions, and when folded up, constituting a roof to shield the window from snow or rain, all as herein shown and described.

83,054.—Richard Exelby and George W. Marshall, Buffalo, N. Y., assignors to themselves, John S. Lacy, Jr., and John A. Seymour, same place.—*Oat Dusting Machine.*—October 13, 1868.—A valve in the hopper has a rod within reach of the operator, and is connected by a passage with the central disk above the beaters, and a fan, motion being given by means of a crank and gearing, with which the screen in the hopper is connected, being operated by a bar with an eccentric and bevel wheel.

Claim.—The arrangement of the hopper K, rod and valve *y* W, vibrating screen R, operated by eccentric *t* and rod *u*, pipe *k*, fan J, distributing board *x*, beaters I, crank *q*, and gearing *p o m l*, forming a portable oat-dusting machine, constructed as herein set forth.

83,055.—E. R. Ferry, New Haven, Conn.—*Safety Bridle.*—October 13, 1868.—The lower ends of the check straps are fixed to the upper ones of the check bars, which are jointed to the bit bar and which have arms connected by a strap, with eyes in their outer ends, through which the driving reins pass. a check rein being also attached by snap hooks.

Claim.—1. The check bars E E, provided with the levers *c c*, for the passage of the driving reins, when connected to the bar *a* by the swivel joint *b*, whereby either rein is adapted to be pulled to guide the horse without pressing the check bars against the sides of his mouth, as herein shown and described.

2. The combination of the detachable check rein J with the driving reins I, when said parts are used in connection, or applied with the check straps D D and the bit F, all arranged substantially as and for the purpose specified.

83,056.—John C. Fish, Barnstable, Mass.—*Carriage Curtain Fastening.*—October 13, 1868.—At the opening of each hole and slit into the eye is an elastic, stitched in between the outer side leather and the inner side of a strong patch which surrounds and strengthens the slit and hole, the head of the button being oblong and tapering on top.

Claim.—1. A carriage curtain having button holes, each with an inserted elastic across the head of the slit thereof, substantially as shown and described.

2. In combination with each button, having an oblong crown-shaped head, an elastic, which holds the edge of the eye close to the sides of the shank, substantially as shown and described.

83,057.—Nathan C. Folger, New Orleans, La.—*Churn.*—October 13, 1868.—The churn is fixed, by means of bands, rods, and braces, above the rockers, under which springs are placed to give them a reverse action, a curved extension furnishing the means of operation by the hand or foot.

Claim.—The arrangement of the churn A, with relation to the rockers D, when the latter are provided with the springs F, and all the parts are constructed and united in the manner and by the means substantially as herein described, for the purpose set forth.

83,058.—Wilmer D. Gridley, New Britain, Conn.—*Toy Pistol.*—October 13, 1868.—By inserting the arrow into the barrel and pressing it against the spring the catch will be made to engage the spring and hold it firmly, until released by the trigger, when the arrow is discharged.

Claim.—The barrel and stock *a b*, in one piece, spring *e*, trigger spring *i f*, spring *g*, and orifice *d*, substantially as and for the purpose described.

83,059.—John A. Hafner, Commerce, Mo.—*Horse Power.*—October 13, 1868.—The horse power in starting transmits its force with gradually increasing effect upon the machine to be driven, but when the spring is wound up power is imparted in a direct and positive manner.

Claim.—The combination of the shaft C, wheel F, (or casing D,) and coiled spring *a*, when said spring is provided with an interior coiled rubber spring, *e*, to support the exterior spring, and relieve the strain thereon, all substantially as shown and described.

83,060.—William S. Henson, New York, N. Y.—*Engine Governor.*—October 13, 1868.—The centrifugal balls, which regulate the motion of the engine by the elevation and depression of the spindle, swing upon vertically oblique axes which give the balls perfect freedom of motion in responding to the influences which cause them to rise and fall.

Claim.—The revolving spindle A, collar F, and ball K, connected to which are the forked arms C C, cross heads M M, balls D D, and pivoted bars I I, the several parts being constructed, arranged, and operating substantially in the manner as specified.

83,061.—Rozander S. Higgins, Olney, Ill.—*Plow.*—October 13, 1868.—Friction upon the landside is obviated by the coulter which counteracts the "side draft." Friction upon the sole of the plow also is avoided.

Claim.—The combination of the prolonged colter I with its rearwardly-curved cutting point *i'*, and the obliquely presented share D, so arranged that its sole does not run in contact with the floor of the furrow, all constructed and operating as and for the purposes herein specified.

83,062.—Lewis Hover, Chicago, Ill.—*Iron Door.*—October 13, 1868.—The two doors afford additional protection in case of fire, when the iron is liable to warp. They are geared together so as to open and close simultaneously.

Claim.—The combination of the outer and inner doors, B B, and their cogged hinges A A, when secured by the double latch D, or its equivalent, all substantially as and for the purposes herein shown and specified.

83,063.—C. A. Howard, Pontiac, Mich.—*Horse Hay Fork.*—October 13, 1868.—The contiguous corrugated faces of the enlarged ends of the fork arms are forced together by the action of the lever upon inclined planes on the outer side of one of the enlargements. An interposed spring throws the enlargements apart when the position of the lever admits of it.

Claim.—1. The parts A and B of a horse hay fork, provided with corrugated, grooved, or otherwise roughened surfaces, arranged to be locked together in any preferred position, by a lever and inclined ways, substantially as and for the purpose described.

2. The combination, with the parts A and B, arranged to be locked as described, of a spring for separating them for unlocking, substantially as and for the purpose described.

83,064.—Francis Howlett, West Rupert, Vt. and Charles R. Sherman, Salem, N. Y.—*Gearing for Grindstones.*—October 13, 1868.—The bearing block may, together with the driving wheel, be set up toward the pinion, or transferred from one side to the other thereof.

Claim.—The slotted adjustable block G, carrying the wheel E, and adapting it for adjustment with the pinion D, substantially as and for the purpose described.

83,065.—Charles W. Hoyt, South Norwalk, Conn.—*Pump.*—October 13, 1868.—The piston rods of the two pump cylinders are connected to the ends of the "brake," to which motion is imparted from a vibrating lever through the medium of chains and pulley.

Claim.—The arrangement herein shown and described of the operating lever E, chains D, pulleys *a b*, and brake C, with relation to the double-acting pump A B, all as set forth for the purpose specified.

83,066.—Benjamin Irving, New York, N. Y.—*Fuel from Spent Tan Bark.*—October 13, 1868.—The bark is soaked and passed through rollers, whence it emerges in a flocky, fibrous mass; it is then pressed into blocks.

Claim.—The new manufacture of compressed fuel from spent or refuse tan bark, by the method or process of forming it into blocks, or other suitable shapes, for fuel and transportation, substantially as hereinbefore described.

83,067.—D. W. Jameson, Warren, Ohio.—*Machine for Grinding the Cutters of Mowing Machines.*—October 13, 1868.—This device is for holding harvester cutters to the action of an ordinary grindstone, and enables the teeth to be successively brought under treatment in such a manner as to secure uniformity in the grinding.

Claim.—The standards or arms F, hinged or pivoted to the bridge tree E, in combination with the adjustable frame G, arranged and operating conjointly, as and for the purpose substantially as set forth.

83,068.—C. H. B. Kellogg, Tontogany, Ohio.—*Horse Hay Fork.*—October 13, 1868.—The fork being imbedded in the hay, the hooks are protruded laterally by depressing the central rod, which is then retained in its relation to the handle by the catch. The hay being elevated, the latch is disengaged by a trip cord acting on the lever, whereupon the fork slides upon the rod and discharges the load by drawing in the hooks.

Claim.—A hay fork, constructed and operating substantially as shown and described, that is to say, with the head A, central rod B, hooks C C, rods E E, catch *i*, and lever K, arranged substantially as described for the purposes set forth.

83,069.—James Lafetra, New York, N. Y.—*Cake Mixer.*—October 13, 1868.

Claim.—The arrangement of the beater D E, and the quadrangular yoke F, bearing the standing fingers G, suspended from the cover B, in such a manner that the beater is permitted to revolve while the yoke F and its fingers remain stationary, as herein described, for the purpose specified.

83,070.—N. P. Lindergreen, Boston, Mass.—*Packing Can.*—October 13, 1868.—Designed to strengthen the can at the corners and avoid projecting seams or joints.

Claim.—As a new article of manufacture, an octagonal sheet-metal can, having four narrow and four wide sides, made of four sheets of metal, connected by joints, constructed and arranged as herein shown and described.

83,071.—Johan Linnemann, Copenhagen, Denmark.—*Spade.*—October 13, 1868.—The spade is adapted for use as a saw, for convenience in carrying the same, as in the army, on a march, when the handle may be carried on the knapsack and the blade otherwise disposed of.

Claim.—1. The blade of a spade, constructed with one or both of its vertical edges serrated, substantially as described.

2. In combination with the blade and handle socket of a spade, a detachable handle, B, substantially as and for the purpose set forth.

83,072.—James G. Lucas, Newark, N. J.—*Work Table Appliance.*—October 13, 1868.

Claim.—The device or appliance, composed of the annular spool holder B, pin cushion A, mirror E, scissors-holding clasps *d*, emery case C, serving also as a thimble holder, and thread cutter D, the whole arranged substantially as and for the purpose specified.

83,073.—Samuel Lusten, Linesville, Pa.—*Compound for Tanning.*—October 13, 1868.—Japonica, glauber salts, alum, saltpeter or niter, sulphur, yellow ocher, chrome yellow, extract smart weed, and common salt, mixed together in hot water.

Claim.—The compound composed of the above ingredients, combined in the proportions set forth.

83,074.—Wilson McClure, Sinking Spring, Ohio.—*Animal Trap.*—October 13, 1868.—When the trap is sprung the cross-head bar is impelled downward by its spring, driving the spikes to the only place of access to the bait, and thus impaling the game. The trip lever aids in holding down the spike bar.

Claim.—The described arrangement of the spring H, roller G, bar D, cross-head E, spikes F, spring K, roller J, trip lever I, and bait rod L, with relation to each other, the bottom A, posts B, sides C, and removable casing M, all operating as described, for the purpose specified.

83,075.—D. W. C. McMaster, Southborough, Mass.—*Line Holder.*—October 13, 1868.—The inner disk is ribbed upon its back as well as upon its outer face, and is forced against the wooden fixture in the act of securing the line between the disks, the holder being thereby prevented from turning upon its supporting pin.

Claim.—The disks B C, constructed as described, with the radial ribs, and arranged with relation to each other and the fixture A, in the manner herein set forth, for the purpose specified.

83,076.—Francis M. Meddock, Mainsville, Ohio.—*Device for Heating Railroad Cars.*—October 13, 1868.—The car is heated by steam admitted to its hollow, metallic floor.

Claim.—The steam chamber B beneath the car floor, traversed longitudinally by steam pipes D, which are attached, as between adjacent cars, by flexible connections E, and which are provided in the chamber of each car with branch pipes F and valves *g*, operatable from the inside of the car, and adapted to be closed or opened, as the necessities of each car in the train may require, substantially as described.

83,077.—Jonathan Meley, Trenton, Tenn.—*Grave Mound.*—October 13, 1868.—The mound thus made will not be distorted by the sinking of the grave.

Claim.—The grave mound, when formed by coating the raised portion A with a layer of cement, inclosed by the brick border, and covered with a compact coating of shells, C, as herein shown and described.

83,078.—Joshua Merrill, Boston, Mass.—*Machine for Bending Wood.*—October 13, 1868.—The toothed roll not only feeds the stave blank, so as to bend it against the shaping block, but crimps the under side thereof, making the curvature permanent. The degree of curvature is determined by the longitudinal inclination of the block, which may be varied by the screw.

Claim.—1. In combination with the toothed feed roll *b*, the concave shaper block *c*, constructed and arranged relatively to the roll, substantially as shown and described.

2. In combination with the toothed feed roll, a shaper block, made adjustable, substantially as set forth.

83,079.—John F. Milligan, St. Louis, Mo.—*Baling Press.*—October 13, 1868.

Claim.—Combining the screw-threaded shaft D, sectors D′, and platen C, the toggle levers G, and rods E, in the manner herein shown and described.

83,080.—Edward J. Moore, Westfield, N. Y.—*Churning Apparatus.*—October 13, 1868.—Designed as an improvement on his patent of April 17, 1868, and having reference mainly to the connections between the operating lever and the dasher shaft, the intention being to hold the latter to a strictly vertical path as it reciprocates.

Claim.—1. The combination of the pivoted bars J, H, F, and G with the lever E and dasher shaft I, substantially as described, for the purpose specified.

2. The combination of the connecting rod L with the heavy or weighted lever K, and with the parallel levers or bars F, substantially as herein shown and described and for the purpose set forth.

3. Extending the pivoted bars H above the lever E, and connecting them with the dasher handle I, by means of the short connecting bars J, substantially as herein shown and described, and for the purpose set forth.

4. Extending the heavy or weighted lever K through the upright D, and pivoting it at or near its center, substantially as herein shown and described.

83,081.—William Morehouse, Buffalo, N. Y.—*Nut-locking Device.*—October 13, 1868.—Grooves admit of the insertion of the branches or arms of the locking device behind the nut, and when this is effected the shoulder bears against one edge of the nut, and the extremities of the arms may be turned up against the opposite edge without danger of starting the nut.

Claim.—The forked nut-locking device D, constructed with a shoulder, b', and with separated portions *b b*, substantially as and for the purpose described.

83,082.—G. M. Morrow, Clarksville, Ohio.—*Machine for Turning Broom Handles.*—October 13, 1868.—The mandrel has a pair of beveled cutters for cutting off the rough corners of the handle; also a tapering bit, oscillating on a pivot, and acted on by a spring, a lever being connected with the cutter by a link, and the bit being controlled by plates connected with catches, projections resting on the flanges of the cam wheels attached to a shaft, there being further on the mandrel a third beveled cutter, with its cutting edge flatwise thereto, so that by their movements the various work is effected.

Claim.—1. Controlling the cutters through the medium of the plates, sliding at right angles to each other, the catches n n' and the cam wheels E constructed to operate substantially as described.

2. The combination of the sliding plates M M′, N N, catches m m', n n', wheels E, having flanges n'', and shaft E′, with the hollow mandrel K, pivoted lever *r a*, link r', cutters l l', and springs s s', substantially as described, for the purpose specified.

83,083.—Samuel Mosher, Winchester, Ill.—*Combined Hub and Box for Wheels.*—October 13, 1868.

Claim.—The combination of set screws *e* with flange C and washer *s*, the whole constructed and arranged substantially as specified.

83,084.—P. M. Papin, St. Louis, Mo.—*Ladder.*—October 13, 1868.—The single rail has fixed at the bottom, spreading feet, on which are sliding feet spiked in the ends to strike and hold in the ground truss rods with a cross-bar and angle blocks, being also connected with the rail to prevent oscillations and give greater stability.

Claim.—The rail A, spreading feet A^1, sliding feet A^2, truss rods *b*, cross-bar b^1, angle blocks b^2, and hook C, the whole being combined and arranged in the manner described, and for the purpose set forth.

83,085.—Alexander G. Patton, Troy, N. Y.—*Cooking Stove.*—October 13, 1868.—A water reservoir at the top of the stove, with a flue above extending into it, has beneath it a warming closet, the top plate of the stove being so placed that its additional aperture is in front of the mouth of the flue of the reservoir controlled by a damper, and by the arrangement of the flues, under and above the oven and on the side and over the warming closet and reservoir, heat is properly imparted to them all.

Claim.—1. A stove, so constructed as to embrace within itself a water-heating reservoir and a warming closet, both of which form a constituent part of said stove, the same being arranged substantially as shown and described.

2. The flue 8, formed in the water reservoir, substantially as and for the purpose shown and described.

3. The construction of the vertical-descending flue or flues 2 2, for directing the greatest portion

of the heat toward the ends of the oven, by means of the curved form of the fixed reservoir plates, as shown and described.

4. The arrangement of the fixed water-reservoir, with reference to the flues 6 and 7, which surround said water reservoir, substantially as shown and described.

5. The arrangement of the damper 9, with reference to the flue 8 and the additional aperture in the cover, G, of the stove.

6. The arrangement of flues 1, 2, 3, 4, 5, 6, 7, and 8, substantially as and for the purpose described.

83,086.—Alexander G. Patton, Troy, N. Y.—*Cooking Stove.*—October 13, 1868.

Claim.—1. A stove, having combined within it a second or extra oven and a water-heating reservoir, which form constituent parts thereof, substantially in the manner shown and described.

2. The combination of the water reservoir E and the second or extra oven F, when forming fixed or permanent parts of a cooking stove, and arranged substantially as and for the purpose specified.

3. The arrangement of the flues 1, 2, 3, 4, 5, 6, and 7, with reference to the ovens C F and water reservoir E, when constructed as herein shown and described.

83,087.—William H. Payne, Janesville, Wis.—*Hames Fastener.*—October 13, 1868.

Claim.—1. Drawing the hames together by means of a levered cog wheel, D C, and toothed bar A, substantially as herein shown and described.

2. The combination of the toothed bar A, cap B, cog wheel C, (having a lever, D, formed upon or attached to it,) and slotted bar E, with each other, substantially as herein shown and described, and for the purpose set forth.

83,088.—Adolph Pearl, New York, N. Y.—*Damping Apparatus for Copying Press.*—October 13, 1868.—A leather-covered roller is carried with a yoke in connection with a capillary cushion which projects from a water bath, so that being moistened by pouring water over it, it is kept so, as well also the roller, by the action of its conduit.

Claim.—The combination of the leather-covered dampening roller B, the moistened cushion D, and the water bath in the case A, substantially as described, and for the purpose herein set forth.

83,089.—F. K. Plumbly, Buffalo, N. Y.—*Planing Machine.*—October 13, 1868.—The plane is secured to a slotted bar which slides on an adjustable rest pin. An adjustable gauge-block fits on the slotted bar and regulates the depth of the crozes to be planed.

Claim.—The combination of the hand plane A with the suspending rod B, box D, rest pin C, and gauge block E, all constructed to operate substantially as described.

83,090.—Royal P. Pratt, Hartford, Conn.—*Awning.*—October 13, 1868; antedated October 6, 1868.—The pulley and end block are connected together by longitudinal rods, around which the awning is wound. Cords, arranged for turning the end flaps inward, so as to roll up smoothly, pass through pulleys, held by springs in tubes, the spring being used to draw the pulleys back into the tubes.

Claim.—1. The combination of the pulley D and end block G with the rods I and J, when constructed and arranged substantially as herein described, for the purpose of winding up and sustaining an awning.

2. The cords *m n o p q*, arranged as herein described, for the purpose of raising and folding under the end flaps of an awning.

3. The combination of the cord *m n o p q*, the slotted tube K, and the spring *s*, or its equivalent, constructed and operating substantially as herein specified.

83,091.—Julio H. Rae, Syracuse, N. Y.—*Electrical Amalgamator.*—October 13, 1868.—Designed as an improvement on his patent of February 5, 1867. A cylindrical drum, lined with corrugated copper, is provided with two heads, on the inner sides of which are secured zinc beaters. By introducing the ore, mercury and an exciting liquid and rotating the drum, a galvanic current is produced, which assists in separating the gold, &c.

Claim.—The drum A, provided with a lining and with a beater, representing the two elements of a galvanic battery, said beater serving also to bring all the particles of the pulverized ore in intimate contact with the mercury, substantially as herein shown and described.

83,092.—Franklin Ransom, Buffalo, N. Y.—*Condenser.*—October 13, 1868.—A condensing vessel is arranged at the crown of a siphon, the longer leg of which carries off the injection water, while the short leg constitutes the injection pipe in which atmospheric pressure will raise the water to a height corresponding to the degree of vacuum obtained. A portion of the condensing water is thrown directly from a secondary pipe in contact with the steam, and falls in one side of the condenser and is fed to the boiler.

Claim.—1. The arrangement with the condenser A, and main induction pipe B, of the overflow pipe *d*, and small pipes d^1 d^2, as herein set forth.

2. The arrangement of the secondary injection pipe I, in relation to the partitioned condenser A and boiler feed pipe J, as set forth.

83,093.—Edward F. Rate, Cedar County, Iowa.—*Corn Cultivator.*—October 13, 1868.—Levers, attached to the handles of the shovels, are secured to a roller which is rotated by a handle, thus raising or lowering the plows, the depth of which is regulated by bars connecting the levers with the shovels.

Claim.—The levers A and J. roller F, and regulating bars D, when constructed and arranged substantially as and for the purposes herein specified.

83,094.—Edward Reichard, Washington, Mo.—*Animal Trap.*—October 13, 1868.—A spherical lobe forms the rear of the trap, and a hinged lobe folds within the fixed lobe when the trap is open. A coiled spring causes the hinged lobe to close when the bait lever releases a spring which holds the hinged lobe open.

Claim.—1. The trap, formed of the base A, the fixed lobe B, journal D, spring E, and movable lobe C, substantially as and for the purposes set forth.

2. The combination of the trip lever *f*, the spring *c*, its cam c^1, and detent spring *b*, substantially as and for the purposes set forth.

3. The spring catch G, in combination with the lobe C, when arranged to secure said lobe to the base plate A, by the detent *g*, substantially as set forth.

83,095.—Hugh Reid, St. Louis, Mo.—*Valve Motion for Steam Engines.*—October 13, 1868.—The vacuum valve is operated by toggle joints which are connected together by a pin which works in slots in forked arms on a rod operated by the rock shaft. A spring holds the valve closed, but as the toggle arms pass a vertical position they make a rapid movement and the valve is opened and the steam ejected rapidly into a pipe leading to an atmospheric valve. When the vacuum valve is closed the steam overcomes the pressure of the atmosphere and opens the atmospheric valve and escapes.

Claim.—1. The forked rod D, its ends *d* slotted at d', the pins *e*, with the toggle links E, cross-head F, and spring G, combined substantially as set forth.

2. The rock shaft B, in combination with the rod D, links E, valve stem *c*, and valve C, substantially as set forth.

3. The combination of the valve C, the exhaust pipe A, the discharge pipe H, and atmospheric valve I, as set forth.

83,096.—George Richards and David Strickland, Richland Centre, Wis.—*Fanning Mill.*—October 13, 1868.—Two ends of a board, provided with a flange at its rear edge, fit in inclined grooves in the sides of a shoe. The top of the case forms the bottom of the hopper and is provided with a wide slot through which the grain enters the shoe, the opening being regulated by a gate which is operated by rods connecting with a lever held by a ratchet bar on the outside of the case. Projecting wings on the fans deflect the currents of air entering the machine and throw them in a direct line through the shoe. The bag holder can be inserted in any of the posts.

Claim.—1. The adjustable, sliding, flanged board K, constructed and arranged substantially as herein shown and described, in combination with the shoe I, as and for the purpose set forth.

2. Suspending the shoe I in the center of the shoe chamber, by means of the springs J, substantially in the manner herein shown and described, and for the purpose set forth.

3. The combination of the sliding gate M, connecting rod or rods N, lever O, and ratchet bar P with each other and with the opening in the top of the case A, substantially as herein shown and described, and for the purpose set forth.

4. The rectangular hopper Q, constructed and arranged substantially as herein shown and described, in combination with the hopper-shaped top of the case A, as and for the purpose set forth.

5. The fans D, formed with projecting wings d' upon their central parts, substantially as herein shown and described, and for the purpose set forth.

6. The bag holder W, constructed substantially as herein shown and described, in combination with one of the posts B of the frame of the mill, as and for the purpose set forth.

7. The receiving measure, formed by the combination of the sliding gate Y and rod Z with the box X, substantially as herein shown and described, and for the purpose set forth.

83,097.—William H. Rogers, New York, N. Y.—*Pocket Safe for Friction Match Cord.*—October 13, 1868.

Claim.—1. The match safe A, constructed substantially as described, or in any equivalent manner, whereby the coil match and the tube E may be properly secured and used, substantially as set forth.

2. In combination with a friction match cord, the tube E, either hinged or attached to a match safe, or box, or not, and either cut away on one or both sides, substantially as and for the purposes described.

83,098.—Jeremiah Schroy, Fortville, Ind.—*Fruit Picker.*—October 13, 1868; antedated October 2, 1868.

Claim.—The curved metal plate C, connected to the outer ends of the irregular-shaped hoop B, and provided at its upper portion with a series of narrow slots for forming the comb teeth, pointed as shown, and used in combination with the pole A and conveyer F, to operate substantially as set forth.

83,099.—Louis Schulze, Louisville, Ky.—*Beer Cooler.*—October 13, 1868.—The beer flowing over the bottom of troughs which are kept cool by water flowing under them in an opposite direction, is agitated by paddles which cause all the particles to come in contact with the cooling surface.

Claim.—1. A beer-cooling apparatus, consisting of a series of contiguous and connecting double-bottomed pipes or channels, one above another, in vertical line, and inclined toward each other, when said pipes or channels are made with square sides and bottoms, substantially as and for the purposes set forth.

2. A beer-cooling apparatus, consisting of a series of contiguous and connecting double-bottomed pipes or channels, one above the other, in vertical line, the water channels of which, at the contiguous ends, are so constructed that they can be opened, substantially as and for the purposes set forth.

3. A beer-cooling apparatus, consisting of a series of contiguous and connecting double-bottomed pipes or channels, one above the other, in vertical line, the water channels of which, at contiguous ends, are closed by a packing of water-proof material, non-conductor of heat, substantially as and for the purposes described.

4. In a beer-cooling apparatus, the application, in combination with water for cooling purposes, of a blast of air which has been passed over ice, and strikes the beer at right angles to its flow, substantially as and for the purposes set forth.

5. The combination, in a beer cooler, of the double-bottomed channels B, with perforated air pipes E, substantially as and for the purposes set forth.

6. The combination, in a beer cooler, of the rollers *j*, provided with paddles *k*, with the double-bottomed channels B, substantially as and for the purposes described.

83,100.—Conrad Seimel, Green Point, N. Y.—*Soldering Vessel.*—October 13, 1868.—The troughs are provided with shelves at their upper edges which project inward and downward, leaving spaces between their inner edges wide enough to allow the corners of the cans to extend down into the solder. These troughs are heated by a series of gas jets.

Claim.—1. The stand A, in combination with the troughs B B and the gas apparatus C, as herein described, for the purpose specified.

2. The troughs B, in combination with the shelves *b*, as and for the purpose set forth.

83,101.—John Shaw, Brooklyn, N. Y.—*Lawn Mower.*—October 13, 1868; patented in England January 23, 1864.

Claim.—Folding the cutting end of lawn-mowing machines up toward the handle end, for the purpose of being used for rolling only.

83,102.—Perry W. Smith, Abingdon, Ill.—*Buckle.*—October 13, 1868.—A metal plate is provided on each side with transverse clasps with a tongue attached at opposite ends on each side. The strap is buckled in one clasp and the end placed under the back of the other clasp.

Claim.—As an article of manufacture, the within-described double buckle, when constructed and operating substantially as and for the purposes herein set forth.

83,103.—Edward J. Stephens, Pawtucket, R. I.—*Machinery for Printing Yarn.*—October 13, 1868.—The invention relates to the means employed for causing the color-feeding rolls to skip, during the revolution of the printing cylinder, all those ribs which are to be furnished with some color other than that which they supply respectively.

Claim.—In combination with suitable ribbed printing cylinders, A A, a series of furnishing color rollers, D D, hung in yielding bearings, and operated by means of pinions G, with teeth of variable depth, or the equivalents thereof, in the manner substantially as described, for the purposes specified.

83,104.—J. Henry Stimpson, Boston, Mass.—*Gas Furnace for Heating Soldering Tools.*—October 13, 1868.—Improvement on subject of his patent of May 12, 1857. Gas, conducted within the cones, ascends into the perforated cylinders and is there burned. Draught is secured by inclining the cylinders. The outer wire cylinder is of a fine texture, to confine the flame; the inner is a coarser structure, to protect the other from the tool. The mouth pieces serve as guides in inserting the soldering irons.

Claim.—The gas furnace for heating soldering tools, consisting of the double cones A B, supporting the inclined cylinders D E, containing the perforated cylinders F G, composed each of two parts, f^1 f^2, g^1 g^2. Said cylinders D E, connected at their rear ends by the mouth pieces d^3 e^3, and at their forward ends by the curved pipes h^2 h^3, all arranged and operating as described for the purpose specified.

83,105.—Samuel L. Sweeney, Morrison, Ill.—*Corn Planter.*—October 13, 1868.—The dropping of the seed is made intermittent by the reciprocating axial movement of a plate in the hopper, which plate derives motion through connecting rods from an arm coupled with one of the covering wheels by a spring catch so as to be readily disengaged.

Claim.—1. The combination of the roller wheel G, arm H, rod I, and oscillating plate F, arranged to operate substantially as and for the purpose set forth.

2. The combination of the wheel G, the arm H, connecting rods I and N, with the two oscillating wheels F, arranged substantially as set forth.

3. The combination of the wheel G with holes G′, and arm H with holes H′, for connecting and disconnecting the wheels and the dropping mechanism, substantially as set forth.

83,106.—James Taylor, Canton, N. Y.—*Sugar Juice Evaporator.*—October 13, 1868.

Claim.—The described construction of the pan A, having its sides extended to form legs *f f*, and the side walls of the fire box, the latter provided with the door *h* at one end, and the chimney B at the other, all arranged to be moved upon the wheels *e*, away from or over the grate D, formed between the ways C, as herein set forth, for the purpose specified.

83,107.—E. A. Thomas, Philadelphia, Pa.—*Seam-joint for Cans, &c.*—October 13, 1868.

Claim.—A side seam or joint for sheet-metal cans or boxes, composed of a dovetailed projection, *a*, struck or swaged up on the lapped edges of the metal, and then hammered or closed down, substantially as herein shown and described.

83,108.—John L. Thomas, Alliance, Ohio.—*Steam Generator.*—October 13, 1868.—The float and its connections admit the water to the boiler and shut it off mechanically, and the wheels respectively indicate the water level and open a steam-whistle valve in case of a dangerous decrease of water.

Claim.—1. The combination of the float B, chain C, and weight J, with the serrated wheel D, graduated wheel E, adjustable plate *i*, slotted arm *h*, cock G, and pipe F, as herein set forth.

2. The arrangement of the pipe *o*, lever R, and adjustable pin S, with reference to the wheel D and whistle P, as herein described.

83,109.—George M. Thompson, Boston, Mass.—*Device for Stretching Telegraph Wires.*—October 13, 1868.—The instrument is applied by moving it forward upon and against the wire, so as to force the jaws open to receive it; then on pulling the instrument it grasps the wire tightly.

Claim.—The within described instrument for stretching telegraph wires, consisting essentially of the plate or bar A and jaws C C, as set forth.

83,110.—J. J. Thompson, Richwood, Ohio.—*Hay Rake and Loader.*—October 13, 1868.—The teeth which take the hay from the pendent rake at the rear of the machine are fixed in rolls which are journaled upon the periphery of a large rotating drum. When the rolls arrive at the point where the hay is received by the carrier the rolls are turned so as to adapt the teeth to free themselves of hay.

Claim.—The combination of the rotating device F' H, rake G, endless carrier D, pins or fingers *w* and stationary plate I *i*², all constructed, arranged, and operating in the manner and for the purpose set forth.

83,111.—J. J. Thompson and V. F. Collier, Richwood, Ohio.—*Cultivator.*—October 13, 1868.

Claim.—The combination in a quadruple plow or cultivator, of the inner movable beams B B, staples *b b*, rod F, plates D D, outer stationary beams B' B', tongue A, plate I, and handles L L, all applied in the manner and for the purpose set forth.

83,112.—E. H. Tobey, Bridgeport, Conn., assignor to himself and A. R. Hale.—*Sash Lock.*—October 13, 1868.—The bolt and cylinder are applied to one sash and a keeper is fixed to the other. When the bolt is pushed into the keeper it is turned, causing its laterally-projecting stud to pass from one slot into another.

Claim.—The arrangement of the bolt A within the cylinder C, when the said cylinder is provided with the two slots *a* and *d*, and the bolt with the stud *f*, to operate in the said slots, substantially in the manner specified.

83,113.—Augustus Tufts, Malden, Mass.—*Diaphragm Bellows for Dry Gas Meter.*—October 13, 1868; antedated October 3, 1868.—Improvement on the subject of the patent granted Nathaniel Tufts, Aug. 14 1860, and numbered 29,639. Designed to prevent the heat of the soldering iron from burning or scorching the leather and melting the matter upon the winding cord.

Claim.—A gas-meter bellows in which one head is annular, with an attached flange, to which the flexible material of the bellows is secured, and in which head the opening through which the "former" is extracted in parts is closed by soldering the disk *i* at its edge, which is remote from the cord *k*, which secures the flexible material *g* to the flange *e*, substantially as described.

83,114.—H. D. Wallen, Jr., Fort Columbus, N. Y.—*Caloric Engine.*—October 13, 1868.—The cylinders communicate with each other through ports opening from the heating chamber of one cylinder into the adjacent heating chamber of the other. The ports are opened and closed by valves. "Lost motion" devices cause the pistons to move and rest alternately. One piston rests at the terminus of its stroke while the other is moving toward it, time being thus afforded for the air to be received by and heated in the respective air chambers of the pistons, which are non-acting for the time being. The expanded air of the first cylinder escapes into the second heating chamber and assists in propelling the second piston.

Claim.—1. The two parallel cylinders A B, when arranged side by side, and provided at both ends with air-heating chambers A' A", B' B", and the valve gear, to cause the alternate movement and resting of the pistons, all substantially as shown and described.

2. The rock shafts P P', having arms *e*, R R', the connecting rods S S' T, and angular lever T', substantially as herein shown and described, in combination with and arranged with relation to the shaft M, slotted plate U, slotted arm V, and cross heads R", as set forth.

83,115.—Samuel W. Wilcox, Mendon, Mass.—*Paper Cutter and Ruler.*—October 13, 1868.—A pin inserted through one of the perforations may form an axis upon which to turn the ruler, so as to draw circles with a pencil inserted through another of the perforations.

Claim.—1. A paper cutter, provided with a series of parallel slits for ruling parallel lines, substantially as herein described.

2. The construction of a ruler with a perforated scale, substantially as and for the purpose herein set forth.

83,116.—Elihu Wilder, Chicopee Falls, Mass.—*Stop Motion and Indicator for Knitting Machine.*—October 13, 1868.—A pin on a slide projects into the cam groove of a cylinder keyed upon the driving shaft, and the slide is consequently reciprocated. At each forward movement it acts upon a bolt and pawl, and gives a slight impulse to a ratchet wheel, which having been thus gradually turned to a certain position, operates through a shaft and fingers upon a pawl lever, to release the lever which carries the belt-tightening pulley, whereupon the lever drops and motion ceases to be transmitted to the knitting mechanism.

Claim.—1. The shaft H, carrying the adjustable fingers *h h' h"*, substantially as described.

2. The combination of the bolt G with the pawl G', and ratchet G", and shaft H, carrying the fingers *h h' h"*, made adjustable, and held in position by set screws or thumb screws, and operating upon the pawl of a ratchet, for the purpose of stopping the machine at any number of rounds or stitches, substantially as set forth.

3. The combination of the shaft H, having adjustable fingers, *h h" h"*, with the ratchet G", pawl G', bolt G, sliding bar E', having the trip dog E, and the cam-grooved cylinder C applied to a knitting machine, substantially as described.

83,117.—Orin O. Witherell, Lewiston, Me.—*Chain Pump Valve.*—October 13, 1868.

Claim.—The plates A B, having the links D D secured upon the elastic plate C and washer F, by means of the countersunk screw E extending centrally through the plate and washer, between the ends of the link, into a nut, G, between the ends of the link upon the plate B, as herein described and shown.

83,118.—William H. Yeaton, Philadelphia, Pa.—*Pipe Coupling.*—October 13, 1868.—Especially applicable to railroad trains, for coupling the pipes which convey steam or warm water from car to car. Preparatory to uncoupling, the plug is turned so as to cut off communication between the pipes, and the yoke is depressed to permit one portion to be withdrawn from the other. The handle of the plug retains the yoke in its locking position.

Claim.—1. The combination of the portions A and B of the coupling with the yoke D, the whole being constructed and arranged substantially as and for the purpose described.

2. The plug C, adapted to the portion B of the coupling, and having a handle, *i*, arranged in respect to the yoke D, substantially as set forth.

3. The combination, with the yoke D, of a lid or bonnet, F, having lugs *t t*, and hinged or otherwise adapted to the portion B of the coupling, for the purpose specified.

83,119.—Richard Yeilding, Detroit, Mich.—*Manufacture of Iron and Steel.*—October 13, 1868.—Crude iron or ore in a molten state is treated with an injection of petroleum oil, intermixed with saltpeter and potash. The molten metal may then be treated in like manner to a solution of oil and prussiate of potash, for which latter oxide of copper, oxide of zinc, and corrosive sublimate may be substituted.

Claim.—1. The process of fusing and refining metal, and decarbonizing iron.

2. The converting of iron into carbonized steel.

3. The converting of iron into unannealable steel, and the use of the foregoing articles, in the manner and for the purposes herein set forth, and the general combination of the principles, and the use of the articles, combined and separately, and for the use of the oil alone, in the manner and for the purposes set forth in the foregoing specifications.

83,120.—Mrs. J. H. Mott, Washington, D. C.—*Tablecloth Protector.*—October 13, 1868.

Claim.—A table-protecting apron, formed with raised edges *a a*, and attaching straps *c c* and *e*, the whole constructed and arranged substantially as described, for the purposes specified.

83,121.—Henry Tindall, Chicago, Ill.—*Process of Roasting and Chloridizing Ore.*—October 13, 1868.—The ore during the roasting process is treated with dry chlorine gas.

Claim.—The process of treating ores, substantially such as is above described.

83,122.—Henry Tindall, Chicago, Ill.—*Furnace for Roasting and Chloridizing Ores.*—October 13, 1868.—An extra furnace and apparatus are provided for the generation of chlorine gas, which, being admitted to the roasting chamber, and having a specific gravity greater than that of the products of combustion and of the vapors emanating from the ore, forms a stationary stratum, in passing through which the escaping particles of metal are arrested. They then remingle with the ore in the form of chlorides.

Claim.—1. A furnace for treating ores, in which the operation of desulphurizing and chloridizing or chlorinating such ores is performed simultaneously with the roasting of the same, substantially in the manner described.

2. The chamber E of the furnace, as composed of a metal bottom, with metal sides and roof, said bottom and sides being protected from the action of the sulphur, substantially as shown and described.

3. The combination of the chamber E and the gas-generating apparatus, substantially as shown and described.

4. The combination of the ore-supplying conduit and the chamber E, substantially as shown and described.

5. The arrangement of the sole or hearth with reference to the chute P, substantially as shown and described.

6. The arrangement of the walls or partitions C C′, by which they are made to support the sole or hearth, substantially as shown and described.

7. The arrangement of the car R with reference to the chute P and chamber E, substantially as shown and described.

83,123.—Orrin Collier, Sacramento, Cal., assignor to himself and Erva B. Silliman, same place.—*Piston-rod Packing.*—October 13, 1868.—The interior of the cage communicates with the source of pressure, so that the impelling fluid operates to keep the rings snugly against the piston rod and the face of the gland. The body of the gland, instead of entering the cage, projects outward, and, being lined with soft metal, serves as an extended support for the piston rod. It also affords attachment for an oil cup.

Claim.—1. The metal rings *a* and *b*, as constructed, so that they both have about the same amount of surface bearing against the rod, and both about the same amount of surface bearing against the face of the gland, whereby the two shall wear equally, substantially as described.

2. The construction of the packing with reference to the stuffing box, whereby a free space is left around the rings, so as to allow them to move freely with the rod, if it should not work perfectly true.

3. The gland C and the lining E, with the oil cup F, when arranged substantially as and for the purposes herein described.

83,124.—George S. Acker, Kalamazoo, assignor to himself and H. A. Lacey, Detroit, Mich.—*Car Coupling.*—October 20, 1868.

Claim.—The plates J and K, thimble L, hasp M, and channel N, in connection with the link I and pin D, and draw bar A, when arranged and operating substantially as and for the purposes set forth.

83,125.—Edward Andrews, Pottsville, Pa.—*Boiler Safety Valve.*—October 20, 1868; antedated October 9, 1868.—The valve box incloses both the pressure valve and the valve opening inward, and a lever, the end of which operates on the piston, and, being connected to the yoke, allows the pressure to be regulated on the valve. When the pressure overcomes the weight on the lever, the valve opens, the steam escapes into the box operated, the piston opens the double valve, and the surplus steam escapes.

Claim.—1. The arrangement and combination of the balanced valve E with the valve J, lever H, piston K, and yoke D.

2. The arrangement of the box B, inclosing the valves J and W and lever H.

83,126.—H. P. Andrews and M. E. Rawson, Cleveland, Ohio.—*Inkstand.*—October 20, 1868.—The top plate has a sliding cover with a pressure plate arranged in connection with elastic stopples and two reservoirs with supply cups, by which means the fluid is raised or returned.

Claim.—1. An ink-elevating elastic air sack, constructed with a perforated corking end which is of thicker material than the body of the sack, substantially as described.

2. The horizontally-sliding cover D, pressure plate F, one or more air chambers E, and one or more ink reservoirs G, combined and operating substantially as described.

3. The cover D, pivoted at *b*, and extended into a lever beyond said pivoted point, and connected with a laterally-rocking or rolling plate F, substantially in the manner described.

4. The ink reservoir G G, in combination with a case, A, which is provided with a removable top and means for effecting the raising of ink into supply cups by the movement of a single cover to said cups, substantially as described.

83,127.—George W. Bishop, Baltimore, Md.—*Revenue Stamp for Liquor Barrels.*—October 20, 1868; antedated October 6, 1868.

Claim.—1. The oblong plate A, provided with flanges on the sides, and with a central box, B, when constructed substantially as and for the purposes specified.

2. The "stamp" C, made of soft metal, and provided with pins *b b*, as described, and used with the beveled box B, substantially as set forth.

3. The combination of the perforated slide D with the box B in the plate A, and stamp C, when used as and for the purposes specified.

4. The forms i i', placed in the plate A, under the slide D, as and for the purposes specified.

83,128.—William H. Bond and George G. Lee, Syracuse, N. Y.—*Grooving Machine.*—October 20, 1868.—The face of the arm is channeled out for a square bar with different grooves on three faces, and a plain upward face, which being adjusted with a grooved roller, is ready for outside seaming. On the bar being turned to present a grooved rolling face, and putting a plain-faced treading roller in place of the grooved one, the machine is adapted for seaming either inside or outside.

Claim.—An arm, B, when constructed in such manner as to alternately present a plain or grooved rolling face, as desired, substantially as and for the purpose herein described.

83,129.—Edward W. Brettell, Elizabeth, N. J.—*Permutation Lock.*—October 20, 1868.—An improvement on his patent of August 27, 1867.

Claim.—The hollow wheel B, pawl *t*, with its arms *r* and *s*, in combination with the inner circular tumblers and the case A, all constructed and arranged to operate in the manner and for the purpose set forth.

83,130.—Lyman D. Burch, Sherburne, N. Y.—*Plow Point.*—October 20, 1868.—On the back of the point where the end of the mold board laps on it, a stout rib, with branches, is formed. Stays or ribs are fixed on the ends of the wings, extending beyond them on the back side, lapping over the mold board.

Claim.—1. The ribs or braces D, D^1, and D^2, constructed and operating substantially as described.

2. The stays E and E', constructed and operating substantially as described.

83,131.—Beauman Butler and Charles F. Ramsay, St. Johnsbury, Vt.—*Saw Frame.*—October 20, 1868.—The handle end is rigid, the straining rod being fastened in the center to the cross bar and also to the upper end piece, while the screw-threaded free end of the rod passes through the lower end piece, between which and the cross bar is placed an elastic cushion or a spring, they being also connected by a bolt in slotted ears.

Claim.—1. The saw frame, constructed substantially as above described, with a rigid end, A A' C E, and a flexible end, B C E'.

2. The provision, in a buck-saw frame, of the spring or cushion G G', substantially as and for the purpose set forth.

3. The slotted ears I I, or their equivalent, employed to connect the cross bar and end piece, and permit mutual play between them, substantially as described.

83,132.—George Coles, London, and James Archibald Jacques and John Americus Fanshawe, Tottenham, England.—*Hose, and Machine for Making Hose.*—October 20, 1868.—Patented in England August 17, 1864. A core is prepared by covering a rope with sheet rubber, and lubricating the smooth surface by French chalk. It is then surrounded with a thin coating of rubber, placed in a plaiting machine with a covering of cotton, and coated with a caoutchouc paste, and then vulcanized.

Claim.—1. As a new article of manufacture, flexible hose, when constructed substantially as and for the purpose specified.

2. The apparatus, constructed as described, whereby alternate layers or plies of yarn or thread are laid helically round the core in opposite directions, as herein set forth and shown.

83,133.—J. L. Coles and David H. Coles, New York, N. Y.—*Feeding Mechanism for Sewing Machines.*—October 20, 1868.—The rear end of the feed bar forms a ring in which is a cam slide which, being acted on by a cam disk and spring, receives and conveys to the bar a reciprocating motion, while by means of a screw it is set closer to the disk, and the length of the stitch changed.

Claim.—1. The cam slide C, in combination with the feed bar A, substantially as and for the purpose described.

2. The feed bar A, in combination with the cam slide C, constructed as described, and its mechanism for adjustment, as and for the purpose set forth.

3. The adjusting screw G, in combination with the cam slide C and feed bar A, substantially as and for the purpose described.

83,134.—Edward A. Cooper, Buffalo, N. Y.—*Snap Hook.*—October 20, 1868.—The tongue, having a hinge pin jointed to it, and a spring to keep it in place, is hinged to the shank, which has a groove, for the spring, with an opening partly covered by a cross bar into which one end of the spring is inserted.

Claim.—The hook A, cast with hinge pin *e*, and cross bar *h*, in combination with the grooved tongue D and bow spring *h*, when the parts are arranged and secured together in the manner described.

83,135.—George G. Cressey, Philadelphia, Pa.—*Venting Core.*—October 20, 1868; antedated October 8, 1868.—The box has a guide plate carrying prints corresponding to the patterns, and another and lower one having wires which pass through the centers of the prints and form appropriate cores for the molds.

Claim.—The box E, its plate G, and prints H, in combination with the sliding plate F, and its pointed wires K, and the mechanism herein described, or its equivalent, for imparting the desired movements to the said plates.

83,136. — Thomas L. Cuthbert, Charleston County, S. C., assignor to himself, Nathaniel Levin, and Edward J. Marks.—*Boat Detaching Apparatus.*—October 20, 1868.—Two stout oval hoops are connected to a bar hung on pulley blocks, constituting a frame hammock, on the outsides of which are attached hollow cylindrical floats, cable chains being hung from the ship's side to the ends of the inner float to prevent swagging.

Claim.—The "marine cradle," by which ships' boats or yawls may be lowered and detached, in the manner described in the above specification, or any other substantially the same, and which will produce the intended effect.

83,137.—C. N. Cutter, Worcester, Mass., assignor to Davis, Hill & Co., same place.—*Lock for Trunks, Pianos, &c.*—October 20, 1868.—The tongue is hinged between ears fastened to the face-plate, while a spring, also fastened to the face-plate, presses upon it to hold in place when unlocked and folded up in the plate.

Claim.—1. The combination, with the face-plate D, of the hinged tongue C, substantially as and for the purposes set forth.

2. The combination, with the face-plate D, of the hinged tongue C and spring E, substantially as and for the purposes set forth.

83,138.—Charles De Bergue.—Westminster, Great Britain.—*Track Lifter.*—October 20, 1868.—The lever lies within a recessed bed-plate, and is hinged to it at one end, having at its other end a screwed hole to receive the lifting screw, which rests on a seating in the plate.

Claim.—The within-described instrument, consisting of the metal bed-plate *a*, pivoted lever *b*, and operating screw *e*, the whole constructed and operating substantially as and for the purpose herein set forth.

83,139. — William H. Deily, Sycamore, Ill.—*Stove Pipe Damper.*—October 20, 1868.

Claim.—The two-part case, formed by the parts A and M, having flanges D B for supporting the joints of the pipe, and a recess inside, in which a damper, H, is made to operate for regulating the draught, substantially as and for the purpose set forth.

83,140. — Frederick W. Devoe, New York, N. Y.—*Nozzle for Cans.* — October 20, 1868.—The bottom of the nozzle is sealed by a thin plate soldered with the nozzle to the can. When the contents of the can are required for use, the plate is cut out. A chamber for placing printed directions is formed between the plate and a cap placed over the nozzle.

Claim.—1. The plate C, made separate from the nozzle and can, in combination with the nozzle and the can, substantially as and for the purpose herein specified.

2. The box formed within the nozzle by the closed bottom C, and the cap or stopper, substantially as herein described.

83,141.—JOB DYSON, New Britain, Conn.—*Cloth Drawers.*—October 20, 1868.

Claim.—Cloth drawers made by forming each half or leg portion in one piece, with the seam down the back of the leg, and an opening B, suitably located to form the body connection of the two legs, substantially as shown and described.

83,142.—JOHN C. ECKERT, Dayton, Ohio.—*Railroad Car Heater.*—October 20, 1868.—In case of accident to a car, a vase on the top of the stove is displaced, which releases a knob connected to a hinged shutter resting over the fire basket, and causes the said shutter to drop and cover the fire. An arm attached to the shutter supports a vertically sliding door, and when the shutter drops, the arm is withdrawn, and the door closes.

Claim.—1. The knob or trigger N, in combination with the vase, for the purpose set forth.

2. The inner catch T, with the shutter P, its spring S, and arm Q, as herein described and shown.

3. The falling door or shutter C, and spring E, acting in combination with the slot D, the lever F, and slide G, arranged to operate substantially as herein described and for the purposes set forth.

83,143.—SPENCER ELLSWORTH, Lacon, Ill.—*Paper Cutting Machine.*—October 20, 1868.—The carriage has ribs which fit in grooves on a bar, one of said ribs being adjustable by means of a screw to tighten up the carriage when it has become loose. The bar is raised or lowered by means of a treadle, which is held in position by a toothed plate.

Claim.—1. The combination of the bar or way C, the sliding carriage D, the vertically-adjustable knife K, and screw S, all arranged, constructed, and operating in the manner and for the purposes herein set forth.

2. The combination of the bar C, provided with the grooves *c*, the carriage D, provided with the rib *b*, and adjustable rib *d*, and the screw L, all arranged to operate in the manner and for the purposes described.

3. The combination of the bar C, carriage D, knife K, screw S, movable rib-guide *d*, and screw L, all arranged in the manner and for the purposes specified and shown.

4. The combination of the bar C, frame A, rods F, springs G, treadle N, and toothed plate P, arranged to operate as specified, and for the purposes set forth.

83,144.—WILLIAM F. ENSIGN, Troy, N. Y.—*Permutation Lock.*—October 2, 1868.—A slot in the tumbler, in which the device is placed for preventing the bolt from being withdrawn, is closed or locked by a slide working in the slot and held by the tumbler next in the pack.

Claim.—In combination, the interlocking of the wheels or tumblers, and closing of the gateway in the wheels by the slides, as shown and described.

83,145.—ROBERT E. FERGUSON, Chicago, Ill.—*Washing Machine.*—October 20, 1868.

Claim.—The arrangement of the wringer-rib I, centrally over the tub of the machine, when supported upon a bar or bars C D, which at the same time incloses and protects the gearing of the machine from the water expressed from the clothes by the wringer, all constructed and operating as and for the purposes specified.

83,146.—MARIA J. FOSS, Charlestown, Mass.—*Combined Skirt and Hose Supporter.*—October 20, 1868.—Elastic hose supporters are attached to hip pads, which latter are secured to the skirt supporter.

Claim.—The skirt supporter B, to which are attached the hose supporters D, the latter being provided with hip pads C, and the whole being combined and arranged substantially as set forth.

83,147.—THEODORE F. FRANK, Buffalo, N. Y.—*Machine for Carbureting Air.*—October 20, 1868.—The carbureting chamber, regulating compartment, and the water tank in which the air drum revolves, are arranged one above the other in an upright cylinder, which is supported in a frame provided with cross pieces, from which the weights are suspended that operate the air drum. An elevated tube in the regulating vessel prevents it from overflowing, and also the escape of gas when the machine is at rest.

Claim.—1. An upright cylindrical vessel, forming the carbureting chamber D, regulating compartment G, and water tank I, containing the air drum H, arranged respectively one above the other, and with the supporting frame A A′ B, and operating weights W W, substantially in the manner and for the purpose set forth.

2. The combination and arrangement of the elevated pipe *h* with the regulating vessel G G′, substantially as and for the purpose specified.

83,148.—SAMUEL FRIEND and JOHN MCCOLLOM, Decatur, Ill. — *Splint Knife.*—October 20, 1868.—Designed for making splints for baskets, and is operated like a spoke-shave.

Claim.—The construction and arrangement of the stock A, flat rectangular knife blade B, secured thereto by means of the stirrups *a a*, and adjusted by means of the set screws *b b*, curved metal spring apron C, secured to the beveled under side of said stock A, its outer end projecting therefrom and guiding the splints, as herein set forth for the purpose specified.

83,149.—HANNAH C. GASKIN, Union Vale, N. Y.—*Plastic Composition.*—October 20, 1868.—Designed for making imitations of leaves, flowers, &c., and can be molded into figures of any shape.

Claim.—1. A plastic composition of flour or starch, treated substantially as described, in combination with glue, resin, gum, or other equivalent substance, as described.

2. The new article of plastic manufacture, substantially as described.

83,150.—LORENZO D. GILLETT, Rochester, and HENRY W. INMAN, Detroit, Mich.—*Rein Holder.*—October 20, 1868.—A lever is pivoted to a bed-plate which is secured to the front of the wagon. The reins are placed between the end of the lever and the bed-plate, and held by the spring pressing against the lever.

Claim.—The construction of a rein holder, with bed-plate A, curved lever F, and spring D, arranged and operating substantially as herein described.

83,151.—JOHN M. GITCHELL, Haverhill, assignor to J. F. MORSE, North Haverhill, N. H.—*Seed Planter.*—October 20, 1868.—A roller placed in the rear of the covers has bearings in a vibrating frame which is pivoted to the sides of the hopper. The feeding slide is reciprocated by a pitman connecting with a crank on a shaft to which a cone is secured, which latter is revolved by a belt from a cone on the roller shaft.

Claim.—For effecting the reciprocating movements of the slider F, by means of the wheel or roller H, the combination of the vibratory frame G, the pulleys, the cranked shaft, and the pitman, arranged with the slider, the wheel shaft, and the hopper, in manner and to operate with an endless band or chain, substantially as specified.

83,152.—WILLIAM GLASGOW, JR., and JOHN G. WOOD, St. Louis, Mo.—*Manufacture of Shot.*—October 20, 1868.—An annular charcoal furnace is arranged to slide vertically on the outside of the tube containing the liquid.

Claim.—1. The method herein described of producing shot, consisting substantially in dropping the metal, in a molten state, through a column of glycerine, oil, or other similar fluid, instead of air.

2. The heating of said column at or near the top, so that the molten shot shall first impinge upon the heated portion of the medium and be quickly cooled by its descent into the cooler portion of the same.

3. The employment of an adjustable heating apparatus, so arranged and operating as to impart heat to any desired part of the cooling column, substantially as and for the purpose set forth.

4. The construction of the cooling reservoir with

a lateral branch for the withdrawal of the shot, substantially as herein shown and described.

83,153.—Karl Gudenoge, San Francisco, Cal. —*Billiard Table.*—October 20, 1868.—The top of the table is formed of papier maché laid upon the horizontal frame work and secured by glue.

Claim.—The construction of a billiard table by the arrangement of the longitudinal slats *a a*, transverse slats *b b*, longitudinal rails *c c c*, and alternate wide boards or pieces *d d d*. placed edgewise, and held by the transverse bars *e e e*, or equivalents, substantially as and for the purpose described, in combination with the *papier maché* or pasteboard bed A, applied and prepared as specified.

83,154.—Jacob Haessel, St. Louis, Mo.—*Combined Plow and Harrow.*—October 20, 1868.—Two adjustable removable harrows are hinged to the shovel so as to allow their rear ends to be opened outwardly.

Claim.—The arrangement of the harrows D with the plow A B, in the manner shown and described.

83,155.—John D. Hampshire, Paper Mills Post Office, Md.—*Corn Harvester.*—October 20, 1868, —Oblique bars gather the corn and present it properly to the saw. The cut corn is carried on the saw and kept in position by the reel; as the stalks increase in quantity a spring bar is forced outwardly and causes a hook on the discharging bar to engage with notches in the saw, thus forcing the bar around. The bow retains the discharged stalks until all have been discharged from the saw, and rises as the discharging bar moves back.

Claim.—1. The circular saw or cutter E, perforated with holes *k*, and arranged, in connection with the spring bar O, bar Q, and discharging bar R, to operate in the manner substantially as and for the purpose set forth.

2. The bow U, connected with the discharging bar R, and arranged to operate in connection therewith, substantially in the manner as and for the purpose set forth.

3. The reel M, in combination with the circular saw or cutter E, arranged to operate substantially as and for the purpose specified.

4. The combination of the saw or cutter E, reel M, spring bar O, bar Q, discharging bar R, and bow U. all arranged to operate in the manner substantially as and for the purpose set forth.

83,156.—T. C. Hendry, Union Point, Ga., assignor to himself and R. B. Smith, same place.—*Auger Handle.*—October 20, 1868.—The lower part of the socket, in which the auger shank fits, is provided with ratchet teeth which engage with corresponding teeth on the shank and lock the auger when boring. On the upper side of the socket are radial notches in which projections on the under side of the auger head fit when the auger is withdrawn from the hole.

Claim.—The combination of the socket A, formed by two tubes, *a* and *b*, crossing each other, with the handle B made adjustable in the socket *b*, and the auger shank *c*, having a ratchet thereon, extending up through the tube *a*, and handle B, all constructed and arranged substantially as and for the purposes herein specified.

83,157.—A. L. Hill, Decatur, Ill.—*Fastening for Check Hooks and Terrets.*—October 20, 1868.—A screw provided with a flat head with the corners turned up is passed through, and the corners on the head pressed into the leather. The terret is made to fit on the screw.

Claim.—The screw B, with a flat head, D, having its corners, *a*, turned upward, and used for connecting the terret or check hook A, when said terret or hook is provided with a female screw in the shank, all substantially as herein shown and described.

83,158.—Frank A. Hill, Marysville, Cal.—*Seeding Machine.*—October 20, 1868.

Claim.—The frame A, provided with the shares or teeth H, in combination with seed box D, provided with the toothed shafts E E, rotated in opposite directions from the wheels B B, and also provided with the fixed and adjustable perforated plates *e e'*, all arranged to operate in the manner substantially as and for the purpose set forth.

83,159.—George H. Hoagland. Port Jervis. N. Y.—*Railroad Axle.*—October 20, 1868; antedated October 10, 1868.

Claim.—A wrought-iron axle, constructed with steel journal casings, extending about midway into the eye of the wheel, substantially as and for the purposes specified.

83,160.—John L. Holt, Providence, R. I.—*Toy.* —October 20, 1868.—The figures are provided with swinging limbs which are made to oscillate by the force of gravity to assume grotesque positions and motions.

Claim.—1. The toy, consisting of the self-sustaining pendulum A B C, and of the figures or images E E, having loose-swinging limbs or part F F attached thereto, so that constantly-varying pictures and positions are produced, substantially as described.

2. The pins *c*, when provided with the fastening arms *d*, and when secured to the images E, to suspend the limbs F, as specified.

3. The disk D, when provided with a socket, or with its equivalent, the spring *g*, and when so arranged that figures or images E can be easily fastened to and removed from it, as specified.

4. The manner herein shown and described of fastening the sustaining plates G to the figures E, by cutting pointed portions *h* out of the former, and fastening them to the figures as set forth.

5. The manner herein shown and described of suspending the members F from the figures E, by fastening tubes *i* to the figures, and pins *j* to the members, and securing and arranging all as herein shown and described.

83,161.—B. A. Hopkins, Sodus, N. Y.—*Feed-water Heater for Steam Boilers.*—October 20, 1868. —The feed water and exhaust steam commingle and travel together in the exhaust pipe a sufficient distance to bring the water to the boiling point by the condensation of the steam.

Claim.—The exhaust pipe C *c*, and cold-water pipe E, in connection with the tank D *d f*, all constructed, arranged, and operating as herein shown and described, and for the purpose set forth.

83,162.—Frank M. Horning, East Pike, N. Y. —*Steam Generator.*—October 20, 1868.—Compressed air is forced into the chamber in which the fuel is consumed and the products of combustion are forced into and through the water in the boiler, the currents being deflected on entering the boiler by wings which cause a circulation of the water. The ashes are prevented from entering the boiler by a cap placed over the openings in the tube conveying the gases.

Claim.—1. The scroll sheets *u*, in combination with the fire box A and air vessel B, whereby the air from the latter is heated before being discharged into the fire box, substantially as herein shown and described.

2. The port J, constructed as described, and containing the fuel box K, in combination with the pipes L N, fire box A, and air vessel B, operating substantially as described, to supply fuel to the fire box.

3. The hot-air pipe V, having the cap 1 and perforations 2, arranged with relation to the furnace A and pipe F, whereby to separate the ashes from the heated gases, so that the former will not be forced into the generator, substantially as herein shown and described.

4. The arrangement of the hot-air pipe V within the water supply pipes, whereby the former is protected by an annular sheet of water, substantially as herein shown and described.

5. The spiral blades *x*, arranged as described, within the generators D E, whereby the heated gases are deflected as they enter the generator, substantially as herein set forth and shown.

83,163.—J. S. Houghton and Charles B. Rees, Philadelphia, Pa.—*Ventilating Fruit Houses.*—October 20, 1868.—The heat and vapors pass from the preserving chambers through a hollow wall into a ventilated loft.

Claim.—The combination and arrangement of the open spaces or flues B, in the walls A, with the preserving room C, and ventilated loft D, substantially as described.

83,164.—HENRY HOWE, Oneonta, N. Y.—*Harvester.*—October 20, 1868.—Designed as an improvement on his patent of July 15, 1868.

Claim.—The pinions a b, hung loosely on the ends of the countershaft E, and connected respectively with sliding spring clutches c d, or their equivalents, and meshing into the internal gearing of the driving wheels C and D, respectively, the pinion a, on the opposite side of the cutting apparatus, being smaller than b, substantially as described, for the purpose of balancing the strain of the machine, and for allowing it to cut when it turns a corner, as specified.

83,165.—AMASA HOWLAND, Sandy Hill, N. Y. —*Vat for Cylinder Paper Machines.*—October 20, 1868.—The vat is provided with a false bottom extending nearly across the true bottom. Shelves are secured to the sides of the vat above the false bottom which deflect the currents of pulp entering and cause a horizontal current under the gathering cylinder.

Claim.—1. The construction of my improved vat, for the purpose and in the manner above set forth and described.

2. The introduction of the pulpy fluid in such a manner as to create currents across the under or lateral surface of the gathering cylinder, substantially in the manner and for the purpose above described.

83,166.—BENJAMIN IRRGANG, Philadelphia, Pa. —*Chimney Cowl.*—October 20, 1868.—The doors are so arranged that if a current of air is so strong as to interfere with the draught they will be closed. Shields prevent the access of currents of air between the edges of the doors and the cap, in case of a sudden change of wind.

Claim.—A ventilator or cowl, having inclined sides, with openings, to which are fitted doors, hinged at their lower edges, and shields projecting from the cowl at the sides of the doors, all substantially as and for the purpose described.

83,167.—ALEXANDER IRWIN, Madison, Ind.—*Mode of Putting Up Starch for Use.*—October 20, 1868.

Claim.—Forming the wet starch into cubical packages, of uniform size and equal weight, as a new process of manufacture.

83,168.—D. H. ISEMINGER, McLean, Ill.—*Saw Filing Machine.*—October 20, 1868.—The file-stock spindle slides in lugs on a swivel which is secured to a plate having bearings on a longitudinal guide rod. A small rod secured to the file stock slides through a plate pivoted on the spindle, and a proper face inclination is given to the file by adjusting the plate.

Claim.—The construction and arrangement of the bar a, swivel mechanism d e e, slotted plate f, guide rod g, arm h, and file stock k n i, all operating as described, in connection with the saw clamps B B, for the purpose specified.

83,169.—RALPH H. ISHAM, Brooklyn, N. Y.—*Steam Generator.*—October 20, 1868.—A series of perforated tubes placed in the furnace above the fire parallel to the grate bars are supported at their front ends by a semi-oval tube, and at their rear ends in a box which receives the exhaust steam and distributes it to the tubes. The steam is diffused over the entire surface of the fire.

Claim.—The construction and combination of the box distributer B, and tube C, with the boiler A, substantially as set forth.

83,170.—JOHN JACKSON, Owego, N. Y.—*Carriage Spring.*—October 20, 1868.

Claim.—The combination of the twist of steel, the circular arm, the strap or chain for the arm to play on, the ratchet wheel and lever to adjust or change the power of the spring to carry either a light or heavy load.

83,171.—W. W. JACOBS, Hagerstown, Md.—*Vapor Burner.*—October 20, 1868.—An improvement on his patent of November 5, 1867. The generator is made adjustable, and non-conducting disks are attached to it and to the screw cap of the wick tube, so that the flame may be regulated, and the parts safely handled.

Claim.—1. The annular wooden disk C, secured, between metallic plates h i, to the generator F, as herein shown and described, whereby the said generator may be adjusted without inconvenience from heat, the heat radiating from the parts E F, not being conducted by the disk C.

2. The lamp burner, constructed as described, and consisting of the generator F, perforated at J, wick tube E, annular wooden disks B C, and metallic plates h i c d, all arranged and combined to operate in the manner and for the purpose herein set forth.

83,172.—ALBERT JEFFERS, Lynn, Mass.—*Machine for Molding, Rounding, and Channeling Soles of Boots and Shoes.*—October 20, 1868.

Claim.—1. The combination, in an organized machine, of mechanisms for molding and channeling and rounding a sole, under the arrangement, and for operation, substantially as herein set forth.

2. As a means of molding a sole, the combination of the molding block w, and the supporting last or bed x, the former being supported by and swiveled to the sliding frame b, and operated by the cam groove u or its equivalent, and the latter provided with a series of points or spurs b b^1, &c.; the whole being substantially as hereinbefore referred to and explained.

3. For actuating the movements of the sliding frame b, the combination of the weight or its equivalent, applied as described, with the cam groove and the tripper s, essentially as explained.

4. In combination with the cam groove and tripper last mentioned, the employment of the deflector n^2, applied and operating in manner and for the purpose as before explained.

5. For effecting the alternate movements of the screw, and as a consequence the reciprocating movements of the bed, the employment of the two semi-clutches h^1 h^2, operating in connection with a collar, g^1, revolved by the endless belts k^1, l^1, and adjusted and controlled by the shipping bar m^1 and its adjuncts, for the purpose as hereinbefore referred to and explained.

6. In combination with the last described arrangement of parts, the employment of the locking bolts r^2, actuated by a suitable device, the purpose of such bolts being as before explained.

7. The head stock of the machine, as composed of the segmental dovetailed block s^1, the supporting lever plate or carriage t^1, the plate or carriage v^1, the swiveling plate x^1, the carriage z^1, and the tool carrier g^2, under the general combination and arrangement as before alluded to and described.

8. The mode of applying the carriage z^1 to the swiveling plate x^1, before described, that is, by means of the coiled springs a^3 a^3, applied to the shaft, as explained, the latter being provided with the lever or handle, in manner as before set forth; and, in combination with the springs a^3 a^3, shaft c^2, and handle e^2, the employment of the bent spring i^2, in manner and operating as before explained.

9. Applying the cutter head n^2 to its supporting carriage, in such manner as to turn it into a vertical position, or to remove it from contact with the bed x essentially as described.

10. In combination with the swiveling plate x^1, the employment of the friction rollers y^2 y^2, for the purpose of maintaining the cutting knife k^2, parallel to the edge of the bed x, as before explained.

83,173.—WILLIAM H. JOHNSON, Philadelphia, Pa.—*Screw Socket for Brush Handles.*—October 20, 1868.—The cast screw socket has knife-edge ribs, which, as the socket is driven into the block, are forced into the wood, and with a flange around its front end, having ears for screws, is thus fastened to the block.

Claim.—A cast screw socket having a flange a, ears c c, and longitudinal ribs e, to be inserted in the body of the brush, substantially in the manner hereinbefore described, and for the purpose specified.

83,174.—Samuel D. Kimble, Allegheny City, Pa.—*Carriage Brake.*—October 20, 1868.—A circular disk attached to a notched wheel is pivoted to the hub, two levers being so arranged that their ends near the hub catch into the wheel, and are operated by and in connection with two levers parallel to the pole, and connected with a vibrating lever, having a strap with ropes passing through a guide attached to the tongue of the wagon.

Claim.—The disk A and notched wheel A^2, with the levers B and B', when connected with the hub A and axletree R, as described, in combination with the crank lever D, levers C and C', strap E, cords E^1 and E^2, and neck yoke G with its devices, when constructed, combined, and arranged, substantially as herein described and for the purpose set forth.

83,175.—Jesse B. Kurtz, Davisburg, Pa.—*Horse Hay Fork.*—October 20, 1868.—The center tine is formed of two pieces fastened together by screws through cross blocks, in the slots of which runs up and down a bar connected to the points inside the tine, which is operated by a lever, a knife being substituted when desired for the point of the tine.

Claim.—The center tine A, provided with side tines C C, in combination with the knife H, constructed substantially as shown and described, and operating as and for the purposes herein set forth.

83,176.—Robert S. Laird and William F. Stone, Sandwich, Ill.—*Rain-water Cut-off.*—October 20, 1868.—The water-spout is inserted and hinged into a pipe which moves on a curved slide with an opening, and which is slid back and forth on a plate having under it nozzles to which pipes are fixed to direct the water, by moving the joint from one opening to another in the plate.

Claim.—The combination and arrangement of the hinged pipe C, slide D, and flanged plate F, provided with two nozzles *m m*, all constructed, arranged, and operated for a direct lateral movement, in the manner and for the purpose set forth.

83,177.—Isaac Lamplugh, Peoria, Ill.—*Method of Welding Tires.*—October 20, 1868; antedated October 3, 1868.

Claim.—The combination of the tire A, provided with a V-shaped notch at each end, within which is inserted a diamond-shaped plug, B, which is welded to and forms a part of the tire, in the manner and for the purposes set forth.

83,178.—Charles F. Lang, of Venedy, Ill.—*Fruit Gatherer.*—October 20, 1868.—Rigid hooks are fixed to a head piece at the end of a long pole, and below them is a sliding head, with hooks, actuated by a sliding rod, so that on being closed up against the rigid hooks they can both be inserted between the branches, and when separated, while the branch is held back by the rigid hooks, the fruit pulled off by the others drops into the sack below.

Claim.—The combination of the head piece A^1, hooks *a*, sliding head C, hooks *c*, guides D, operating handle E, and pouch B, substantially as and for the purposes set forth.

83,179.—Edwin S. Lawrence, Worcester, Mass.—*Manufacture of Card Clothing.*—October 20, 1868.—In a back, made of layers of paper pressed together and moistened, are set card teeth alternately on either side, which, forced in, cause a bulge to be formed around each, and when dried, serve as supporting gums.

Claim.—1. Card clothing, made or composed of a series of teeth set in paper backs, A, in a moistened state, and then dried, substantially as and for the purposes set forth.

2. Card clothing, made or composed of a series of teeth set in wet or moistened paper backs, and then the sides of the backs subjected to pressure while the drying operation is completed, substantially as and for the purposes set forth.

3. Card clothing, made or composed of a series of teeth, C, set in moistened or wet paper backs, in the manner above described, whereby the teeth are supported by elevations or gums, *b*, substantially as shown in the drawings.

83,180.—William Ledlie and George L. Gray, Jefferson, Ill.—*Hand Seed Drill.*—October 20, 1868.—Inside of the hopper is a feed roller with arms, by which the seed is carried to the V-shaped opening having slides, and through a funnel into a tube connected with the furrow opener.

Claim.—1. The combination of the oscillating seed hopper C, having the feed roller E therein, with the tube *c*, having the funnel *d* attached, and the furrow opener D, all constructed and arranged substantially as described.

2. The V-shaped opening in the hopper, with the slides *f* and *i*, arranged to operate substantially as and for the purpose set forth.

83,181.—Stephen R. Lewis, Rockford, Ill.—*Turning Lathe.*—October 20, 1868.—The tool rest receives an up-and-down motion by means of a rack operated by a pinion upon the same shaft with the segment wheel.

Claim.—The combination and arrangement of the tool rests F and I, with the cutting tools secured thereto, with segment wheel K, and pinion K', and racks J and L, the whole constructed substantially as described, and operating as and for the purpose set forth.

83,182.—John Lightfoot, Lower House, near Bernley, England.—*Printing Certain Textile Fabrics and Yarns.*—October 20, 1868.

Claim.—1. As novel, the making of blue and green colors from this and the previously-described solutions, in such a manner that the indigotine remains combined or mixed with such a small proportion of tin that none, or nearly none, is fixed in the fiber, by the subsequent processes, and consequently that there is no tin lake found with the dye-stuff, to spoil the purity of the blue and green.

2. I am aware that carbonate of potash has, most probably, been used to fix fast blue and green made with indigo and tin, but I am not aware that it has been used to fix aluminous and ferruginous mordants at the same time, and I therefore claim the use of carbonate of potash for fixing simultaneously indigotine colors and mordants intended for dyeing.

3. I am also aware that alkaline silicates have been used to fix mordants intended for dyeing, and that even they have been proposed to be used cool, and stronger than in the usual way of using them as cow-dung substitutes; but what, to the best of my belief, has not been done is the simultaneous fixing of ordinary mordants and indigotine colors by alkaline silicates, and I therefore claim their use for this purpose, to whatever manner they may be employed

83,183.—Thomas Lodge, New Lisbon, Ohio.—*Shifting Buggy Top.*—October 20, 1868.—The front ends of the frame are fastened to the upper side of a handle by a screw hook, to which is attached a spring lever which is turned by it.

Claim.—The spring levers G G, in combination with screw hook F, button or head F', handle B, frame C, standards D, and angle irons E, on seat A, all constructed to operate in the manner substantially as described.

83,184.—Obadiah Love, Saxenburg, Pa.—*Fence.*—October 20, 1868.—The rails, notched across their edges so as to lock the panels, are supported by a single post in the center of each panel, or one each side of the panels, which are interlocked, their ends being fastened by hasps and staples.

Claim.—The fence above described, consisting essentially of the rails A A, posts B C, hasps D D, and staples E E, all said parts being constructed and combined together in the manner and for the purposes set forth.

83,185.—Joseph J. Lurvey, North Prairie, Wis.—*Divider for Harvesters.*—October 20, 1868.—The lower arm of the bifurcated cutter, inside and near its end, has a socket to slip over the shoe, in the rear of which are ears to admit screws, the upper arm being curved up, and the inner edges of both being beveled on the inside, while a vibrating arm is so pivoted to the cutter as to cause it to cut both sides.

Claim.—The described divider, when constructed of the bifurcated part and the vibrating cutting arm, the whole being attached and operated substantially as and for the purpose set forth.

83,186.—W. I. LYMAN, Springfield, Mass.—*Rotary Steam Engine.*—October 20, 1868.—A hollow internal cylinder, moved by a piston, with four arms jointed centrally, gives motion to the shaft to which it is attached, the steam chest being a cylindrical chamber with ports entering at the curved sides, so that each arm has in turn the full measure of steam from the supply to the exhaust.

Claim.—The arrangement of the ports B and B′, on each side of the chest, with the four-armed piston hinged centrally, and head C, substantially as herein shown and described.

83,187.—STEPHEN MAHURIN, Clayton, Ill., assignor to himself and WILLIAM MONTGOMERY, same place.—*Rotary Cultivator.*—October 20, 1868.—The outer end of the left-hand shaft, of three toothed shafts, is connected by means of a crank and intermediate mechanism with a toothed bar fitted in the rear of a slot, through which the seed is discharged by a reciprocating motion to the bar from the roller shaft, being regulated by a slide attached to the frame of the hopper, the two harrows being also jointed to the inclined pendent bars of the draught pole.

Claim.—1. The rotary toothed shafts C, two or more, in combination with the reciprocating toothed bar E, operated from one of the shafts C, substantially as and for the purpose set forth.

2. The combination of the reciprocating toothed bar E, with the slot *g*, in the front side of the hopper F, and the adjustable slide *h*, attached to the pivoted frame F^x, all arranged substantially in the manner as and for the purpose specified.

3. The harrows H H, attached by hinges or joints *j j*, in combination with the rotary toothed shafts and the seed-distributing apparatus, all arranged substantially as and for the purpose set forth.

83,188.—H. N. J. MANSFIELD, Malone, N. Y.—*Piston for Steam Engines.*—October 20, 1868.—The follower is provided with an upper and lower lip, so constructed that the upward pressure of the steam shall be sufficient to exactly counterbalance the weight of the piston head and rod.

Claim.—The construction of the piston head for horizontal cylinders, with the projecting lip A and indentation A′, near its periphery, whereby to obtain upward pressure of steam, all substantially as herein set forth.

83,189.—E. B. MARSHALL, Atlanta, Ga.—*Wheelbarrow.*—October 20, 1868.—The springs relieve the handles or shafts of the weight of the load, so that the load does not have to be sustained by the propelling power.

Claim.—The springs D, made of wood, iron, steel, or other suitable material, and attached to vehicles of any description, substantially as and for the purposes herein set forth.

83,190.—E. B. MARSHALL, Atlanta, Ga.—*Station Indicator.*—October 20, 1868.

Claim.—The movable and reversible rim A, when so arranged, with the names of the different stations inscribed upon it, and in combination with a clock, that said clock will show at a glance when the train or conveyance is due at any or all stations on the road, substantially as and for the purpose herein set forth.

83,191.—JAMES MARTIN, Jersey City, assignor to HENRY MARTIN, Keyport, N. J.—*Brick Machine.*—October 20, 1868.—The molds are brought under the hoppers by a roller situated crosswise above the frame, and carried by pivoted vibrating bars, connected by rods with arms on a rock shaft, which latter has a crank arm on a pin catching into the pawl pivoted to a lever.

Claim.—The arrangement and combination of the rock shaft E^x, spring pawl H, lever D^*, and G, and rods or connections *h* C^*, with the lever I, substantially as shown and described for the purpose set forth.

83,192.—IGNACE MATHEI, Antwerp, Belgium.—*Apparatus for Storing Petroleum.*—October 20, 1868.—Two rows of posts allow barrels to pass between them, thick boards being attached by metal cross ties, forming planes inclined each one oppositely to the next above or below, and side strips preventing lateral displacement, while half circles aid the passage of the barrels from one incline to another.

Claim.—1. The herein described method of storing or warehousing petroleum, mineral oils, and other liquids, by the employment of a series of inclined planes, arranged in a reservoir or basin of water, substantially in the manner shown and set forth.

2. An apparatus for warehousing petroleum and other like liquids, constructed substantially in the manner herein specified.

83,193.—HERRMAN MAUCH, Providence, R. I.—*Instrument for Attaching Buttons to Fabrics.*—October 20, 1868.—A sliding die in the upper jaw is operated by a spring to produce the required pressure, another spring operating between the jaws to force them apart, and as the pincers close, by an end thrust, the button or hook is held while its spurs are pressed into the leather.

Claim.—1. The arrangement of a spring, B, with a side opening in the jaw, operating substantially as and for the purpose specified.

2. The combination of the sliding die C with its spring F and the spring B, substantially as described.

83,194.—EDWARD MAYNARD, Tarrytown, N. Y.—*Double Barreled Fire-arm.*—October 20, 1868.—The barrels are passed through a double ferrule, or are hinge jointed, one being allowed to play freely, while the other is secured to it, the ferrule, or the ends may receive a staple, the arms of which are fixed in a recess in the other barrel, one being rigid, the other free to play in it.

Claim.—Two or more separate gun barrels, so united and attached together, by means of a projecting ring, plate, staple, or other equivalent device, firmly secured to one barrel, and embracing or entering the adjacent barrel, or a lug or plate projecting therefrom, as to allow any one of them to expand and contract longitudinally, independently of the other, without changing or affecting the relative position of their axes, substantially as herein set forth.

83,195.—WILLIAM A. MIDDLETON, Harrisburg, Pa.—*Bracket and Rack.*—October 20, 1868.

Claim.—The combination of the bracket S M B with the two series of arms *a a′ b b′ c c′ d d′*, with or without the hooks, as and for the purpose specified.

83,196.—JAMES MONTGOMERY, Croton Landing, N. Y.—*Beam and Girder.*—October 20, 1868; antedated October 10, 1868.—The beam is so constructed that the principal weight of metal will be located in points where the chief tensile and compressive forces will be sustained. Additional beams may be secured together by bolts passing through their webs.

Claim.—1. A beam or girder, formed with heads A A, connected, by converging shoulders C C, to a web B, which tapers from both heads toward its mid-width or transverse center, substantially as and for the purpose explained.

2. Jointing together two or more of my improved beams, in substantially the manner herein described, so as to make them mutually support each other.

3. The flanges D, for supporting the flooring F, in the manner specified.

4. In combination with a beam or girder, constructed as set forth in the first clause, the bolt or key H *h*, applied and operating as explained.

83,197.—PETER MOUGEY, Marshallsville, Ohio.—*Farm Gate.*—October 20, 1868.—The gate plate, with a small motion, sets over the main gate post, and is connected by rods with the crank parts of the carriage levers, a rod hung on the post having on the lower end a crank inserted into the plate, being provided at its upper end with a double crank setting around the post, and attached by a rod to the arm on the gate latch.

Claim.—1. The operating gate plate M, when constructed with a central hole, of the same shape and nearly the same size as the cross section of the gate post C, and used around said gate post, and in combination with the rods L K and carriage levers I I′, J J′, substantially as for the purpose herein specified.

2. The peculiar arrangement and combination of the latch E with arm F, the rod G, double crank rod *d* H *b*, and gate plate M, the several parts being constructed and arranged as shown, and used in combination with the gate C A B D, and latch post P, substantially as and for the purpose herein specified.

83,198.—J. W. NEAL and A. J. TRUXELL, Big Lick, Va.—*Cockle and Garlic Separator.*—October 20, 1868; antedated October 9, 1868.—An improvement on his patent of July 16, 1867. The cylinders are adjusted at any angle and so arranged that the lower ends may be inclined more or less to suit the kind of grain which passes from the hopper over or between their sides and slides down, while the cockle and garlic are caught in the holes or recesses.

Claim.—The arrangement of the cylinders B B, having perforated metal faces, upon the frame A, in such a manner that one end of each cylinder is elevated above the other, so that the grain will pass from the hopper C down in between the cylinders, and pass down the inclined plane thus formed, all constructed and used as specified.

83,199.—JOHN NORRIS, Mount Pleasant, Md.—*Hot Air Attachment to Cooking Stoves.*—October 20, 1868.—The oven door has a deep bay, from the top of which projects a short tube or collar, on which rests a pipe covered by a cap, while another cap covers the collar, when the pipe is detached from it.

Claim.—As an attachment to a "ten plate" stove the oven door, constructed with a bay, E, and collar E′, and having connected therewith the pipe F, provided with the caps *e m*, the whole operating in the manner and for the purposes specified.

83,200.—JOSEPH PARKIN and JAMES H. SMITH, Cleveland, Ohio.—*Machine for Molding Sheet Metal Window and Door Caps.*—October 20, 1868.

Claim.—The adjustable auxiliary roller K, rollers C C′, adjustable standards B, and guide L, all combined and arranged to operate in the manner as and for the purpose set forth.

83,201.—LOUIS J. PARSONS, New Bedford, Mass.—*Mode of Binding the Edges of Rein Holders.*—October 20, 1868.—Flanges on the metallic frame prevent the rein holes from tearing out at the corners. A clasp on top of the frame secures the flap covering to the front of the rein holes.

Claim.—The metallic frame B^2 for binding the edges of the "rein holes" in carriage boots and horse blankets, and securing the flap which covers the front of rein hole in boots, made and applied substantially in the manner shown and described.

83,202.—LOUIS J. PARSONS, New Bedford, Mass.—*Adjustable Mosquito-bar Frame.*—October 20, 1868.—The mosquito-bar frame is made with knees which slip into ferrules of which the short ones are secured by nuts, and the long ones screwed on with spiral springs, a handle being provided by which to put it in or take it out of the window frame.

Claim.—A metallic mosquito-bar frame, in combination with springs and screws, as herein set forth and described, for the purpose specified.

83,203.—LOUIS J. PARSONS, New Bedford, Mass.—*Whip Socket.*—October 20, 1868.—The socket is made in longitudinal sections, joined at their lower ends, or to a bottom piece, by springs or hinges, and held at top by an elastic band.

Claim.—Making whip sockets in longitudinal sections, connected together at the bottom by springs or hinges, and held together at the top by an elastic band as herein set forth and described.

83,204.—LOUIS J. PARSONS, New Bedford, Mass—*Thill Guard.*—October 20, 1868.—The metallic guard is firmly secured to the thill, and curved over the axle, so that if the coupling break, the thill will be held to it.

Claim.—The metallic safety guard C, for thills of carriages, constructed and operating substantially as and for the purpose set forth and described, and applied in any practical manner.

83,205.—LOUIS J. PARSONS, New Bedford, Mass.—*Mode of Fastening Apron Hooks to the Dasher Falls of Carriages.*—October 20, 1868.—A metallic clasp is so bent as to form a loop for the eye of the "apron hook," and has lips upon its back, by which the clasp is secured to the "fall."

Claim.—Securing hooks or rings to "dasher-falls" by metallic clasp B^2, substantially in the manner described.

83,206.—YARNALL RAKESTROW, Whitehouse, Ohio.—*Plow.*—October 20, 1868.—The point, which, with the cutter, is made of one piece of steel, forms a continuation to the landside and standard, being attached thereto by a bolt.

Claim.—The point F and cutter G, in combination with standard C, substantially as set forth.

83,207.—ABRAM REESE, Pittsburg, Pa.—*Rolling Horseshoe Blanks.*—October 20, 1868.—A pair of cylindrical rolls is provided with collars and grooves, prints and creasers, and in parts flattened or cut away so as to roll the blanks in continuous bars from suitable iron bars run through them.

Claim.—1. Dispensing with the collar on the rolls, which, in machines heretofore made, confine the inner edge of the shoe blank, by arranging the prints *i i*, one or more, and collar *b′*, on a smooth-faced roll A′, and without any confining collar, in the manner shown and described.

2. The arrangement of the part collar *d* and prints *e* alternately with each other, on the face of the roll, and opposite to the full collar *b*, so as to limit the spread of the iron at the heel parts of the blank or bar, and, at the same time, permit the free spread of the iron over the prints *e*, at and near the toe parts of the blank or bar, substantially as hereinbefore set forth.

83,208.—C. L. REHN, Philadelphia, Pa.—*Machine for Soldering Sheet-metal Boxes.*—October 20, 1868.—The boxes are placed, one at a time, upon the disk, with their lower edges immersed in the solder thereon; the operation is completed by holding them there an instant and then removing them.

Claim.—The concave disk F, arranged to revolve above a series of gas burners, or equivalent heaters, as and for the purpose herein set forth.

83,209.—C. L. REHN, Philadelphia, Pa.—*Machine for Making Metal Boxes.*—October 20, 1868.—The operation of this machine is similar to that described in the English patent of W. E. Gedge, June 28, 1866. The hinging of the frame facilitates the changing of the cylinders, and enables them to be readily turned to an upright position. The adjustability of the several parts adapts the machine for the manufacture of boxes of different sizes.

Claim.—1. Hinging the machine at *a a*, so that it may be turned to either a vertical or horizontal position, for the purpose described.

2. The standard *p*, rendered adjustable upon the frame of the machine, as described, so that its levers J and K may be adjusted to suit the size of the cylinder upon which they are caused to bear.

3. The lever K, with its spring *t* and blade *u*, when operated by the lever J, as described.

4. The bar I, secured to the frame of the machine, and rendered adjustable upon the same, in the manner and for the purpose set forth.

5. The adjustable flanged guide blocks *m m*, for the purpose specified.

6. The lever H, when actuated by a spring *k*, as described.

83,210.—DANIEL C. RIPLEY, Birmingham, Pa.—*Manufacture of Glassware.*—October 20, 1868.—The object is to obviate the waste that usually occurs in the manufacture of glass stoppers and other small articles owing to the surplus of glass left in the pressing fount, after the quantity necessary for the articles to be manufactured has been forced therefrom.

Claim.—The construction of a compound mold for making articles of pressed glassware, substantially as described, in which the pressing fount shall itself be a mold, and shall, at the same time, be connected by a sprue or sprues with another mold, or with other molds, for forming the same or other articles of glassware.

83,211.—EZRA RIPLEY, Troy, N. Y.—*Toy Pistol.*—October 20, 1868.—The striking lever, being released by the trigger, derives a forward impulse from the belt spring, and acts percussively upon the projectile, either directly or through the medium of a follower.

Claim.—1. The combination of the striking lever A, belt spring B, and stud or support, C, for the belt spring and lever, with the stock D E and barrel or projectile holder F, with or without a sliding follower, G, therein, all constructed and arranged to operate substantially as and for the purpose herein set forth.

2. The combination of a trigger catch, H, striking lever A, belt spring B, stud C, stock D E, and projectile holder F, with or without a follower therein, all constructed and arranged to operate substantially as herein described.

83,212.—WILLIAM ROEMER, Newark, N. J.—*Traveling Bag.*—October 20, 1868.—The staples hold together the hinged jaws of the frame, at or near their ends.

Claim.—A frame for traveling bags or valises being bulged at *n* and *m*, to form, in combination with plates *v* and *w*, attached on the under side, recesses or bearings for staples A or B, to relieve the lock from strain, as described, constructed, and arranged as herein specified.

83,213.—BENJAMIN D. SANDERS, Wellsburg, W. Va.—*Nut.*—October 20, 1868.—The nut, when entirely screwed in, has a tendency to press inward, or toward the bolt, the particles of the object through which the bolt passes. The effect is to support the bolt laterally and prevent the nut from working loose.

Claim.—A metallic nut for screw bolts, having a concave or conical depression in the lower face, around the eye, substantially as and for the purpose described.

83,214.—BENJAMIN D. SANDERS, Wellsburg W. Va.—*Nut.*—October 20, 1868.

Claim.—1. A metallic nut for screw bolts, having a body, of square or other polygonal shape, with a cylindrical collar on its lower face, and a conical or concave depression around the eye, substantially as hereinbefore described.

2. A metallic nut for screw bolts, having one or more recesses or steps around the eye, with a concavity or depression on its lower face, substantially as and for the purpose described.

83,215.—D. SCHILLING, Brooklyn, N. Y.—*Water Closet.*—October 20, 1868.—The depression of the seat causes the partial rotation of a roller in the hopper above, the effect being to discharge into the excrement receptacle, or chamber surrounding the same, a quantity of disinfecting material.

Claim.—A water closet, privy, or other seat, when provided with a receptacle or receptacles for a deodorizing or disinfecting agent or agents, in combination with an arrangement of mechanism, substantially as herein described, by which such disinfectants can be discharged into the chamber or space about the bowl, &c., or into it, substantially as and for the purpose described.

83,216.—BENJAMIN F. SHAFFER, Dayton, Ohio, assignor to himself and WILLIAM K. YOUNG, same place.—*Swing.*—October 20, 1868.—The feet of the occupant rests upon the treadle, and as he extends his limbs, the swing moves forward. The backward movement is effected by the weight of the person.

Claim.—The permanent arms E E, the pivoted arms D D, and treadle F, constructed, arranged, and operating substantially as described, and for the purpose specified.

83,217.—THOMAS J. SHEARS, Ypsilanti, Mich.—*Carriage Spring.*—October 20, 1868.—Subsidiary or strengthening springs are introduced between the bends of the spring proper.

Claim.—The combination of the springs in the form described, composed of the coil springs F, or rubber springs G, with the subsidiary springs H, when arranged substantially as herein described.

83,218.—PIUS L. SHEPLER and SAMUEL L. IRWIN, Whitehouse, Ohio.—*Wash Boiler.*—October 20, 1868.—Ebullition in the boiler causes the water to ascend in the chambers at the ends; the water passes thence into tubes which distribute it upon the clothes, and is then drawn down through the latter in consequence of the tendency to a vacuum below the false bottom.

Claim.—The perforated sliding extension tube E, in combination with the chambers B, the grated false bottom J, provided with button G, and the lugs H, on the boiler A, substantially as and for the purposes set forth.

2. The ears C. in connection with the chambers B, and the pit bottom of the boiler A, substantially as described.

3. The combination of all the above-named parts with the faucet I, when arranged and operating substantially as and for the purposes herein specified.

83,219.—R. H. ST. JOHN, Bellefontaine, Ohio.—*Tucking Device for Sewing Machine.*—October 20, 1868.—A gauge plate is secured to the hinged handle and is provided with an extension which guides the cloth. When operating, the gauge plate rests upon the cloth and pushes it against a shoulder, above which the folding plate is secured. An adjustable guide causes the tuck which is just formed to be fed in a line parallel to the plait which is being stitched.

Claim.—1. The pressure gauge plate C, applied to the free end of a hinged handle, B, substantially as and for the purpose described.

2. The pressure gauge plate C on the hinged handle B, in combination with the folding plate D, substantially as described.

3. The pressure gauge plate C on the hinged handle B, in combination with an adjustable guide, *f*, and a folding plate, substantially as described.

4. The vertically-adjustable gauge plate C, constructed with an extension guide, *c*, upon it, in combination with a shoulder, *s*, and extension guide, *i*, formed on base plate, A, and a horizontally adjustable slide, D, substantially as described.

83,220.—JAMES S. STONE and GEORGE W. CHAMBERLIN.—Fitchburg, Mass.—*Bird Trap.*—October 20, 1868.—The bird steps on a platform which drops and causes a lever to release the end of a spring to which the end of the loop is secured. The beveled edges of the case insure the loop catching above the feet of the bird.

Claim.—1. The combination of the case, and its catch mechanism, with the spring B and noose C, the whole constructed and operating in the manner and for the purposes above set forth and described.

2. The beveled surface J, for the purpose of throwing up the noose C, substantially as set forth.

83,221.—RICHARD DUNN SYMONS, JOHN TREMELLING HARRY, and SAMUEL STEPHENS, Grass Valley, Cal.—*Ore Separator and Concentrator.*—October 20, 1868.—A yoke provided with arms is secured to a half-round shaft which fits in a corresponding aperture in the driving shaft, so as to be raised and lowered to stir up the sand. The driving shaft revolves in a hollow shaft, and is actuated by gearing placed in a chamber beneath the bottom of the vessel. The gearing also actuates hammers which, striking against the side of the case, cause the heavier particles in the vessel to fall to the bottom.

Claim.—1. In combination with the pan or tub A and chamber H, the yoke B provided with stirrers or agitators D D D^1 and annular ring D^2, or their equivalents, substantially as and for the purpose described.

2. The hollow vertical shaft F' and driving shaft F, with a half-round opening, in which the half-round depending spindle E of the yoke sets, substantially as described, for the purposes set forth.

3. The pins L L, on the gear I I′, which operate the hammer, the weighted arm M M, and the hammers N N, the whole constructed and arranged to operate substantially as and for the purpose described.

83,222.—John Blake Tarr, Fair Haven, Mass.—*Manufacture of Steel Ingots.*—October 20, 1868.—The steel while in a liquid state is subjected to pressure in a mold and is formed into hollow or solid ingots.

Claim.—Forming a hollow ingot under pressure, as herein described.

83,223.—John Blake Tarr, Fair Haven, Mass.—*Cast-steel Tire.*—October 20, 1868.—Two rings forming the sides of the mold are placed on a bed and melted steel poured between them. A ring is placed upon the surface of the steel and pressure is applied to it by means of a hydrostatic engine.

Claim.—1. The machine for making a compressed steel car wheel tire, substantially as described.

2. As a new and improved article of manufacture, a compressed steel tire for a car wheel, made separate from, and adapted for being shrunk upon, the central portion of such wheel, substantially as described.

83,224.—John Blake Tarr, Fair Haven, Mass.—*Steam Engine.*—October 20, 1868.—The steam from the boiler flows into the valve chest of the pump, and is forced from there through a coil of pipes in the furnace, where it is superheated, into the steam chest of engine.

Claim.—1. The mode of working an engine by steam which is reheated after it leaves the boiler, and when cut off from the boiler by the action of the pump, substantially as described.

2. A pipe or pipes leading from a steam boiler to the valve chest of an engine through a furnace, and provided with a forcing pump, which is operated by said engine, substantially as described.

3. In combination with a steam pipe, C, leading direct from a boiler to an engine, and provided with a cut-off valve, the means for taking steam from said pipe, C, superheating it, and then conducting the superheated steam to the valve chest of said engine, substantially as described.

83,225.—Frederick Tudor, Boston, Mass.—*Screw Bolt.*—October 20, 1868.—The bolt is provided with two screw threads of different pitches but running in the same direction. This bolt is used where ordinary bolts are loosened by vibrations.

Claim.—The within-described screw bolt as an article of manufacture.

83,226.—George Walters and Thomas Shaffer, Phœnixville, Pa.—*Wrought-iron Column.*—October 20, 1868.—Longitudinal skewback bars are secured to the peripheries of ring bands. Said bars have grooved flanges to receive the side edges of segmental bars.

Claim.—An improved wrought-iron or steel column, of which the shaft is formed by the combination of the ring bands A, skewback bars B, and binding bars C, with each other, said parts being constructed and arranged and joined to the base and capital, substantially as herein shown and described and for the purpose set forth.

83,227.—Mahlon Warne, Philadelphia, Pa.—*Head Rest.*—October 20, 1868.

Claim.—The combination of a curved rod or bow, B, a padded strip, A, secured at the ends to the ends of the bow, and a strap secured to the bow, and adapted for attachment to the ceiling of a car, for the purpose specified.

83,228.—Mahlon Warne, Philadelphia, Pa.—*Policeman's Mace.*—October 20, 1868.—The head is secured to a rod, which slides in a tubular handle and is prevented from being withdrawn by an enlargement on the end.

Claim.—1. A mace, having a rigid handle or stem of metal and a hollow head of India rubber, or other elastic material, filled with shot, or its equivalent.

2. The combination of the tubular handle A, sliding rod B, its head D, and enlargement *d*.

83,229.—Mahlon Warne, Philadelphia, Pa.—*Sabot.*—October 20, 1868.—A metal plate is secured to the sole of the boot by a screw at the back, and a T-shaped strip at the front. A strip of cloth is passed through slots in this plate, the ends being properly fastened.

Claim.—1. The T-shaped strip *k*, secured at two of its ends to a plate, A, and having in the other end an opening for the reception of a button on the plate, substantially as and for the purpose described.

2. A strip, D, of cloth, or equivalent fabric, secured to the plate A, in the manner described.

83,230.—George R. Webber, Springfield, Ill.—*Washing Machine.*—October 20, 1868.—A number of fingers are secured radially around the dasher, which latter is attached to an adjustable rod connecting with a lever pivoted to a standard on the tub. A rod catches in the handle when it is necessary to rinse the clothes or let them drip.

Claim.—The combination of standard B, fixed to the side of the tub A, lever C, adjustable rod D, rigid fingers E E, used in connection with a common tub, and so arranged that clothes may be elevated and drained by the fastening device F E.

83,231.—Henry Weston and George C. Langtry, Dayton, Nevada.—*Concentrator for Dressing Ores.*—October 20, 1868.—The table receives a rapid vibratory motion, which causes the sand and water to be discharged on one side and the sulphurets at the other side.

Claim.—1. A copper-lined table, D, with a longitudinal depression, O, and imparting to the said table a rectilinear, alternate motion by means of the crank pin K, working in the curved slot J, or their equivalents, substantially as and for the purpose described.

2. The manner of suspending the table to the rock shaft and adjusting shaft, by the hangers F F, jointed arms G G, and the beam I, for operating the said rock shaft, substantially as described.

3. The shackle rod M, attached to the arm L of the adjusting shaft, for raising and lowering the edge of the table, and the springs T T, constructed and arranged to operate substantially as and for the purposes specified.

83,232.—George D. Woodworth, Chicago, Ill.—*Stove Grate.*—October 20, 1868.—Grate bars of triangular form, provided with slots, project inwardly from the outer rim of the grate toward a rotating center piece. A sharp edge is formed on the outer rim of the grate, which breaks the coal that falls between the rim and inclosure of the stove.

Claim.—1. The combination of the rotating, independent center E, whether provided with teeth *d* or not, with a grate, A, arranged to operate substantially in the manner herein described.

2. In combination with the rotating center E, a stirrer or flange, H, to operate substantially as and for the purposes set forth.

3. Constructing the teeth *b* with slots *c*, substantially in the manner and for the purposes herein specified.

4. Providing the rim A with a wire edge, *a*, as and for the purposes shown and described.

83,233.—Calvin Adams, Pittsburg, Pa.—*Post Auger.*—October 20, 1868.—On the front edge of the arms are placed V-shaped "plows" for loosening the ground more rapidly than can be done by the plain edge of the arm.

Claim.—A post auger, with one or more plows, constructed and arranged on the arms, and operating substantially as and for the purpose shown and described.

83,234.—Levi Adams, Amherst, Mass.—*King Bolt and Whiffletree Plate for Vehicles.*—October 20, 1868.

Claim.—The two plates, constructed as described, the one, A, provided with the parallel flanges *a a*, semi-annular groove *b*, and opening *c*; the other, B, provided with the parallel flanges *d d*, semi-annular ledge *e*, projection *f*, tubular pendant *g*, and reach extension *h*, all arranged and operating as described, for the purpose specified.

83,235.—Clark Alvord, Courtland, Wis.—*Drag Bar for Cultivator.*—October 20, 1868.—The cultivator tooth is pivoted to a bolt in a slot in the lower timber. The upper timber is secured rigidly at one end and held by a clasp at the other end, which latter when moved forward increases the elasticity of the upper timber.

Claim.—1. The compound drag bar, as above described and shown.

2. The construction of the cultivator tooth, and fastening it to the drag bar by passing the bolt through the angle, as above described and shown.

3. The movable clasp, in combination with the drag bar as above described and shown, and for the purposes above set forth.

83,236.—E. F. Anderson, Mansfield, Conn.—*Outline Map to Teach Geography, &c.*—October 20, 1868.

Claim.—The construction of an outline map, and the names of different divisions or parts thereof, so that the said names may be attached or detached, substantially in the manner as herein set forth.

83,237.—James S. Baldwin, Newark, N. J.—*Elevator for Buildings.*—October 20, 1868.—The platform is secured to one end of a rope which passes over a pulley and is secured to the wrist pin of a crank which receives a regular motion through a spur wheel and pinion. When the crank is on the center, the platform is at rest and the passengers step on or off.

Claim.—The automatic elevator, constructed and applied as and for the purpose set forth.

83,238.—W. H. Barry, Rabbit River, Mich.—*Harrow.*—October 20, 1868.—The overlapping of the bars prevents any obstruction from entering between the ends of the longitudinal bars. The wings are attached to iron bars having hooks and eyes for fastening them together.

Claim.—1. The combination of the overlapping guard bars B and E with the forward ends of the parts D and A, substantially as herein shown and described, and for the purpose set forth.

2. The described arrangement of the curved metallic bars C C, and straight bars F, with relation to each other, the central part A of the harrow, the wings D, and guards B E, as herein described, for the purpose specified.

83,239.—John A. Bassett, Salem, Mass.—*Apparatus for the Manufacture of Illuminating Gas.*—October 20, 1868.—The air is compelled to pass under the surface of a floating perforated disk and escapes at the periphery, impregnated with hydrocarbon.

Claim.—1. In an apparatus for carbureting air, the disk C, made of wood, floating upon the surface of the hydrocarbon liquid, and partially immersed therein.

2. The disk C, having radiating channels formed upon the under surface, for the purpose substantially as described.

83,240.—J. W. Bates, Glencoe, Minn.—*Bag Tie.*—October 20, 1868.—The cord is passed through the rear end of the block, then wound around itself, and then drawn through a slot reaching to the other hole.

Claim.—The arrangement of the wooden block A, having the holes a^1 a^2 and the slot a^3, terminating in the hole a^2, with the cord C, all applied to the bag in the manner herein described and shown.

83,241.—Moritz Baumgarten, Jr., New Haven, Conn.—*Valve Arrangement for Organs.*—October 20, 1868.—An improvement on his patent of June 12, 1866. The several valves, one on each chest, are attached to a single rod which opens and positively closes the valves.

Claim.—The valves P R S, in number corresponding to the number of wind chests, constructed in the manner described, and arranged and fixed upon the valve rod L, so as to be operated in their respective chambers, substantially in the manner herein set forth.

83,242.—Hiram Beckwith, Grass Lake, Mich.—*Railway Switch.*—October 20, 1868.—A bell crank pivoted to the lever is provided with an arm which, when the switch is in position, fits in slots on the upper part of the frame, and is held in position by a pin.

Claim.—In combination with the switch lever C, the bell crank G, with the weight *h* and pin *i*, arranged substantially as described, for the purposes set forth.

83,243.—William Bold, Sheboygan Falls, Wis.—*Machine for Dressing Millstones.*—October 20, 1868.—A number of pick plates are held in a hollow block, which latter slides vertically in a holder. A cap fitting over the pick plates and secured to the hollow block is struck by a mallet when dressing while the holder is pushed along on the guide.

Claim.—The combination of the pick-block holder E and pick block D, having the adjustable pick plates H and removable cap G, with each other, and with the adjustable frame A B, substantially as described, for the purpose specified.

83,244.—George C. Bovey, Cincinnati, Ohio.—*Brick Machine.*—October 20, 1868.—An improvement on his patent of February 29, 1867. The molds are provided with plungers which have rollers on their ends in contact with a fixed cam, which latter imparts a proper motion to the plungers. The clay is forced into the molds by the wallowers, and pressure is applied by the solid portions of one wheel coming in contact with the clay contained in the other. The final pressure is given to the clay by rollers which revolve in weighted bell cranks.

Claim.—1. The arrangement of the pulverizers M and M′ and screen N, in combination with the mold wheels B C of a brick machine, in the manner and for the purposes described.

2. The arrangement of the fixed cam I, having wings I′ I″, and flanges J J′, in combination with a series of plungers, E, having rollers H, and outwardy-projecting shafts *h*, for the object herein stated.

3. In combination with the mold wheels, having radial compartments D, and shoulders *d*, the gravitating and weighted rollers P and bell cranks *p*, substantially as herein set forth.

83,245.—R. J. Bowman, Mansfield, La.—*Wheel for Vehicles.*—October 20, 1868.—One part of the rim has parallel sides and a V-shaped inner face. The other part fits over the first part and has a face at right angles to its sides. The tire, spokes, and the two parts are held together by the same bolts.

Claim.—1. The tubular rim A, composed of two parts, constructed and fitted together in the manner substantially as and for the purpose set forth.

2. The flat spokes C, secured to the hollow rim A by means of the bent ends *e*, angle plates *f*, bolts d^x, and grooved blocks *g*, and to the hub ring D by means of the cylindrical keys *i* and chambers h^x, substantially as herein shown and described.

3. The combination of the rim A, tire B, spokes C, and the hub, composed of the ring D and box E, all constructed and arranged substantially as and for the purpose specified.

83,246.—Nathaniel L. Bradley and John A. Evarts, West Meriden, Conn., assignors to Bradley and Hubbard, same place.—*Gas Fixture.*—October 20, 1868.

Claim.—As an article of manufacture, gas fixtures, the shell or ornamental part of which is formed of two parts of cast metal, one part being provided with a lip or lips, *a*, to cover the joint and form a rib, substantially as and for the purpose specified.

83,247.—Richard A. Bright, Jr., Providence, R. I.—*Cigar Machine.*—October 20, 1868.—Two nonelastic rollers revolve in a stationary frame and three in a swinging frame. A follower prevents the cigar from being formed too long. The header is prevented from turning by lips fitting under plates which protect the rollers. A cutter trims the end of the cigar.

Claim.—1. A cigar machine, consisting of the stationary frame A, carrying rollers B C; of the swinging frame E, carrying the rollers F G H; of the header J, follower L, and cutter O, all made and operating substantially as and for the purpose herein shown and described.

2. The sliding follower L, fitted to the end of the spindle D, and made yielding by means of the spring t, substantially as described, and operating for the purpose specified.

3. The header J, formed on a pin, p, and having the lips r, as set forth, for the purpose specified.

4. The cutter O, formed on the swinging weighted lever N, substantially as set forth, the same being adjustable on the frame E, as described, for the purpose specified.

83,248.—WILLIAM E. BROOKE, Trenton, N. J. —*Shutter and Blind Operator.*—October 20, 1868.—A worm wheel attached to the sill actuates a toothed wheel which is secured to an arm, the end of the latter being fastened to a bar which slides on a dovetail plate secured to the shutter.

Claim.—The worm gear C D, arm E, slide F, and slide bar G, dovetail b b, or their equivalents, when constructed, arranged, and combined substantially as and for the purposes herein described.

83,249.—CONRAD BROWN, New Albany, Ind.—*Compound for the Cure of Dropsy.*—October 20, 1868.—Composed of crab cider, horse radish, sea onions, parsley root, garden radish, huckleberries, watermelon seed, green and black tea, and lungwort.

Claim.—A compound, or medicine, composed of the above-mentioned ingredients, and used substantially as and for the purposes herein set forth.

83,250.—H. BUCHTER, Louisville, Ky.—*Chair Seat.*—October 20, 1868.—The canes are closely interwoven and the ends inserted in grooves formed in the upper surface of the frame and are held by strips attached to the frame so as to overlap and bend the canes into the grooves.

Claim.—The combination of the bent canes B, grooved seat A, and strip C, as herein described, for the purpose specified.

83,251.—JOHN H. BURTIS, Brooklyn, N. Y.—*Wash Boiler.*—October 20, 1868.—Removable division plates are applied on the inside of the boiler to support the clothes and to form circulating water ways beneath them and the wash boiler.

Claim.—The removable plates e f, applied to a wash boiler, substantially as and for the purposes specified.

83,252.—WILLARD E. BUSH, Damascus, Pa.—*Car Coupling.*—October 20, 1868.—Two springs, with shoulders, are attached to the coupling pin, in the hole of which is a recess with a lip. As the pin is pushed down, the springs are compressed, but having passed the shoulders, expand and catch under the lip.

Claim.—The springs d d, with their shoulders f f, and the lip h, on the draw head, substantially as and for the purposes herein shown and described, in combination with a draw head of a car coupling.

83,253.—NATHANIEL L. CHAMBERLAIN, Boston, Mass.—*Hand Stamp.*—October 20, 1868.—The saddle which carries the type wheels marking the year, month, and day, has a handle for turning them, and flanges, with screw holes, by which the die plate is secured; the hollow plunger being upheld in a sleeve by a spring, and the wheels kept in place by spring pins.

Claim.—1. The combination, with a die in a hand stamp, of three type wheels of equal diameter, each provided with exposed figures or letters upon their sides, substantially as and for the purpose set forth.

2. Securing the saddle or type wheel holder to the plunger by means of a screw bolt, substantially as and for the purpose specified.

3. Constructing the saddle or type holder with flanges i i, as and for the purpose described.

4. The type wheel n, provided with figures upon its side, when the said wheel is constructed and arranged between two wheels of equal diameter, as and for the purpose set forth.

5. The type wheels m and n, when the same are constructed and combined together, as and for the purpose described.

6. The arrangement whereby one detent serves to secure in position two of the type wheels, as specified.

83,254.—CHARLES F. CHAMBERS, Hutsonville, Ill.—*Washing Machine.*—October 20, 1868.—A series of concave, corrugated, and yielding fingers, each having a pin encircled by a spiral spring, is hinged by a bolt to the yielding frame, the front edge of which is upheld by spiral springs, its rear edge resting on the tank bottom. Arms and a pin of vibrating rubbers are hung to a frame, and the pressure is adjusted as required.

Claim.—1. The peculiar construction of the said board, namely, the inclined and yielding frame D, supported in front on springs E, and at back on or near the tub bottom, and having hinged to its front and upper edge the series of concave, corrugated, and yielding fingers G, whose lower ends are supported on springs I, in combination with a vibrating rubber.

2. The yielding and swinging frame K, having the double rubber L L′, and handle P, in combination with a yielding, concave board, substantially as set forth.

83,255.—LEWIS S. CHICHESTER, Brooklyn, N. Y. —*Grain Drier.*—October 20, 1868.—Vertical air tubes, passing through the grain, and their upper ends being a little above it, have their lower ends near the bottom of the grain spaces, the warm air blowing it through the tubes to the upper part and drying it.

Claim.—A grain drier, formed with air tubes running through the grain space, and open at both ends, substantially as specified, whereby a current of air causes a circulation of the mass of grain during the drying operation, substantially as set forth.

83,256.—T. M. CLUXTON, Rising Sun, assignor to himself and GEORGE B. GARLINGHOUSE, of North Madison, Ind.—*Head Block for Carriages.*—October 20, 1868.—In a groove in a shank of the T-shaped head block is imbedded the front end of a reach having a supporting plate, on which reach, and in the recesses of the shank, side braces are secured by bolts.

Claim.—In the T-shaped head block A B for carriages, the combination of the recessed extension arm B with the supporting plate D, and braces E E, arranged as herein described and set forth.

83,257.—A. V. CONKLIN, Bennington, Ohio.—*Beehive.*—October 20, 1868.—The hive is placed obliquely to the platform of a frame, its upper sides being hinged to the case, the vertex of which coincides with that of the comb frames, the honey boxes being placed upon and in connection with them by bee passages cut in their sides.

Claim.—1. The square or angular case B, folding roof or doors D, when said case is elevated upon the vertex of the angle of its sides, in the manner as and for the purpose specified.

2. The angular frames F, when arranged within the case B, so that the vertex of the angles of said frames shall coincide with the vertex of the angles of the case, in the manner and for the purpose set forth.

3. The honey boxes G G′, frames F, doors D, and case B, combined and arranged, in relation to each other, in the manner and for the purpose substantially as described.

83,258.—WILLIAM CONWAY, Rushville, N. Y.—*Seat Lock for Carriages.*—October 20, 1868.—A bolt, rigidly attached to the seat, is connected to, or disconnected from, the socket fixed to the body, by means of a sliding key, so that the seat may be put on or off at pleasure.

Claim.—The bolt b', provided with the tongue b'', in combination with the sliding key c and the socket a, as and for the purpose set forth.

83,259.—William Custer, Shannondale, Ind.—*Cultivator.*—October 20, 1868.—Three or more fingers, joined at one end to a long crooked bar, fastened to the plow beam by a bolt, nut, screw, and head, form a shield to catch clods or stones thrown out by the plow, and prevent them from falling on the plants.

Claim.—A shield or fender attachment to a plow, constructed and operating substantially as herein specified, and for the purposes mentioned.

83,260.—G. A. Dabney, San José, Cal.—*Washing Machine.*—October 20, 1868.—To the swinging bars are pivoted the rear ends of the side bars, with which the grooved rubber is so arranged that it may turn freely. Rollers are attached to a removable frame in the tub, and are arranged in a curve corresponding with that of the rubber block.

Claim.—The reversible rubber G, constructed as described, in combination with the side bars F, swing bars D, and removable rubbing platform K L, substantially as herein shown and described, and for the purpose set forth.

83,261.—Benjamin Darling, Bridgewater, Mass.—*Bit Stock.*—October 20, 1868.—The sliding jaws inclose the socket shank of the stock, pass below it, and are loosely attached to a lever, the fulcrum of which is on an arm of the stock, and while they have full sliding play, all lateral movement is prevented by a band on the socket end of the stock.

Claim.—In combination with a bit stock, the sliding jaws B B, whereby a bit or auger is fastened to the stock, substantially in the manner herein shown and described.

83,262.—Reuben B. De Barr, Philadelphia, Pa.—*Sawing Machine.*—October 20, 1868.—A series of cross-cut saws are so arranged and combined with a series of racks, pinions, guide plates, lever, and grooved frame, as to operate with a reciprocating motion, the wood being held in a V-shaped rack.

Claim.—The arrangement of the half-pinion U with its reciprocating double rack V; guide Y, with its adjustable lever G, grooved frame C, guide plates D D, and wood racks K K, with their curved rack lever L, when combined and operating with the adjustable cross-cut saws B B, as herein described, and for the purposes set forth.

83,263.—Charles Decker, New Michigan, Ill.—*Bee House.*—October 20, 1868.

Claim.—The bee house, constructed as described, and divided into compartments *a b* by the central partition *c*, each compartment adapted to receive in its lower part the suspended comb frames B E, above which the ordinary hive D is placed, supported on slats *h*, and communicating with the entrance *g* by means of the board h', as herein shown and described.

83,264.—Ira Dimock, Florence, Mass.—*Apparatus for Boiling Eggs.*—October 20, 1868.—An inside cylinder, closed at its lower end, and containing an expanding fluid, rests on a larger cylinder, leaving an air space between the two, the upper end of the smaller cylinder being closed by a rubber diaphragm, secured by a cap screwed on the outer case.

Claim.—1. The use, in an apparatus for boiling eggs, of a fluid, surrounded by a slow heat-conducting material or air cavity, substantially as described, in combination with a bell or other sonorous annunciator, the striking hammer of which is actuated to strike the same, from the expansion of the said fluid, all as set forth.

2. The use of a fluid in a case arranged to act, by expansion, on a piston or diaphragm, which will transmit movement, so as to release a catch and ring a bell, all substantially as shown and described, and for the purpose set forth.

3. An egg-boiling apparatus, when constructed substantially as herein shown and described.

4. The combination, in an egg boiling apparatus, of an egg receptacle, a^1, of any suitable form, with a case, *b*, inclosed by another case, *c*, to retard the penetration of heat to a fluid within the inner case, substantially as described.

83,265.—James Dooling, Boston, Mass.—*Ice-cream Freezer.*—October 20, 1868.

Claim.—1. The means, herein described, of coupling the cream holders and beaters to the operative mechanism, and uncoupling the same, by giving to the sleeve shafts O O and the spindles S S a vertical motion up or down, by means of the lifting bar P and the levers Q, or their equivalents, substantially as described.

2. The within-described arrangement of mechanism, or its mechanical equivalent, for controlling the operation of the cream holders and beaters, so that the cream holders may be made to rotate while the beaters remain inoperative, or the beaters may be rotated while the cream holders remain inoperative, or both the cream holders and the beaters may be rotated at the same time in opposite directions, substantially as described.

3. The combination, with the two separate trains of gearing for transmitting the motion of the vertical driving shaft G to the cream holders and beaters, of a locking device for each, substantially as described.

4. Forming the interior of the ice tank so that its surface shall be approximately concentric to the exterior of a group of cream holders, substantially as described.

5. Mounting the ice tank and contents upon a carriage moving on rails, in combination with stationary driving mechanism, operating substantially as described.

6. The guides Z Z and the locking bolt Y, in combination with an ice tank mounted on a carriage, substantially as described.

7. The central beater wings *h h*, attached to either side of the beater shaft, and curved partially around said shaft, parallel to its axis, when so constructed and applied that a free passage for the cream is left between its edge and the walls of the cream holder, substantially as described.

83,266.—John H. Douglass, Meriden, Conn.—*Sash Fastener.*—October 20, 1868.—Within the case is a bolt, with a spring that forces it out, connected with a follower which receives a spindle, and also operates a lever forced down by a spring. The case is inserted into the window jamb, so that the face plate will be inclined to it, on and between which and the sash is a roll raised by the lever.

Claim.—The follower F, bolt E, and lever I, combined with the roller L and incline C, when constructed and arranged to operate in the manner and for the purpose substantially as described.

83,267.—William G. Duce, Baltic, Conn., and Albert C. Eddy, Providence, R. I.—*Filling Forks for Looms.*—October 20, 1868.—A portion of the fork, made of India-rubber, is attached to the metal portion by a socket in which it is screwed, the prongs being covered near their tips with shields of thin sheet metal.

Claim.—The combination, with the filling fork, having tines of India-rubber, or other flexible and elastic material, of the protecting metallic shields *c c*, substantially as described.

83,268.—Thomas Dutton and Thomas Maguire, Port Jervis, N. Y.—*Water Charger for Pumps.*—October 20, 1868.—The charger has two channels close to and in line with each other, the upper one having a coupling seat for the pump, and the lower one with another for the well pipe. The sand is removed through a hole at the top.

Claim.—1. The arrangement of the channels *b* and *c* in relation to the body of the charger, as herein recited.

2. The charger *a*, with its channels *b* and *c*, and port or hole *f*, all substantially as shown and described.

83,269.—Daniel S. Early, Hummelstown, Pa.—*Buggy Top Fastening.*—October 20, 1868.—The jointed bars, when depressed so as to occupy a horizontal position, prevent the disengagement of the parts which secure the buggy top frame to the seat. When the joint of said bars is thrown upward, the relative positions of the parts are so altered as to permit the ready removal of the top frame.

Claim.—The jointed bars M, in combination with the arm *n n* and sockets *o o*, as and for the purpose described.

83,270.—John S. Fenner, Warren, R. I., assignor to Inman Manufacturing Company.—*Reel.*—October 20, 1868.—Designed for winding silk braid and other threads. By removing a pin, the hinged arm can be turned inward and the reel contracted so as to admit of the removal from, or application to, it of a hank of thread. The pulley answers the purpose of a frame for carrying the reel arms.

Claim.—The hinged arm C′, applied and retained in position, as described, in combination with the immovable arms C, and the pulley A, all constructed in the manner and for the purpose described.

83,271.—A. M. Franklin, W. J. Hastings, and J. A. Holford, Rising Sun, Ind.—*Combined Corn Planter and Shovel Plow.*—October 20, 1868.—By the revolution of the wheel the lever is vibrated and the box thereby raised above the bottom of the hopper, so as to be filled with grain, and then carried below the hopper where the grain is discharged.

Claim.—1. The combination of the hopper K, wheel O, lever N, bar S, and box T, all constructed as described, and supported by the cross bar H and bar I, substantially as and for the purposes herein set forth.

2. A double shovel plow, in combination with a movable corn planter, when both are constructed substantially as herein described, and operating as and for the purposes set forth.

83,272.—Jesse P. Freeman, Dalton, Ga.—*Car Coupling.*—October 20, 1868.—The lower hook usually holds the link, but the upper one catches and holds it if it jumps out of place. In coupling, the link may be thrown down from an upright position by means of the rock shaft, or by the concussion of the colliding cars, it being held in the upright position by the serrated arm, in which its toe catches.

Claim.—1. The arrangement of two beaks or hooks *b b′*, upon a single draw head, in the position relatively with each other, substantially as shown and described, and for the purpose specified.

2. The combination of a link, D, having the toe *n*, and operating as described, with a rock shaft, E, supported by the end of the car above the draw head, and having attached to it a curved serrated arm, I, and a rope or crank for moving it, the whole operating together in the manner substantially as described, and for the purpose set forth.

83,273.—Frank Fullerton, Williamsport, Pa.—*Tonic Bitters.*—October 20, 1868.—Wild cherry bark, gentian root, sweet marjoram, angelica seed, calamus root, galangal, cloves, nutmegs, cardamom seed, orange peel, green paradise, caraway seed, cinnamon, coriander seed, lavender flowers, Virginia snake root, ginger root, juniper berries, simple sirup, and spirits of wine.

Claim.—The within-described compound for tonic bitters, made of the ingredients and in the proportions as above set forth.

83,274.—Morgan Gale, San Antonio, Mexico.—*Construction of Pick Axes.*—October 20, 1868.—Designed to prevent the pick from becoming loose upon the handle.

Claim.—The detachable socket C, constructed with a base, c^1, with or without the side or brace flanges c^2, in combination with the pick head B, substantially as herein shown and described, and for the purpose set forth.

83,275.—George Girty, Rainier, Oregon.—*Lubricator for Steam Engines.*—October 20, 1868.—When the inlet pipe and the two connected valves are held down by the lever and spring catch, the upper valve is closed, cutting off communication between the oil chamber and admission tube, and the lower valve is open, permitting the oil to flow from the oil chamber to the cylinder. Upon releasing the lever the lower valve is closed by steam pressure, and then the lever may be raised by hand to open the upper valve and permit the oil chamber to be replenished.

Claim.—The two valves L I, pipes B E, oil chamber D, and lever F, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

83,276.—John H. Gleim, St. Louis, Mo.—*Binding Mercantile Books.*—October 20, 1868.—Consists in connecting together the copying, bill, or sales-book and journal, and an arrangement of entry columns and blank pages in the journal, with a view to simplify the record of the business and lessen the number of books.

Claim.—The combination of a journal or entry book, B, with the press copying book A, into one volume, substantially as herein shown and described, and for the purposes set forth.

82,277.—S. A. Goodwin, Buffalo, N. Y.—*Wash Boiler.*—October 20, 1868.—The washing solution, being heated, is forced upward through the central tube and then percolates through the clothes to the bottom. The dirt which separates itself from the washing solution by deposition is retained in the upper and lower pans.

Claim.—1. In a wash boiler, the separation and collection from the washing solution of the dirt discharged from the articles washed, automatically, by subsidence or deposition, by means of an elevated pan or pans E, or their equivalents, placed at some point or points on the line of circulation, as set forth.

2. The plate B, with its two rims and the settling pan E combined, substantially as and for the purposes described.

82,278.—S. A. Goodwin, Buffalo, N. Y.—*Wash Boiler.*—October 20, 1868.—The washing solution is carried up by the force of heat or steam from a chamber under the clothes, through the tubes to the top of the boiler, and, being discharged upon the top of the clothes, percolates to the bottom. The solution circulates through filtering chambers which retain the dirt.

Claim.—1. In connection with wash boilers of the class above mentioned, the filtration of the washing water automatically, as herein set forth.

2. The inclined imperforated plates D, bars *b′*, plates B, and rim *g*, combined together, and arranged with the boiler A and pipe or pipes C, substantially as and for the purpose described.

83,279.—H. A. Graef, Brooklyn, N. Y.—*Method of Destroying Insects in Trees and Plants.*—October 20, 1868.

Claim.—The described process of exterminating caterpillars and measure worms, consisting in forcing a stream of water, containing chloride of lime, against the tree in which the insects are found, as herein shown and described.

83,280.—Martin Haas, New York, N. Y.—*Compound for Destroying Insects.*—October 20, 1868.—Consists of benzine, sulphurous ether, camphor, and *oleum sinapis.*

Claim.—The compound admixture in the proportions specified, and for the purpose set forth.

83,281.—F. R. Harbaugh, Philadelphia, Pa.—*Egg Holder.*—October 20, 1868.—The instrument is designed for conveniently grasping and holding hot boiled eggs.

Claim.—The within-described egg holder, composed of a base, A, two elastic arms, B and B′, and two sections, D D, of a cup, or the equivalent to the same, the whole being constructed and arranged substantially as and for the purpose herein set forth.

83,282.—Samuel Hoke, Mount Pleasant, Md.—*Chimney.*—October 20, 1868.—The vane, revolved by the wind, communicates motion to the wire cleaners, which prevent soot from collecting against the sides of the chimney.

Claim.—1. The combination of the self-acting cleaners M, with the guides K, when constructed with and operated by means of the vane N, as herein described, and for the purpose set forth.

2. An iron tubular chimney, in sections, with a fireplace A, radiator B, reel P, cleaners M, and vane N, when constructed, combined, and operated as herein described, and for the purposes set forth.

83,283. — H. R. Huie, Hayward's, Cal.—*Gang Plow.*—October 20, 1868.—The frame of the plow is connected to the crank-axle through the medium of the plate, which is cast with the ears and boxes. The axle is used for raising and lowering the plow frame, and means are provided for adapting one wheel to the furrow, and for adjusting the tongue.

Claim.—1. Securing the arm *e* of the axle *f* to the axle-tree *a* by means of the eye bolt *i*, as shown and described.

2. The crank bolt *q*, in combination with the eye-bolt *r*, for adjusting the tongue, as herein set forth.

3. The arrangement and construction of the plate *l*, ears *m*, and boxes *n*, which allows of their being cast as one piece, as herein described.

83,284.—Arthur James, Redditch, England.—*Envelope for Needles.*—October 20, 1868.—A flat tube, open at both ends, is formed of paper, and provided with a flap at one end. The tube is folded at about its middle, and a paper, in which the needles are stuck, is inserted within the flap end of the tube.

Claim.—A needle case or wrapper, made from a blank, formed and folded as herein described, and illustrated in the accompanying drawings.

83,285.—George B. Jenkinson, Newark, N. J.—*Trunk Handle.* — October 20, 1868.—The clasps freely slide back and forth on the attaching plates, permitting the handle to adjust itself to the hand when grasped, and resume its extended position when released.

Claim.—1. The sockets or plates C C, constructed with the hollow shoulders or elevations *a a*, with an aperture or opening between them, arranged and operated substantially as and for the purpose set forth.

2. The clasps or plates D D, provided with projections *d d*, working in the sockets or plates C C, as and for the purpose set forth.

83,286.—William Johnston, Cincinnati, Ohio.—*Window Blind.*—October 20, 1868.—The bushings relieve the slats of friction upon their axial rods, and prevent attrition at the ends.

Claim.—1. The through cylindrical rod B, fixed rigidly in the stiles, as an axle for a slat in window blinds, shutters, doors, and lower windows or openings to turn upon, substantially as herein described.

2. The metallic slat, when formed with a tubular or hollow spine running longitudinally through the same, and made to turn on the said cylindrical rods.

3. The bushings D, when provided with the annular flange *d*, adapted to form a washer at the end of the slat, for the purpose specified.

83,287.—John Julien, Christiansburg, assignor to himself and John F. Horr, Springfield, Ohio.—*Whip Socket.*—October 20, 1868.—The whip is secured in the socket, and requires a key to release it.

Claim.—A whip socket, constructed with a lock, D, having a spring bolt, D', and flexible chain C, notched curved piece C^1, and spring C^2, arranged to operate in combination, substantially as set forth.

83,288.—Samuel C. Kenaga, Kankakee, Ill.—*Dumping Platform.*—October 20, 1868.—The wagon is anchored to the platform so that it cannot back while the load is being dumped. The main lever may have its long arm depressed by a "shaft" which is held down by a hasp when the lever is in a position to support the platform flush with the floor.

Claim.—The arrangement and construction of the floor B, dumping platform C, rods X, and hub rings y', lever K, shaft S, hasp p', dogs M, lever O, and trap-door Q, in combination with posts A, G, and I, axle D, caps F, friction roller S', fulcrum L, rest N, spout T, and bin t', substantially in the manner and for the purposes herein shown and described.

83,289.—Joshua Kidd, New York, N. Y.—*Apparatus for Carbureting Gas.*—October 20, 1868.—An improvement on his patent of March 12, 1867. An annular projecting lip on the lower part of the carbureting vessel reflects the heat against the lower part of the vessel.

Claim.—1. The combination of interceptors, as H I, or any other suitable form or construction, interposed between the carbureting vessel A B and the burners of the same, to screen the heat from the lower part of the said vessel, and deflect it so as to act on or near the surface of the contained oil or carbureting fluid, all substantially as shown and described, and for the purpose set forth.

2. The reflecting lip *d*, substantially as described, in combination with the carbureting vessel A B and interceptor H I, all as set forth.

83,290.—Lewis King, Oriskany Falls, N. Y.—*Weeding Hoe.*—October 20, 1868.—The hoe and shank are formed in one piece and the form is adapted for working around delicate plants.

Claim.—The weeding hoe, substantially as herein shown and described, as a new article of manufacture.

83,291.—M. C. Longacre, Cleveland, Ohio.—*Step Ladder.*—October 20, 1868.—A brace is hinged at one end to legs and is provided with a slotted metallic plate at the other end which is secured to the ladder by a button. When not in use the brace is folded back and held by a button on the legs.

Claim.—The slotted metallic plate *b c*, in combination with the hinged brace D, and buttons *d e*, when used in connection with a step ladder, substantially as and for the purpose described.

83,292.—Samuel L. Loomis, Byron, N. Y., assignor to himself and Charles E. Walter, same place.—*Sash Holder.*—October 20, 1868.—When the sash is raised the rollers descend to the bottom of the recess; but when the sash is lowered the rollers move up the incline by the traversing of the slide, and, being compressed into a narrower space, press the slide against the side of the frame.

Claim.—The traversing slide B, arranged in a groove in the side or edge of the sash, with the mortises D in said groove, with inclined bottoms, and the rubber or elastic rollers, arranged in the mortises as described.

83,293.—A. J. Lytle, West Union, Ohio.—*Button-hole Cutter.*—October 20, 1868.—A brass plate secured to the upper part of the lower jaw, by a bolt sliding in a slot in the jaw, acts as a gauge for the position of the button-hole.

Claim.—The slotted plate E, in combination with the slotted jaw B, of a button-hole cutter, as herein described, for the purpose specified.

83,294.—John A. Mackinnon, Cleveland, Ohio.—*Holdback for Carriages.*—October 20, 1868.—On reversing the position of the yoke the tongue is thrown down and the yoke can be released. The hook is attached to the shaft by a continuous band which is held by a key.

Claim.—1. The loop F and yoke D, arranged at right angles to each other, or nearly so, the latter passing around hook B, and provided with the bar, having arms E, substantially as and for the purposes set forth.

2. The continuous band I, attached to the hook, in combination with the key J and shaft A, substantially as and for the purpose set forth.

3. The loop F and yoke D, provided with the cross bar and arms E, in combination with the hook B and tongue C, substantially as and for the purpose set forth.

83,295.—William R. Malone, Mason City, West Virginia.—*Safety Valve.*—October 20, 1868.—The fire is checked when the pressure of the steam in the boiler is greater than desired by the escaping steam from the safety valve being conducted into the fire.

Claim.—The arrangement of the safety valve B, exhaust pipe D, provided with pipe connections, communicating with the furnace, the extension tube C, and boiler A, substantially as described.

83,296.—John Marsh, Seneca, Ill.—*Ditching Machine.*—October 20, 1868; antedated September 28, 1868.—A shaft provided with a toothed roller which actuates the slotted apron, receives motion from gearing on the wheel. By means of a lever the plow and apron can be raised from the ground. A shoe prevents the apron from rubbing on the ground. A double brace sliding on a guide regulates the inclination of the plow.

Claim.—1. The combination of the lever G, shaft F, roller H, and apron I, with the lever L, plow K, apron frame J, and shoe M, substantially as and for the purpose described.

2. The combination of the wheels C C′, frame A, beam K, double brace N, guide O, and brace P, substantially as and for the purpose described.

83,297.—HENRY MARTIN, Keyport, N. J., assignor to JAMES H. RENICK, New York, N. Y.—*Brick Machine.*—October 20, 1868.—The end plates are pressed against the end surfaces of the press box by the clay acting against the underlapping edges of said bar, thus preventing the escape of clay up past the end of the plunger. The turn buckle increases or diminishes the throw of the pusher.

Claim.—1. The plunger I, constructed in sections, essentially as described, by combining, with the main plate or body of the plunger, loose end bars, *r r*, and a front plate or bar *u*, adjustable, relatively to the main body, substantially as and for the purpose or purposes herein set forth.

2. The application to the rod O, to which the spring hook is attached, of the turn buckle U, in the manner and for the purpose set forth.

83,298.—F. S. MCWHORTER, St. George's, Del.—*Grain Weighing and Tallying Machine.*—October 20, 1868.—The bag rests on a support pivoted to one end of a steel rod, which latter is secured to plates to which the choking plate is attached. When a proper quantity of grain has entered the bag its weight causes the support to drop and the choking plate obstructs the further passage of the grain.

Claim.—1. The sleeve V and choking plate W, or the equivalent thereof, in combination with the steelyard J, weight K, sack holder L L T, and spout A, all substantially as shown and described, and for the purpose set forth.

2. The steelyard arm J, having a rigid connection with the choking plate W, and loose connection with the sack holder L L T, or its equivalent, all substantially as and for the purpose shown and described.

3. The sack holder L L T, or its equivalent, in combination with the steelyard arm J, weight K, and spout A, for the purpose of thrusting in a plate, W, to shut off the flow of grain, substantially as shown and described, and for the general purpose set forth.

4. The band Q and clips *f f*, substantially as shown and described, in combination with the plates L, all as and for the purpose set forth.

5. The catch lever *b* and spur wheel *d*, constructed and operating as shown and described, in combination with the choking plate W and any tallying mechanism, all as and for the purpose set forth.

6. The arrangement of the tallying mechanism, consisting of the shaft *k*, bearing the worm *l*, gear *h*, and pointer *a′*, the shaft *i*, provided with the worm *j* and spur wheel *d*, the pinion *g* and pointer *a*, on shaft *m*, all combined to operate as set forth, in connection with the weighing mechanism.

83,299.—JOSIAH MUNFORD, Clarksburg, Ohio.—*Process of Preserving Potatoes.*—October 20, 1868.

Claim.—The above-described process of preserving potatoes, viz., by dusting or sprinkling them with lime, and then packing them away in a composition of lime and loam or sand, as herein described and represented.

83,300.—FREDERICK G. NIEDRINGHAUS, St. Louis, Mo.—*Construction of Metallic Spoons.*—October 20, 1868.

Claim.—1. A metallic spoon, fork, or similar utensil, provided with a handle, concaved or dished longitudinally on the upper side thereof, being curved from edge to edge, substantially as herein set forth.

2. Folding over or bending outwardly the edges of a fork, spoon, or similar utensil, at the juncture of the handle with the head or bowl thereof, substantially as herein set forth.

83,301.—FREDERICK G. NIEDRINGHAUS and WILLIAM F. NIEDRINGHAUS, St. Louis, Mo.—*Coal Hod.*—October 20, 1868.

Claim.—A coal-hod bottom, stamped up out of an unbroken piece of sheet metal, when provided with an upwardly-projecting flange, formed to receive, encircle, and embrace the lower edge of the body of the hod, substantially in the manner and for the purpose herein set forth.

83,302.—JOHN A. NICHOLS, Paterson, N. J.—*Valve for Pump.*—October 20, 1868.—One part of the valve case is an outer cylindrical shell provided with perforations at the bottom which form the seat for the valve. The other consists of a perforated plate covering the top of the shell from which depends an annulus with a rubber packing on its under side, which forms a stop for the upward movement of the valve, the latter being perforated and provided with a rubber face.

Claim.—The valve case A A′, in combination with the valve B, constructed and arranged to operate as described.

83,303.—GEORGE PALMER, Littlestown, Pa.—*Railway Rail Joint.*—October 20, 1868.—The fish piece is high enough to support the car wheel when passing over the butt end of the rails and prevents their being battered.

Claim.—1. The fish piece C, lapping the rail joint B, its upper surface as high as the level of the top of the rail, in length sufficient to rest upon two or more ties, and secured to said ties, independent of the fastenings of the rail.

2. A wooden fish piece, provided with a metallic plate on its upper surface, lapping the rail joint B, substantially as and for the purpose set forth.

3. A fish piece, lapping the rail joint B, and constructed with the grooved ends as shown and described, for the purpose of enabling cars to regain the track, after having been thrown therefrom, as set forth.

83,304.—ISAAC H. PALMER, Lodi, Wis.—*Harvester.*—October 20, 1868.—The platform on which the grain is delivered is placed behind the cutter and is tilted at every revolution of the reel by a cross bar on the latter coming in contact with an arm secured to the inner end of the pivoted part of the platform so as to deliver the sheaf upon the ground.

Claim.—The combination of a reel, having the cross bar N, as described, with the tilting platform, operated by the cross bar at every revolution of the reel, substantially in the manner described and shown.

83,305.—GEORGE PANCHOT, Hastings, Minn.—*Carriage Step.*—October 20, 1868.—A platform attached to the lower edge of the carriage body is provided with eyes at its inner edge into which the hooks on the end of the right-angled removable step fits.

Claim.—The attachable and removable carriage step, constructed substantially as above described.

83,306.—FRANCIS PARKER, Petaluma, Cal., assignor to himself and C. W. ORMSBY, same place.—*Mortising Machine.*—October 20, 1868.—The construction of the gauge rod obviates the necessity of marking off the mortises.

Claim.—The gauge rod B, with the slides D E F G, or their equivalents, together with the stops R S T U V W, when constructed substantially in the manner and used for the purpose above described.

83,307.—W. N. PEIRCE, West Boylston, Mass.—*Wash Boiler.*—October 20, 1868.—The water and suds, after passing through the clothes, descend through the continuous space and is re-heated and thrown up again through the tube.

Claim.—The combination, with the boiler, of the inclined and perforated base F, and its central tube, supported upon legs or standards above the bottom of the boiler, in the manner described, so that a continuous space, *c*, shall intervene between the periphery of the base and the sides of the boiler, as and for the purposes set forth.

83,308.—John G. Perry, Kingston, R. I.—*Meat Cutter.*—October 20, 1868.—A curved plate provided with grooves to hold the knives is fitted in the bottom of the case.

Claim.—The curved or hollow plate D, with openings, made substantially as described, for the purpose of holding the knives of a meat cutter.

83,309.—William Phelan, Peoria, Ill.—*Condenser.*—October 20, 1868.—Designed for condensing the exhaust steam and at the same time employing it as a means for heating water to be supplied to steam boilers.

Claim.—1. A central crowning cone, C, applied within the cones J F, so as to form a condensing chamber B, surrounded by a cool-water chamber F, substantially as described.

2. Cones C F, connected by a concavo-convex bottom, E, when these cones are arranged substantially as and for the purposes described.

3. The jacket J and its concavo-convex bottom G, with the cones C F, constructed and arranged substantially as described.

4. The valve T, arranged with relation to the internal extension of feed pipe D, substantially as described.

5. The deflecting pipe U, applied over the condenser, in combination with outlets *a* through the feed pipe D, substantially as described and for the purposes set forth.

6. The arrangement of outlet pipes O with relation to chamber F' and the outer jacket J G, substantially as described.

7. The arrangement of the valve R with relation to chamber B^1 and passage S, substantially as described.

8. The valve T, arranged with relation to the internal extension of feed pipe D, substantially as and for the purposes described.

9. The deflecting plate U, applied over the condenser, in combination with the outlets *d* through the feed pipe D, substantially as and for the purposes described.

83,310.—James T. Piercy, Martinsburg, Ohio.—*Ironing Table.*—October 20, 1868.—Standards placed diagonally with each other are pivoted at the center to a bar and secured at their ends by cross braces, to one of which is fixed one end of the table, and on another rests its other end, one end of a rod beneath it being fastened to its lower side and the other to one of the braces.

Claim.—The supporting frame F, bar or support *e*, standards A A, and ironing board *d*, all constructed and arranged substantially as set forth.

83,311.—Frederick Post, Plano, Ill.—*Pulverizing Land Roller.*—October 20, 1868.—The roller is made with grooves, into which the teeth of the scraper fit. The markers are made adjustable in height, to be used or not, as required.

Claim.—The roller A, in combination with the scraper B, markers C, sills K K, cross bars L L, bearings G, and tongue E, all constructed and operating substantially as described.

83,312.—James P. Preston, Monroe, Wis.—*Fanning Mill.*—October 20, 1868.

Claim.—1. The frame M, hung to the faces A A by the metallic strips, as described, in combination with the spiral springs, substantially as described.

2. The combination of the spout Z and screens K and L, the latter being provided with the door *a* and button a', as and for the purposes set forth.

83,313.—J. Walter Pyne, Danville, Ill.—*Fruit Drier.*—October 20, 1868.—The dry house is made with alternate steam spaces and those in which are fruit drawers, both arranged vertically, the steam spaces communicating at each end by pipes.

Claim.—The combination of the perforated drawers with the surrounding steam spaces, each one of which spaces is provided with an induction pipe, substantially as shown and described.

83,314.—Joshua S. Rackham, Waterport, N. Y.—*Corn Shelling Machine.*—October 20, 1868.—A vertical, cylindrical shell made in sections divided into segments, hinged at one end, the other, swinging outwardly against springs, has within it a vertical cylinder provided with teeth. In the inside of the shell are also teeth.

Claim.—1. A hollow toothed corn-shelling cylinder, composed of yielding segmental sections, substantially as and for the purpose described.

2. The combination, with the same, of the cylinder H, substantially as and for the purpose described.

3. The combination, with the cylinder H and shell B, of the screen and fan blower, substantially as and for the purpose described.

83,315.—Ellery P. Ralph and James Haman, Gallipolis, Ohio.—*Straw Cutter.*—October 20, 1868.—The knife has at its front end a collar attached to an eccentric wheel, the rear end being fixed to jointed levers attached to the shaft, and also to a guide. A crank on the shaft passes through a slot in the end of a connecting lever fastened to a bell crank lever.

Claim.—1. The eccentric cam wheel E, collar and lever *c* and *d*, and guide *b*, to which the knife F is attached in combination with the frame D, constructed substantially as described, and operating as and for the purposes set forth.

2. The shaft *e*, crank *f*, lever *g*, crank lever *h*, rod g', lever *i*, and pawls i' and *j*, in combination with wheels k' and *k* and rollers *m m*, substantially as described, and operating as and for the purposes set forth.

83,316.—Thomas L. Rankin, New Richmond, Ohio.—*Refrigerating House.*—October 20, 1868.—Under the ice floor are freezing pans for reducing the temperature, and above the ice is an air tight wooden follower lined with galvanized sheet iron, and having a lip of rubber.

Claim.—1. Ice follower *h*, constructed and operating substantially as and for the purposes described.

2. The combination of ice floor *c* and pans c' c', operating together, for the purposes explained.

3. The combination of ice floor *c* and follower *h*, operating together, substantially as and for the purposes explained.

83,317.—Isaac Ranney, Delaware, Ohio.—*Varnish.*—October 20, 1868.—Rosin is thoroughly melted at a high heat and then reduced in temperature, and benzine or benzole heated to the boiling point is then added.

Claim.—1. The varnish, compounded substantially as above described.

2. The process herein set forth of making the above-described varnish.

83,318.—Emanuel Rau, New York, N. Y.—*Fastener for Collars and Neck Ties.*—October 20, 1868.

Claim.—The stud A, having an inclined side slot *g*, as described, in combination with the pointed arm *d e*, doubled or jointed at *f*, and having both a forward and lateral spring, when the parts are constructed to operate substantially as described.

83,319.—John Jay Rea, Cadiz, Ohio.—*Elevator.*—October 20, 1868.—A forked truck runs upon a beam which is provided with hooks for suspending it in any desired place. A trigger retains the truck in place until tripped, when the load is carried along and dropped in the proper place by the automatic tripping of the hook which holds the weight.

Claim.—The beam A, hooks B B, forked truck C, provided with wheels D D and E, trigger L, pulley E, cords G K I, and weight H, all combined and operating substantially as herein set forth.

83,320.—George W. Richardson, Troy, and Henry Waterman, Hudson, N. Y.—*Steam Safety Valve.*—October 20, 1868.—The valve is held down by a spring resting upon the plate of a spindle, the pressure of the spring being varied by a spider screwed into the case. The spider is held in place by a flange on the cover, which latter is secured by bolts, the nuts of which are inclosed and concealed within cups of an arched lock-up bar. The lock-up bar is fastened by a padlock and staple passing through a hole in the center.

Claim.—1. The lock-up bar or arch J J, constructed substantially as shown and described.

2. The construction of the branch or escape passage N, substantially in the manner shown and described, it being so arranged as to prevent tampering with the valve or its adjustments.

3. The combination of the valve A, spring C, spider D D, cap H, and lock-up bar J J, substantially as shown and described.

4. The arrangement of the branch escape passage N, with reference to the valve A and spring C.

5. The arrangement of the lock-up bar J J, with reference to bolts I I. substantially as shown and described.

6. The arrangement of the spider D D, with reference to the spring C, substantially as shown.

7. The combination of the overhanging valve A, spring C, spindle E, and spider D D, or its equivalent, substantially as shown and described.

83,321.—Martin Henry Rumpf, Paris, France. —*Railway-car Brake.*—October 20, 1868; patented in France October 17, 1867.—The brake block is attached to a lever, which is suspended from an axis eccentric to the axis of the wheel, and adapted to instantaneously stop the wheel when it comes in contact therewith.

Claim.—The combination, with a brake suspended, as described, of a sliding or rotating shaft, or a chain for raising and lowering the brake, either the shaft or chain being operated by any suitable mechanism, substantially as herein set forth and shown.

83,322.—Gelston Sanford, Bergen Point, N. J.—*Machine for Sharpening the Cutters of Mowing Machines.*—October 20, 1868.—An angular-faced, reciprocating grindstone is arranged to work over a transversely-adjustable bed, in which the cutter bar is so supported that the stone, working in the angle between two adjacent cutters, sharpens them both at the same time.

Claim.—1. The combination, with a holding bed, I, of a reciprocating grinder, arranged for adjustment relative to one another, substantially as and for the purpose set forth.

2. The combination, with the holding bed I, of the adjustable arms L, substantially as and for the purpose described.

3. The combination with the bed A of the holding bed I and reciprocating stone D, substantially as and for the purpose set forth.

4. The bed B, provided with the ways C, trough B, and sponges Q, substantially as and for the purpose set forth.

5. The arrangement of the sliding stone D, connecting rod G, crank shaft H, and stone P, substantially as and for the purpose set forth.

6. The combination with the reciprocating stone D, of the presser wheel O. substantially as and for the purpose set forth.

83,323.—Moritz Saulson, Troy, N. Y.—*Dinner Pail.*—October 20, 1868.—The arrangement of the inner vessel and pan divides the pail into several compartments for containing different articles of food, the vessels being used for culinary purposes, or as dishes when removed. The wire spring supports the vessel at any desired height within the pail. The spring bail, engaging with the notches, prevents the bail from swinging within the pail.

Claim.—1. The combination of the pail A, inner vessel B, arranged in the upper part of the pail, pan C, in the upper part of the inner vessel, and cover D, extended down outside of the pan, inner vessel, and pail, as herein described.

2. The combination, with the pail A and inner vessel B, of the removable wire spring K and groove or grooves L, formed and arranged substantially as and for the purposo herein set forth.

3. The combination, with the pail A and outside surrounding cover D, of the notches *r r* and wire-like spring bail N *u*, formed and arranged substantially as and for the purposes herein shown and described.

83,324.—F. M. Schaeffer, Blooming Grove, Kansas.—*Sawing Machine.*—October 20, 1868.—The lazy tongs connect the saw guide to a pivoted plate, which is adjustable, so as to adapt the saw to work in any desired plane. The guides are pivoted, so that one alone may be thrown to the side of the saw by its spring while the other is resting upon the log. The swinging block supports the end of the log and throws it away from the log when severed.

Claim.—1. The arrangement of the guides M M and springs *m m* with relation to the guides G and the saw, whereby said guides M move independently of each other, to press upon the log being sawed, as herein described, for the purpose specified.

2. The guides of a reciprocating saw, supported on an adjustable, oscillating plate or support, K, substantially as and for the purpose described.

3. The combination, with the plate K and the saw guides, of the lazy tongs I, for the purpose of connecting the guides to the oscilating plate, and admitting of the rising and falling motion required by the saw in its passage through the log, substantially as and for the purpose described.

4. The swinging-block support Q, arranged as described, in combination with the log bed, substantially as and for the purpose described.

83,325.—Jerome Scott, Charleston, Pa.—*Washing Machine.*—October 20, 1868.—The bucket and press board are made to approach and recede from each other by the up-and-down movement of the handle. At every upward movement of the handle the clothes turn over in the bucket, and at every downward movement they are pressed.

Claim.—The swinging bucket D, as arranged and connected, by means of the arms K, with the press board H, and operated by the levers F and handle E, substantially in the manner and for the purposes herein shown and described.

83,326.—Nicholas Selby, Flora, Ill.—*Horse Rake.*—October 20, 1868.—The rake frame is free to rise and fall with the surface over which the rake is drawn. When the rake is released by the depression of the forward end of the trip stick, it revolves so as to discharge the gathered hay and reverse the position of the two sets of teeth. The hinged frame and rake are raised and sustained by a lever and links.

Claim.—1. The arrangement of the hinged frame *c*, carrying the revolving rake within the rectangular, balanced frame *a a a a*, all constructed and combined to operate substantially as and for the purpose herein shown and described.

2. The notched trip stick *u r*, when hinged to the front cross-bar of the frame *a*, and combined with a spring *w*, whereby said stick *a* is actuated downward and held in contact with the rake head, as herein shown and described.

3. The described arrangement of the pivoted lever *k*, link *l*, and stirrup link *n*, with relation to the rectangular, balanced frame *a* and hinged rake frame *c*, as herein shown, for the purpose set forth.

83,327.—Nancy M. Selden, Chatham, Conn.—*Pie Tube.*—October 20. 1868.—The tube tends to draw the juice toward the center, preventing it from escaping at the edge of the pie while baking.

Claim.—As an article of manufacture, the cone-shaped tube A, provided near its lower edge with a series of holes, *a a*, substantially as and for the purposes herein set forth.

83,328.—William G. Shattuck, Boston, Mass. —*Inkstand.*—October 20, 1868.—The inkstand is so secured as to require the aid of a wrench in removing it from the desk.

Claim.—The combination, with the ink well and its metallic case and cover, applied to a desk or like article, in the manner described, of a nut, E, arranged to hold said ink well and case in place, substantially as herein set forth.

83,329.—Allen Sherwood, Auburn, N. Y.—*Wash Boiler.*—October 20, 1868.—Soap and soda are put in the cylinder, and as the water boils it rises in the cylinder is discharged upon the clothes, through which it percolates to the chamber below the float; there the sediment remains while the water again passes upward through the tube.

Claim.—In a clothes washer, the wooden perforated float B, provided with a metal flange, C, tubes I I. and, at its center, with a circular hole, covered with wire gauze, over which hole is placed a tapering cylinder, D, provided at its upper end with a circular perforated box, E, all constructed and operating substantially as and for the purposes herein set forth.

83,330.—J. Siegrist, New York, N. Y.—*Stop-motion for Warping Machine.*—October 20, 1868.—When the yarn breaks or runs out, one or more of the weights drop upon the board of the balanced frame, the lower bar of which is consequently moved to a position to be acted upon by the lifter of the drum. This action frees a mechanism so that it may respond to the draught of a spring and, by shifting a belt, stop the machinery.

Claim.—In combination with the weights G, suspended on or from the yarns, the balanced frames H, I, J, and K, arranged for operation by said weights, revolving shaft or drum L, provided with a lifter, *f*, and belt shifter, for throwing the yarn beam out of gear, all for action together, substantially as specified.

83,331.—Charles E. Smith, Lowell, Mass., assignor to himself, John S. Jaques, and Frank T. Jaques, same place.—*Spindle for Shuttles.*—October 20, 1868.—The object to retain the cop on the spindle and prevent the same from being upset or separated by the sudden blows of the shuttle.

Claim.—A split shuttle spindle, notched or serrated on both sides, or on its entire circumference, substantially as and for the purposes set forth.

83,332.—P. W. Smith, Chicopee Falls, Mass.—*Device for Fastening Shirt Collars.*—October 20, 1868.—An outer flange corresponds with the shape of the button holes in the ends of the collar, so that in connecting the same it serves to cover and conceal the button holes. The pin, entering one of the collar button holes, prevents the stud from turning.

Claim.—The combination of the plate A, necks *a* and *b*, with oblong and circular flanges, B and C, and pin D, the parts being constructed and arranged substantially in the manner and for the purpose set forth.

83,333.—B. L. Southack, New York, N. Y.—*Sofa Bedstead.*—October 20, 1868.—The projecting ends of the back serve as stops to arrest the bottom in the proper position when it is being slidden in.

Claim.—The seat D, sliding in grooves *a* of the arm-rests B, and hinged at its rear edge to the back, E, which back is held up to the arm rests B by the catches *e* and projections *f*, all operating as described, whereby the back is turned down into a horizontal position, and then drawn forward into the grooves *a* with the seat D, until arrested by the projection *f*, whereby a continuous bed bottom is formed, as herein shown and described.

83,334.—Lucas Stadler, Bowen, Ill.—*Combined Seeder and Cultivator.*—October 20, 1868.—Revolving knives serve to cut into small fragments the stalks, roots, &c., that may be in their path.

Claim.—1. The knives G, constructed and operating substantially as and for purposes set forth.

2. Combining in one machine the knives G, the seed-sowing box D, the sod breakers F, cultivator-plows K, and harrow O, substantially as specified.

3. A seed-sowing, cultivating, and harrowing machine, having seed box D, cylinder E, cranks *a a*, pitmen *b b*, cranks *d*, sod-breakers F, knives G, roller H, pins *n*, plows K, lever S, and harrow O, constructed and arranged substantially as specified.

83,335.—Upton Stansbury, Plymouth, Ind.—*Beehive.*—October 20, 1868.—When the honey boxes are removed, as is the case in winter, the openings in the upper partition are covered by a fine wire screen and the space above filled with straw.

Claim.—1. The breeding boxes C C, closed at their sides and ends, and slotted at the top and bottom, and provided with small glass windows and entrances, and connected to the cleats *c c* of box A, by means of their grooved sides, as herein set forth.

2. The arrangement of the outside box A with the breeding boxes C C, honey boxes D D, and side screens *a* and *n*, substantially as and for the purposes herein set forth.

83,336.—William M. Stevenson, Sharon, Pa. —*Balance Slide Valve.*—October 20, 1868.—Steam, admitted to the interior of the valve, exerts a sufficient downward pressure to counterbalance the upward pressure upon the walls which close the ports in the bottom.

Claim.—A steam valve, constructed as described, with a cavity, *d*, between the walls *a a*, and with packing strips *e e*, in grooves on the top of the walls, steam being admitted through holes *i i*, under said strips, pressing them up against the cap of the steam chest, substantially as and for the purposes herein set forth.

83,337.—Worden E. Stoddard, Fort Edward, N. Y.—*Weatherboard Gauges.*—October 20, 1868.—Improvement on his patent of May 17, 1859. The instrument is used for scribing and adjusting the boards so that their exposed surfaces may all be of the same width.

Claim.—The combined weather-board gauge and scribe, consisting of arms A B, slide E, the spur pivoted block H, hinged bar I, and sliding block J, and slotted knife K, all constructed and arranged to operate as herein shown and described.

83,338.—Daniel F. Taft, New Bedford, Mass. —*Corn Planter.*—October 20, 1868.

Claim.—1. The rock shaft J, levers *g*, I, and disk *e*, in combination with the cords *h i*, section M, angular lever H, and cam L, attached by a rod to the disk *e*, all operating as described, whereby the partial rotation of the rock shaft throws the seeding device out of gear, and folds back the discharge spout simultaneously, substantially as herein shown and described.

2. The hinged section M of the jointed spout, in combination with the pin *l*, notched bar P, and spring R, all made and operating so that the section will be yielding, even if in the working position, as set forth.

3. The cam D, levers I, H, and springs K all operating as set forth, so as to move the seed slide F back and forth, the cam being connected with a revolving ratchet wheel, *a*, by means of a pawl, *b*, so that it will be out of gear when the machine moves backward, as specified.

4. The wedge L, connected with a crank or disk on the rock shaft J, substantially as described, and operating so as throw the lever I off the cam D when the machine is to cease dropping seed, as set forth.

83,339.—F. T. Thurston, Providence, R. I.—*Attachment for Skates.*—October 20, 1868.—Strips of elastic material are interposed between the bottom of the shake runner and the flat strip of metal which is secured to the runner and forms the snow shoe.

Claim.—The shoe A, or B, with the protecting strip *a*, constructed substantially in the manner described, for the purpose specified, irrespective of the method employed to secure its attachment to the skate.

83,340.—R. T. Taylor, Everton, Ind.—*Shield for Corn Planter.*—October 20, 1868.—An adjustable shield allows the corn to be plowed as close as desired without injuring or covering it up.

Claim.—1. The adjustable shield B, constructed and attached to the plow in the manner described, and operated by means of the slotted arms on the stay *c*, and the lever D, substantially as and for the purposes herein set forth.

2. The ratch bar *g*, in combination with the bent spring *h*, for the purpose of holding the lever D at any point desired, thereby adjusting the shield B, substantially as and for the purposes herein set forth.

83,341.—Josephus Smith Towndrow, Moline, Ill., assignor to W. P. Humphrey, Davenport, Iowa. —*Pocket Drinking Cup.*—The cup is provided with a screw hole at its bottom into which a screw on the top of the stand fits.

Claim.—A pocket goblet, consisting of the cup A and stand B, constructed so that they may be detached, and the cup connected to the stand in a reversed position, substantially as herein described.

83,342.—Enoch B. Turner, Providence, R. I.—*Horseshoe Machine.*—October 20, 1868.—The mark in the center part of the forward blank is moved up to the gauge and the surplus end of the blank is trimmed off by the knives. The bar is then moved across the machine until it strikes the butting gauge, when the knife makes a counter movement and cuts the blank from the bar. The forming rolls then bend it around the dies and the squeezing rollers come in contact with the cam of the squeezing lever and press the blank against the die and complete the shoe.

Claim.—1. The arrangement and combination of the adjustable gauge L, knife-holder M, adjustable knives T and S, adjustable butting gauge N, spring *t*, and slotted bar K, as herein set forth and for the purposes described.

2. The combination of the anvil F, mandrels I I, pads J J, squeezing cam levers E E, forks *k k*, and springs *j j*, all arranged as herein set forth and for the purposes described.

3. The combination of the above devices with the cranks *b b*, adjustable shafts B B, saddles A A, saddle bars A′ A′, spurs *m m m m*, axle *g g*, adjustable connecting rods P P, rollers D D, slotted cam formers G G, former rollers H H, and adjustable rollers *i i*, as herein set forth, all arranged and combined so as to form a complete machine for making horseshoes, as described.

83,343.—James D. Van Hoevenbergh, Kingston, N. Y.—*Spring Adjuster.*—October 20, 1868.—A lever has its fulcrum on a shackle link which is secured to a block on the spring. A movable block, placed on the lever near the fulcrum, bears against the part of the spring to be adjusted. The other end of the lever is attached to a block which slides over a screw rod attached to the spring.

Claim.—The improved spring adjuster above described, its several parts being arranged and operating together, substantially as herein specified.

83,344.—Hugh Wain, Ravenna, Ohio.—*Gas Machine.*—The space surrounding the oil tank is filled with ashes instead of water, so that the temperature of the oil will not be affected by the vicissitudes of the weather.

Claim.—The arrangement of the cylinder A, tank C, provided with induction and exhaust pipes, and having the space H filled with a poor conducting material, in combination with the perforated bottom and gasometer D, as and for the purpose substantially as described.

83,345.—Frank B. Wells, Fishkill on the Hudson, N. Y.—*Binding Mathematical Books.*—October 20, 1868.

Claim.—The insertion of these silicated leaves in the aforementioned works, in which they may be used, said leaves to be bound in the book firmly, inserting any number desired, according to the nature and the size of the volume, or they may be simply fastened in any way, that they may be removed, changed, or replaced, or new ones inserted, at pleasure, if so thought to be more practicable.

83,346.—J. C. Wharton, Nashville, Tenn.—*Jet Attachment for Soda Fountains.*—October 20, 1868.—A jet of water is made to play on each of the nozzles of the sirup-fount cocks and cleanses them from any adherent drops of sirup to prevent the obstruction of the nozzles.

Claim.—An attachment for soda-water fountains, when constructed of a plane surface, A, having a border pipe, B, provided with jet tubes, *a a a*, &c., drain pipe *b*, and supply pipe *d*, all substantially as and for the purpose set forth.

83,347.—A. W. Whitney and P. A. Whitney, Woodstock, Vt.—*Machine for Bending Sheet Metal.*—October 20, 1868.—The folding bar is secured to shafts which rotate in adjustable bearings on bars attached to a cam shaft. When the folding bar is rotated the cams cause the folding knife to hold the metal while being bent, and the folding bar is prevented from being raised too high by slotted straps. A gauge is arranged beneath the folding blade to regulate the width of the lock.

Claim.—1. The folding bar H, in combination with the bars J J, arms P P′, and connecting rods Q, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The straps M, in combination with the folding bar H, adjustable bearings I, and screws O, all arranged to operate in the manner substantially as shown and described.

3. Holding the folding blade C upon the work on bed piece B, through the media of the cams *l*, friction rollers L, and bars D *e*, all arranged to operate substantially as set forth.

4. The gauge E, arranged and applied in connection with the screw F, substantially in the manner as and for the purpose set forth.

83,348.—P. A. Whitney, Woodstock, Vt.—*Counter Sink.*—October 20, 1868; antedated October 16, 1868.—The cutter, made of a flat piece of steel, is held within a hollow stock by semicircular clamping jaws, having the lower end tapering to agree with the cutter. A feed screw in the upper part of the stock forces the cutter down when the cutting edge has worn away.

Claim.—The herein-described improved counter sink, when constructed substantially as and for the purpose described.

83,349.—D. E. Whiton, West Stafford, Conn.—*Lathe Chuck.*—October 20, 1868.—The pinion is secured to the shank of a wrench and is kept in place when meshing with the rack in the chuck, by projections beyond it fitting in sockets in the back of the chuck.

Claim.—The construction and arrangement of the back plate P, with openings *b b b*, and projection E, with sockets *a a a*, when connected with the rack B of a geared chuck, substantially as and for the purpose herein shown.

83,350.—Francis R. Wolfinger and Joseph Barrett, Chicago, Ill.—*Extension Table.*—October 20, 1868.

Claim.—An extension table, consisting of a central frame, A, having the side rails cut away to form recesses, F, to receive the attachable top boards G, and having the extension frames connected thereto by the hinged bars H, all constructed and arranged to operate as set forth.

83,351.—George M. Woodward, New York, N. Y.—*Steam Heater.*—October 20, 1868.—A pipe fitting in the upper part of the vessel is provided with a cap in which a perforated plate is secured, so as to form an upper compartment. A tube is suspended from this plate and reaches nearly to the bottom of the base. The steam enters the compartment and flows down the tube to the base and then escapes.

Claim.—The cap C, secured upon the pipe B, and provided with a perforated diaphragm, *b*, from which the tube D is suspended, substantially as herein shown and described.

83,352.—Henry W. Yerington, Jersey City, N. J.—*Hydrocarbon Burner.*—October 20, 1868.—A current of cold air augmented by a steam jet pipe, passes through an air jacket on its way to admixture with the gas prior to its entry within the burners, which latter are formed of parallel horizontal tubes with oblique slots in their sides which cause the air to pass up from beneath and between the flame. The gas is generated and mixed with the air in a pipe connecting with the air pipe.

Claim.—1. The combination, with the oil tank A, of the air jacket B, having inlets and outlets, *d* and C, for operation in connection with the burners of a liquid fuel apparatus, substantially as specified.

2. The combination of the oil tank A, air jacket B, suction pipe C, and steam jet pipe or nozzle *g*, essentially as herein set forth.

3. The combination of the pipe or pipes I, mixing and distributing boxes F, air pipes C and G, and burners E, for operation together as specified.

4. The intermediate connecting pipe J, in combination with the gas pipes I and air pipe C, substantially as shown and described.

5. The tubular burners E E, arranged essentially

as specified, and provided with oblique jet orifices or slots, *e*, as herein set forth.

83,353.—JOHN W. MURRELL, Seaford, Del., assignor to himself, SAMUEL PERRY, and EDWARD R. JACOBS.—*Attachment to Spools for Cutting Thread.* —October 20, 1868.—A metal plate with a clamp in the center to attach it to the spool, is provided with notches on its ends for the purpose of breaking the thread.

Claim.—As an article of manufacture, the within-described thread breaker, formed from sheet metal, its retaining parts, *a a*, being cut from its center, and bent at right angles thereto. substantially as and for the purposes herein set forth.

83,354.—THOMAS L. LUDERS, Olney, Ill.—*Bobbin and Thread Holder for Spinning Machines.*—October 20, 1868.—The thread or yarn is attached to curved arms of the holder which grasps the bobbin and causes it to rotate with the spindle.

Claim.—The coiled wire holder A, having outwardly-curved arms *a a*, constructed as described, combined with the spindle and the bobbin, and serving as a holder for the bobbin and for the thread, as set forth.

83,355.—PHILIP AMMERMAN, Cynthiana, Ky.—*Harvester Rake.*—October 27, 1868.—The guide bar fastened to the platform is curved, so as to encircle both ends, and extends the whole length of the endless chain, which, as the grain is cut, carries the rake along, sliding up and around the bar, the beveled cap aiding in tipping it over.

Claim.—The guide bar *k* and beveled block or cap *t*, in combination with rake A and endless chain C, substantially as and for the purpose described.

83,356.—JOSEPH D. AYERS, East Greensborough, assignor to J. O. CUTTER and WILLIAM WALLACE GOSS, Greensborough, Vt.—*Sugar Pan Derrick.*—October 27, 1868.—The derrick beam is upheld by guide beams mortised into an upright, and with mortises for a vertical guide post, which slides in the mortises of the guide beams; and it is also braced by iron rods, connecting the guide post with the frame fixed on the derrick beam, and having hooks, for hanging the pans, adjusted by bolts passing through cross bars and slots in the frame.

Claim.—1. The combination, in a sugar pan derrick, of the guide beams B B′, guide post G, rotating upright A, pulley *k*, cords *a b*, derrick beam C, drum and crank handle *l*, all constructed and operating substantially as shown and described, and for the purpose set forth.

2. The frame *m m*, *o o*, hook rods *h h h h*, and braces *q q*, with the parts specified in clause first of the claim, all substantially as shown and described, and for the purpose set forth.

83,357.—NATHAN BARTLETT, Centreville, N. J., assignor to himself and FRANKLIN OSGOOD, Richmond County, N. Y.—*Manufacture of Pigments from the Sulphurets of Zinc and Lead.*—October 27, 1868.—The ore is pulverized, passed through a desulphurating oven, and then treated in the ordinary oxidizing furnace and the flowers collected, the zinc and lead in combination passing off together to the receiving chamber.

Claim.—1. The manufacturing of pigments from the sulphurets of zinc and lead combined in the manner and by the means substantially as herein described.

2. The pigment, made from the sulphurets of zinc and lead, as a new article of manufacture.

83,358.—WILSON BRAGG, Connersville, Ind.—*Automatic Car Coupling.*—October 27, 1868.—The pin and sliding block are connected with a chain, and when the pin is raised the block will be drawn out toward the mouth of the draw head, and as soon as it is pressed in the chain forces down the pin.

Claim.—The combination of the chain E, sliding block C, and coupling pin F, substantially as and for the purposes specified.

83,359.—THOMAS W. BROWN, Reading, Pa.—*Hot Air Register.*—October 27, 1868.—Three slats are pivoted to the register frame and also at one end to a connection bar, a sectoral lever being fixed upon the journal of the middle one.

Claim.—The improvement of having the sectoral lever fixed directly to the slat journal, when the slats are pivoted to the frame, and to a connection bar having no pivoted connection with the sectoral lever, as set forth, the whole being substantially as described and represented.

83,360.—FREDERICK CAJAR, New York, N. Y., assignor to himself and JAMES ANDERSON, same place.—*Spring.* — October 27, 1868.—The plates or strips of metal for the springs are corrugated, and riveted or pivoted together, being so arranged as to take the strain in the direction of their breadth.

Claim.—Elliptical or arched springs, made of corrugated sheets or plates, arranged as herein shown and described, substantially as and for the purpose set forth.

83,361.—GEORGE CARNELL, SAMUEL WILLIAMS, and WILLIAM ELLIS, Philadelphia, Pa.—*Mill for Tempering Clay.*—October 27, 1868.—The rack with two straight sides is connected at each end with semicircular racks, and in the center of the cap on which they are cast is the web, reaching nearly to each end, and against which bears the pinion which operates the wheel.

Claim.—The inverted double rack H, cast with a cover, h^2, and internal web, h^3, in combination with saddle M and pinion E, for operating the wheel B of a clay mill, in the manner substantially as shown and described.

83,362.—JOSEPH E. CHAMBERLIN, Wilmington, Del.—*Jig-Saw.*—October 27, 1868.—The saw is arranged between two sliding head blocks, to the upper one of which is attached an index to mark the bevel, a vernier plate being fixed to the circular iron-banded timber to which the blocks are secured by braces. It is moved by a segment of a cog wheel under the carriage, gearing and working into pinions, and by a pulley band over a pulley.

Claim.—The circular timber *b*, with its vernier plate and index, iron band *d d*, sliding head blocks *c c*, braces *e e*, and saw *s*, in combination with the semicircular ways *y y*, carriage 5, segment *i*, pinions *g g*, *h h*, pulley 6, and their connecting or reciprocating appliances, constructed, arranged, and operating substantially as and for the purposes set forth.

83,363.—ANDREW CHRISTIAN, New York, N. Y. —*Folding Perambulator.*— October 27, 1868.—The front and back upright arms extend so as to support the front wheel and handle, the jointed arm supports, made of two pieces, the under fitting in a groove of the upper one, being connected with the bars, and pivoted to them, thus dispensing with hinges.

Claim.—1. Extending the front uprights D of a folding perambulator downward, to form supports for the front axle J, as set forth.

2. Extending the rear uprights E of a folding perambulator upward, to form supports for the handle I, as set forth.

3. Contracting the jointed arm supports H, of a folding perambulator, of two parts, *a b*, which are pivoted together, as set forth, the narrow part, *b*, fitting into a groove in the under side of the main part *a*, as shown.

83,364.—N. A. CLOPTON and JOHN S. CLOPTON, Fauquier County, Va.—*Seeding Machine.*—October 27, 1868.—To four uprights in the frame are pivoted arms, the lower ends of one being connected by links to the upper ends of vibrating arms, and to their upper and lower ends are fixed elbowed slides, moving forward and back under a hopper, having two parts, one for seed, and the other for the fertilizer.

Claim.—The combination and arrangement of the reciprocating slides *k l*, vibrating arms or levers *h*, connecting pieces or links *j*, pivoted arms *g f*, and springs *i* or their equivalents, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

83,365.—WILLIAM CROSSLEY, Chicago, Ill.—*Machine for Edging Metals.*—October 27, 1868.—The slotted guide moves the clamp to and from the grindstone, and forms a track for the double carriage, to which slides are fixed to run on and carry the clamp parallel with the stone cross pieces sliding in the slot between the pieces of the guide, while the metal in the clamp is moved against the stone by means of a screw.

Claim.—The combination of the slotted guide C C′, carriage B E, clamp A, track G G, slides M M, crank screw and slides F F, constructed as and for the purpose set forth.

83,366.—JOHN M. CULLEN and ANDREW J. BAIRD, Pittsburg, Pa.—*Drill Press.*—October 27, 1868.—The parts are so constructed that the feed and drill may be operated by a continuous circular motion of the lever and pawl in one direction.

Claim.—Not any of the specified parts in severalty, but the improved tool, consisting of the several parts specified, all combined, constructed, and arranged as described.

83,367.—EDWARD M. DAVIS, Pittsburg, Pa., assignor to HENRY H. COLLINS, BENJAMIN F. COLLINS, and HOMER WRIGHT, same place.—*Fruit Jar.*—October 27, 1868.—The names of the fruits, chemicals, &c., are stamped or permanently fixed on the cover of the vessel so as to radiate from the center, an index pointing to any one and so applied that on closing it, by sealing, the labeling is effected.

Claim.—1. The method, substantially as described, of labeling preserve cans and other similar vessels, in the act of sealing the covers of such vessels upon them.

2. The cover B, constructed with names radiating from its center, and adapted for use upon a preserve vessel, having an index of a suitable description upon it, substantially as and for the purposes described.

83,368.—BENJAMIN L. DENNISON, Boston, Mass. —*Attaching Strings to Tags.*—October 27, 1868.—The clasp is made by cutting away or bending down the lips of one end, to the center, into a point, before applying it to the string, and then clasping the lips of the other end over the string, thus bringing the pointed end toward the label.

Claim.—1. The combination of the metallic clasp *a*, with the string and label card, substantially as and for the purposes described.

2. The metallic clasp *a*, Figs. 2 and 5, constructed so as to operate as a clasp, a needle, and a bar, at the same time, substantially as and for the purposes described.

83,369.—LEONARD FELKER, Tewkesbury, Mass. —*Combined Hinge and Fastener.*—October 27, 1868. —Projecting from the support stand are chambered wings which form sockets for the stile, and through the said wings are openings through which catches pass to receive the latches, by which the blind is securely fastened from within.

Claim.—The combination and arrangement of the support *e*, with its stem *c* and pintle *d*, latches *h* and *i*, and catches *b* and *b′*, and wings *f f*, with or without the plate *a*, when arranged to operate as and for the purpose described and set forth.

83,370.—R. R. FENNER, Urbana, Ill., assignor to himself and ELI HALBERSTADT, same place.—*Feed Water Heater for Steam Generators.*—October 27, 1868.—Water is supplied to the vessel at the upper part and falls through and between pieces of iron in an upper vessel to a filter below, steam being forced into the said vessel through the bottom.

Claim.—The arrangement of the supply pipe E, exhaust pipe C, ingress pipe B, water delivery pipe G, filter I, and vessel A, substantially as herein set forth.

83,371.—WALTER K. FOSTER, Cambridgeport, Mass.—*Screw Tap.*—October 27, 1868.—An oil passage through the upper portion of the screw tap communicates by a lateral passage with a groove made in one of the ranges of the screw cutters.

Claim.—The arrangement of the main and lateral oiling passages *a b*, and the groove *d*, in one of the ranges of screw cutters, the whole being substantially as described.

83,372.—JULES FOUGERAT and LUCIEN A. TARTIERE, Quogue, N. Y., assignors to "THE ALGA CHEMICAL WORKS," New York, N. Y.—*Process for the Manufacture of Iodine.*—October 27, 1868.—An improvement on his patent of May 19, 1868. The calcinized and pulverized mussels are boiled in water for a few minutes, the mixture filtered, put into a retort and heated with sulphuric acid and peroxide of manganese, then distilled and the iodine drawn off.

Claim.—1. Filtering the calcinized and boiled mussels, preparatory to their distillation, as set forth.

2. The application of peroxide of manganese to the making of iodine from mussels, as set forth.

3. The process herein specified of producing iodine from mussels.

83,373.—THOMAS J. GAFFNEY and CHARLES H. DUNKS, Detroit, Mich.—*Spring Bed Bottom.*—October 27, 1868.—The slats are secured to the ends of the steel spring bars or strips, and kept in position by strips of leather, or other flexible material, extending along their upper sides, the ends being clamped between the bars and slats.

Claim.—The leather strips H, in combination with the longitudinal top slats G, and transverse steel bars E, whereby the slats are secured to the bars, as herein shown and described.

83,374.—DENNIS C. GATELY, Newtown, Conn., assignor to NEW YORK BELTING AND PACKING COMPANY.—*Vulcanized India-rubber Belting.*—October 27, 1868; antedated October 2, 1868.

Claim.—1. Belting or banding for driving machinery, composed of paper or other pulped and calendered material, combined with India-rubber or other vulcanizable material, substantially as herein set forth.

2. The use, in combination with paper or other pulped and calendered material, of a vulcanizable cement, applied either externally as a coating, or both internally, as a cement between several layers of paper, and externally, substantially as and for the purposes set forth.

3. The vulcanizing of paper belting, with rubber or other material or compound capable of vulcanization, between metal plates or otherwise, as herein indicated, so as to produce a smooth surface on the belts, substantially as set forth.

83,375.—JOHN GOULDING, Worcester, Mass.—*Spinning Machine.*—October 27, 1868.

Claim.—1. The combination of the segment cam *k*, in two parts, elastic roller *j*, brake lever *s*, with its pin *u* and disk *v*, or their equivalents, for giving an intermittent feed to the roving, and so that the quantity of roving given out for each revolution of segment cam *k* can be regulated, substantially as set forth.

2. The segment cam *k*, in two parts, elastic roller *j*, brake lever S, with its pin *u*, disk *v*, drum G, rollers J I, and spool *c*, in combination with the twisting tube K, provided with a staple, *b′*, or their equivalents, to produce a counter twist to the roving, substantially as set forth.

3. The segment cam *k*, in two parts, elastic roller *j*, brake lever S, with its pin *u*, disk *v*, drum G, rollers J I, spool *c*, twisting tube K, with a staple, *b′*, in combination with drawing rollers *c′ e′ d′*, flier F, spindle F′, bobbin *g′*, or their equivalents to produce yarn from roving, substantially as set forth.

4. The conical cam R, or its equivalent, mounted on the traversing shaft N, in combination with the the tappet arm *j′*, lever *k′*, sliding wedge *n′*, chain wheels T, and chain *l′*, which support the spindle rails M, substantially as set forth.

83,376.—ROBERT GRACEY, Pittsburg, Pa.—*Bolt Heading Machine.*—October 27, 1868.—A weighted drop beam is, through various devices, operated by steam, and by means of a toggle, actuates the heading die of a bolt machine, an adjustable bumper head so regulating the length of the stroke, as to need no other adjustment for bolts of different sizes.

Claim.—1. The weighted lever F, link G, and toggle arms K K, in combination with the header N, and steam cylinder A, arranged and operating substantially as described.

2. An adjustable spring bumper head, J, arranged

in relation to the weighted drop beam F, toggles K K', and piston in steam cylinder A, for regulating the throw of bolt heading dies, substantially as and for the purposes hereinbefore set forth.

83,377.—ROBERT GRACEY, Pittsburg, Pa.—*Die for Bolt Making Machines.*—October 27, 1868.—A groove is made in the faces of the dies to gripe the bolt rods, give the shank its shape, and hold it for heading. A header, sliding in a socket, is attached to a shaft to work between the faces of the blocks, when the dies are closed; and to prevent their being too much heated, cold water is forced in and out of the apertures, so as to fill the groove.

Claim.—1. The combination of the dies *a a'*, die blocks *b b'*, and plunger *f*, with or without the socket *o*, said parts being arranged substantially as described.

2. The griping dies *a a'*, with raised projection *d*, in combination with the die blocks *b b'*, having water passages *n n'*, when so arranged, substantially as hereinbefore described, as to form an inclosed space for the passage of water around the raised portion of the dies whenever the heading tool is withdrawn.

83,378.—HENRY H. HALL, Boston, Mass.—*Index.*—October 27, 1868.—Principally intended to indicate the location, in an index, of any given name among an indefinite number of names. The first letter of the name being found in the left-hand vertical column of letters, the other letters of the name are noted in the same horizontal column in which said first letter stands. The figures, which are the exponents of the letters thus traced, are taken consecutively to form the index number.

Claim.—The within-described index or tabular guide to indexes, consisting of the combination of letters and figures, substantially as and for the purposes set forth.

83,379.—L. HARRINGTON, Saugatuck, Mich.—*Ironing Table.*—October 27, 1868.—The top of the table is made in three parts, hinged and doweled together, one part being stationary, the others folding. A hinged leg upholds a bearer pivoted to a post to be turned crosswise, and a holder, with a flange for a flat iron, slides under the table top.

Claim.—A folding table, made with a three-part top, A B C, in combination with flat-iron holder H I, hinged leg G, supporting a pivoted bearer S, and bearer T, constructed and arranged to operate substantially as and for the purpose set forth.

83,380.—JOEL HAYDEN, Jr., Haydenville, Mass.—*Check Valve for Steam and other Enginery.*—October 27, 1868.—The valve is opened by outside pressure upon the rod, and when such pressure is removed the cup, which is attached to the rod, is forced down by the pressure of the entering fluid, thus closing the valve.

Claim.—The combination of the valve J, cup F, connecting rod G, outlet D, and inlet C, with the partition A and valve seat B between them, whereby the fluid or liquid is enabled to close the valve by its pressure against the cup, when the valve is relieved from outside force, substantially as herein described and shown.

83,381.—HENRY HERBERT, Jersey City, N. J.—*Buckle.*—October 27, 1868.—The frame has oblong slots at the ends, into which are slipped the bent ends of slides which fasten on the inside portion.

Claim.—The self-fastening buckle, consisting of a frame and two slotted slides, for the purpose substantially as described.

83,382.—P. HOOP, Jr. and R. HOOP, Berlin Cross-roads, Ohio.—*Hot Blast Apparatus for Puddling and other Furnaces.*—October 27, 1868.—The air to be heated is passed through a series of hollow rings, one above the other, from which project lugs, and through which the products of combustion rise, circulating in them successively, they being also connected with the pipes for transmitting the air from one to another.

Claim.—1. The rings C, provided with the lugs *e*, in combination with the foundation plates *c*, as and for the purpose described.

2. The rings C, in combination with the pipes D, made in three or more sections, and having their middle portions outside the chimney, as and for the purpose specified.

83,383.—DAVID HUFFMAN, Luray, Va.—*Device for Sharpening Saws.*—October 27, 1868.—The circular saw is inserted in a slot in the block, on each side of which, and opening into it, are transverse recesses for the jaws, to which screws pass from each side of the block.

Claim.—The block A, jaws B B, and screws *c c*, when constructed and arranged as described, and for the purpose set forth.

83,384.—R. W. HUMPHREYS, Clarksville, Tenn.—*Steam Generator.*—October 27, 1868.—The boiler consists of a hollow annular cylindrical ring, and on its side is attached a cylindrical fire box having its annular space filled with water from the boiler, while the products of combustion pass through tubes in the water space of the boiler to the smoke stack.

Claim.—A steam boiler, in the form of a hollow cylindrical annular ring, with fire box, and fire flues, and smoke stack attached, substantially in the manner herein shown and described.

83,385.—AMOS B. HUNT, Matteson, Mich.—*Elevator.*—October 27, 1868.

Claim.—1. The crane B, crane post A, sheaves or pulleys, arranged at the points *d*, *f*, *u*, and *i*, rope or cord C, arranged on the sheaves, and passing down through the axis of the crane, in combination with a sweep bar, G, all substantially as set forth.

2. The swivel hook *l*, and its accessory parts, *m*, *j*, *n*, in combination with the pin *o* and tripping device *r q*, all substantially as herein set forth.

3. The crane B, when constructed of planks and parts *a a*, *g g*, *c*, *b*, *d*, substantially as described, in combination with the crane post A, bearing blocks *h h*, sweep bar G, cord or rope C, and pulleys at the points *d*, *f*, *u*, and *i*, all as set forth.

83,386.—J. M. HURT, Blacks and Whites, Va.—*Plant Protector.*—October 27, 1868.

Claim.—As a new article of manufacture, the plant protector, consisting of the cylinder A, adapted to rest upon the ground over the plant, perforated circumferentially near its top, at B, and provided with the horizontal glass top C, as herein described, for the purpose specified.

83,387.—EBENEZER JENNINGS, Jr., New York, N. Y.—*Shoulder Brace and Suspender.*—October 27, 1868.—An improvement on his patent of October 6, 1868. The double slide is made of a square piece of metal with holes cut out at the corners, and two side wings are formed by slitting the plate, leaving a center bar in the shape of an hour glass, and by bending the edges of the plate the wings lie so as to give room for the straps.

Claim.—1. A combined shoulder brace and suspender, consisting of two straps crossing each other at both ends in adjustable slides, substantially as described, either with or without an adjustable slide at the back crossing.

2. The adjustable double slide, cut from a single piece of sheet metal, or other suitable material, substantially as described.

83,388.—ALFRED S. JOHNSON, Waupun, Wis., assignor to himself and LYMAN B. BALCON, same place.—*Beehive Protector.*—October 27, 1868.

Claim.—1. The casing or box A, composed of paper or *papier-maché* for encasing a beehive, substantially as herein shown and described.

2. The shield or projection *a*, attached to the case, covering, or box, substantially as and for the purpose specified.

83,389.—THOMAS W. JOHNSON, New York, N. Y.—*Apparatus for Making Extracts from Tan Bark.*—October 27, 1868.—An improvement on his patent of September 15, 1868. An additional or secondary tank and two sets of squeezing rollers are combined with the crushing rollers, saturating tank, and elevator, so that the astringent qualities will be disengaged and the pulp left finally in a condition to be used as fuel.

Claim.—The arrangement of a secondary saturating tank, J, and two sets of squeezing rollers, G M, in combination with the crushing rollers A, saturating tank C, and elevators E K, all substantially in the manner herein shown and described.

83,390.—Daniel Kidder, Franklin, N. H.—*Knitting Machine.*—October 27, 1868.

Claim.—1. The detachable stock D, adapted and employed for the reception of the cams and yarn feeder, substantially as set forth.

2. The yarn feeder G, elevating cam F, and slotted depressing cam E, secured to the stock D, substantially as and for the purpose described.

83,391.—Michael J. Lourrentz, Leavenworth, Kansas, assignor to himself and John Myers, Jr., same place.—*Lamp Chimney Cleaner.*—October 27, 1868; antedated October 17, 1868.

Claim.—As a new article of manufacture, the holder for lamp-chimney cleaners, consisting of the two rods A A', each double-headed, the rod A passing through the button at the inner end of rod A', and *vice versa*, whereby the cleansing material is held between the inner head of one rod and the outer head of the other, as herein shown and described.

83,392.—Stephen N. Manning, Kankakee, Ill.—*Apparatus for Illustrating Spherical Trigonometry.*—October 27, 1868.—By adjusting the different parts and applying the several sections, the several points, lines, arcs, and angles of spheric triangles are shown in their true relative positions and proportions.

Claim.—The combination and arrangement of the hinged sector, plates, and wires, constructed substantially as described, for the purpose of illustrating and demonstrating the problems of spherical geometry and trigonometry, by forming the diagrams so as to show all the parts in their true relative positions and proportions.

83,393.—Lorenz Maschauer and William Frankfurth, Milwaukee, Wis.—*Pintle of Butt Hinge.*—October 27, 1868.—The pintle and eyes of the hinge are so constructed as to admit of the pintle being withdrawn far enough to detach the leaves of the hinges, but not far enough to be wholly withdrawn from the butt.

Claim.—The pintle B, made of uniform diameter in its middle and upper part, and provided with a tapering, expanded lower end, *c*, in combination with the tapering, internal diameter of the upper eye *a*, substantially as and for the purpose set forth.

83,394.—John McDonald, New York, N. Y.—*Brick Kiln.*—October 27, 1868.—An improvement on his patent of November 27, 1866.

Claim.—The tunnel or kiln, provided with a door at each end, and with a chimney, and with apertures through the side walls for the management of the fires, substantially as described, in combination with movable platforms, on which the bricks to be burned are to be stacked, with archways in which the fires are to be made for burning the bricks, substantially as and for the purpose described.

83,395.—Peter McEwen, Jersey City, and William McKenzie, Hudson City, N. J.—*Singeing Machine for Fabrics.*—October 27, 1868.—The fabric passes from the roll over tightening bars and is singed by a series of gas jets placed between the tightening bars.

Claim.—The arrangement of the rollers *b c f*, stretching bars *e e g g*, and rows of burners *l m*, for presenting both sides of the fabric to be singed, as and for the purposes set forth.

83,396.—R. L. McGowan and Walter Fletcher, Alliance, Ohio.—*Railway-switch Stand.*—October 27, 1868.—A longitudinal slot is made in the top of the switch stand, in which latter recesses are provided on one side of the slot, to receive the elastic switch lever, which is held by a dropping key.

Claim.—The lever *c*, in combination with the sliding key *b*, slot *a*, and recesses *a'*, substantially as described.

83,397.—J. N. McIntire, New York, N. Y.—*Billiard Cue.*—October 27, 1868; antedated October 6, 1868.

Claim.—A telescopic billiard cue, having a false or spring butt so constructed as to yield to any pressure, and again resuming its natural position, substantially as described, for the purpose set forth.

83,398.—Nicholas Meyers, Buffalo, N. Y., assignor to Edward L. Chamberlayne and Emerson C. Pomeroy, same place.—*Sewing Machine.*—October 27, 1868.—The pivoted arm, to which the feed plate is secured, receives a reciprocating and vertical motion from cams on the driving shaft.

Claim.—The feed plate *c'*, in combination with the shank *c*, arm *a a' a''*, spring bar *c''*, and eccentric *b*, as and for the purpose described.

83,399.—Canceled.

83,400.—Rufus Moody, Monmouth, Me.—*Holdback.*—October 27, 1868.—The breeching strap keeps the right-angled, pivoted plate down on the shaft, thus closing the loop.

Claim.—The loop *b c d*, in conjunction with the plate *e*, piece *f*, plate *k*, and hinge *h*, to be operated by the breeching strap of the harness, as herein described, when attached to a carriage shaft, as and for the purposes set forth.

83,401.—Hiram B. Morrison, Le Roy, N. Y.—*Elbow Joint for Stovepipes.*—October 27, 1868.—An angular joint is made by a tongue on one part and a groove on the other, which overlap to make a close fit. Lugs on one part fit and turn into grooves on the other which holds them in position.

Claim.—1. A cast-iron elbow, for stove and hot-air pipes, made entire, with a suitable connecting and disconnecting joint, substantially as set forth.

2. An elbow, for stove and hot-air pipes, in which the joint is so formed and connected that the arms or ends of said elbow may be turned to any position, from a right angle to a straight length, as described.

3. The combination and arrangement of the lugs F, notches *g*, groove *h*, and tongue and groove *c d*, the whole constituting the joint, as herein described.

83,402.—William Nash and Montgomery Kenfield, Malden, Mich.—*Machine for Preparing Husks for Mattresses.*—October 27, 1868.—The cutting knives sitting spirally in rows, rotate between a series of springs secured to the bottom of the box.

Claim.—The arrangement and combination of the feed rollers E and F, the spiral cutting cylinder D, and the series of slitted springs *a a a*, as constructed, and operating substantially in the manner as and for the purposes herein set forth.

83,403.—Charles N. Nickerson, Gloucester, Mass., assignor to himself and William Hodgkins, 3d, same place.—*Button.*—October 27, 1868.—Designed as an improvement on patent of J. Palmer, March 27, 1866. The stud is made smaller and is surrounded by a flanged sleeve to hold it in the cloth. A portion of the sleeve enters with the stud into the button head and the spring catches in a notch in the head.

Claim.—The combination of the sleeve E, stud A, and spring C, substantially as described.

83,404.—Johnson Orr and Henry H. Martin, Oxford, Ohio.—*Convertible Plow and Cultivator.*—October 27, 1868.

Claim.—1. The combination and arrangement, substantially as described, of the frame A C, *c c'*, swinging hangers D *d* and D' *d'*, adjustable bars E *e* and E' *e'*, nuts G G', ring bolts F *f* and F' *f'*, pins H, apertures *i*, plow beams J J', pivoted sheths K *k*, ties M, pins N, handles O, braces R *r* and R' *r'*, and catch S, for the object stated.

2. The construction of the brace T, with depressed portions *t t*, to serve as steps, and an elevated central portion, *t'*, to which the seat P is attached, all as herein described.

83,405.—John L. Otis, Leeds, Mass.—*Grinding Machine.*—October 27, 1868.

Claim.—1. In a grinding machine, in which the article to be ground is moved past the face of the grinding wheel or stone, the hanging of either the stone or wheel, or of the clamp frame that carries the thing to the ground, in arms or a swinging frame, whose center of motion is remote from the center of motion of the wheel or stone, for the purpose of grinding the tool or implement on a concave from a greater radius than that of the stone or wheel, substantially as described.

2. The feeding along of the tool or article to be ground, past the face of the wheel or grindstone, by means of the vibrating frame, reversible pawl, and its spring arm or support, and the ratchet plate, acting together in the manner and for the purpose described.

83,406.—D'Arcy Porter, Cleveland, Ohio, assignor to himself and Thomas H. White, same place.—*Tension Device for Sewing Machine.*—October 27, 1868.—The thread passes over a grooved wheel which is secured to a shaft having bearings in a standard attached to the fixed arm, and also through the ends of a stay which fits under and partly surrounds the wheel. A spring on one side of the stay presses on the thread as it passes through. The tension is regulated by a spring and screw on the standard pressing on the shaft to which the wheel is secured.

Claim.—The tension device, consisting of the grooved wheel C′, shaft B′, cap or box c′, spring I′, screw H′, stay D′, and spring G′, all arranged upon standard A′, and with relation to each other and to the thread E′, and so as to operate substantially in the manner and for the purpose described.

83,407.—Julius F. Quimby, Troy, N.Y.—*Reservoir Cooking Stove.*—October 27, 1868.

Claim.—1. Combining the chamber or flue *c* of a water reservoir or tank, C, when constructed and arranged with a cooking stove, substantially as herein described, with the diving or descending flue *e* thereof, so as to divert a portion of the unspent currents of heat going theredown therefrom, and making them pass directly into and horizontally through said flue *c*, without first passing under the stove's oven, as formerly, thus making said reservoir flue *c* a branch flue of the diving flue *e*, in manner substantially as and for the purposes hereinbefore set forth and shown.

2. Connecting each end of said branch flue *c*, when extending or passing in horizontal direction around the end sides and rear side of said water reservoir or tank C, as arranged at the rear-end side of a cooking stove, respectively, with the diving and rising flues *e* and *f* thereof, by means of apertures *a* and *a′* in the stove, opposite to the ends of said flue *c*, in manner substantially as described and shown, for the purposes set forth.

3. The combination with each other of the extended or branch flue *c*, passing in horizontal direction around the end sides and back side of a water reservoir or tank C, the cross flue *b*, as passing in a horizontal direction, and connected at each end with said flue *c* and the diving and rising flues *e* and *f*, as connected with the respective ends of said extended flue *c* by apertures *a* and *a′*, when all of a water reservoir cooking stove, and relatively arranged in manner substantially as herein described and shown for the purpose set forth.

4. In combination with the damper G, branch flue *c* aforesaid, and the aperture *a* in the diving flue *e*, the employment of a damper, *d*, to close the opening to said flue *c*, to shut off all currents of heat therefrom, and thus make of said flue an air chamber, for the purposes as hereinbefore set forth.

83,408.—Fitch Raymond and August Miller, Cleveland, Ohio.—*Compound for Preserving Cheese.*—October 27, 1868.—Composed of sulphuric acid, nitro-muriatic acid mixed with water, and used as a disinfective compound.

Claim.—The herein-described compound for the purpose set forth.

83,409.—Edwin T. Rice, New York, N. Y.—*Mode of Preventing Mildew or Injury to Fibrous Materials during their Manufacture.*—October 27, 1868.—A solution of carbolic acid and water is used to moisten the fibers.

Claim.—Moistening flax or other fibers with the material specified, so as to prevent mildew or other injury to the same while being manufactured, substantially as set forth.

83,410.—George Richards, Richland Centre, Wis., assignor to himself and Dexter E. Pease, same place.—*Bit Stock.*—October 27, 1868.—The handle is extensible both from the bit holder and rest.

Claim.—The handle A, provided with the sockets B B, to receive adjustably both the shank *b* of the rest D and the shank *a* of the tool holder C, whereby the leverage of the handle is adjusted equally from the rest and tool holder, as herein shown and described.

83,411.—Peter Rodier, Detroit, Mich.—*Stop Device.*—October 27, 1868.—The device is arranged to impinge forcibly against the belt if the latter moves in the wrong direction.

Claim.—A lever, resting in suitable bearings, and operating automatically, both to stop a belt, by compressing it between the end of said lever and another rigid body, upon the opposite side of the belt, and also to release its hold upon the belt, both operations being performed by the action or movement of said belt itself, substantially as herein described and set forth.

83,412.—William H. Rogers, New York, N. Y.—*Match Composition.*—October 27, 1868.—A composition of saltpeter, orris root, minium, phosphorous, and dissolved caoutchouc is used to make the match flexible, self-igniting, and combustible throughout its length.

Claim.—The use of caoutchouc, (or India rubber,) or of gutta percha, in a composition for the manufacture of matches, substantially as and for the purposes described.

83,413.—E. A. Sawyer, Portland, Me.—*Dish Rack.*—The curved edges of the plates are placed between pairs of parallel horizontal coils of wire which are secured to the bottom of the pan.

Claim.—The dish rack, as described, having the pan or base, *a*, with the horizontal parallel pairs of helices, all combined and arranged as and for the purposes set forth.

83,414.—William C. Selden, Brooklyn, and Charlton B. Kid, New Nork, N. Y.—*Fabric for Covering Steam Boilers, &c.*—October 27, 1868.—A sheet of wire cloth is covered with asbestos in a broken state and the latter is covered with wire cloth or wool felt.

Claim.—The non-conducting coating herein described, composed of fibrous mineral, secured between layers of strong material, substantially as and for the purposes herein set forth.

83,415.—Eli Slater and Anson H. Platt, Philadelphia, Pa.—*Hot-air Furnace.*—October 27, 1868.—The descending draught is intended to effect the combustion of the smoke and gases.

Claim.—The combination of the inner combustion cylinder or chamber *a*, outer radiating cylinder or chamber *o*, surrounding the same, and the close base *b*, all constructed and arranged so that the draught and products of combustion pass down from the first through the fire grate *g*, into the base, and thence up through the space between the two cylinders, substantially as and for the purposes herein specified.

83,416.—Daniel Snell, Springfield, Ohio, assignor to himself and J. H. Gano, same place.—*Wood Sawing Machine.*—October 27, 1868; antedated May 28, 1868.—The machine is moved from point to point along the log to saw it into sections, an immovable relation being maintained between the two, while the saw is operating, by means of the cant hook and spurs.

Claim.—The combination of the spikes or spur points C C in the forward ends of the bed timbers, to pierce the log to be sawed, and the grab or cant hook B in addition thereto, hinged or fastened to the forward cross beam, the whole constructed substantially as described, as and for the purpose specified.

83,417.—PETER SPENCE, Newton Heath, Manchester, England.—*Purifying Illuminating Gas.*—October 27, 1868.

Claim.—The use of protosilicates and protocarbonates of iron, specially the slags before mentioned, for purifying gas, for lighting, from sulphureted hydrogen, and also the use of these substances, as specified, for the product of "dry copperas," or the copperas of commerce, and the use of said "dry copperas" for purfying gas from ammonia.

83,418.—JOSEPH STEGER, New York, N.Y.—*Car Brake.*—October 27, 1868.—The movable bar or plate is pinched between the axle and the roller on the end of the lever when the brakes are to be applied, the consequent friction of the axle upon and the movement of said bar or plate effecting the desired object.

Claim.—The combination of the roller G, lever E, friction bar or plate L, and axle B, substantially as described, for actuating the brakes of a car.

83,419.—M. C. STEBBINS, Springfield, Mass.—*Portable Gas Apparatus.*—October 27, 1868.—Forced air before entering the gasometer passes first through a body of water and then through a body of oil, the two liquids being contained in separate vessels. In passing through the oil the air is converted into gas. The water vessel prevents the escape of gas from the oil vessel.

Claim.—The combination of the vessels C and D, and the gasometer B, with their pipes and connections, all arranged and operating substantially in the manner and for the purposes herein specified.

83,420.—JOHN B. STONER, LEOPOLD MENDELSON, and THEODORE CROMMELIN, New York, N. Y.—*Ballasting Vessels.*—October 27, 1868.—This device is designed to prevent undue lateral rolling of the vessel without materially retarding the progressive movement of the same.

Claim.—1. So applying a ballasting weight, B, to a casing, D D′, or its equivalent, that such weight can be raised or depressed bodily, and at the same time it is free to swing in a direction with the keel of a vessel, substantially as and for the purposes described.

2. The arms *b*, of weight B, provided with a pin, C, whose ends are fitted to slide up and down, and to oscillate in grooves *c c*, formed in the case D D′, substantially as described.

83,421.—LEVI W. SWAFFORD, EDWARD BUTLER, and JOHN R. HESS, Muscatine, Iowa.—*Blind Slat Operator.*—October 27, 1868.—The bent arm is secured to the lower movable slat of the blind, and the end of the lever may be placed over or under the projection on said arm in order to adjust the slats.

Claim.—The bent arm G and slotted lever E, arranged, with relation to the blind slats and window casing, in such a manner that their combined action shall adjust said blind slats in any required position, as herein shown and described.

83,422.—BENJAMIN TATHAM and JOSEPH STEGER, New York, N. Y.—*Car Brake.*—October 27, 1868.—A reversing arrangement causes the brakes to be brought in contact with the wheels, whatever may be the direction in which the cars are moving.

Claim.—1. The reversing arrangement, as herein substantially described, by which the brakes of a car may be brought into alternate action by the motion of the plate and axle.

2. The means, as herein substantially described, of applying the brakes simultaneously upon the wheels of a series of cars by the combined operation of a connecting rope, chain, or rod, upon a series of levers, one on each car, the levers having friction rollers, and acting, by the revolution of the axles on the brakes, as set forth.

83,423.—HENRY A. TILDEN, New Lebanon, N. Y.—*Manufacture of Vinegar.*—October 27, 1868.—The temperature of the air in the acidifying vat is regulated by the steam coil in the jacket, to which air is admitted from the exterior and from which it passes into the vat.

Claim.—The jacket *f* around the vat *a*, with the openings 2 and 3, in combination with the heating coil *g*, as and for the purposes set forth.

83,424.—J. B. TUNSTALL, Boydton, Va.—*Hydraulic Press.*—October 27, 1868.—The levers connected with the cross head serve to actuate, through the medium of toothed segmental extremities, a press platen, and the shaft of a weight elevator.

Claim.—The arrangement, herein described, of cross head D, attached to levers E E′, by link connection *x*, segment gearing *o o*, rack *g*, press head G, shaft F, pulley *f*, with its cord and weight, all constructed and operated as set forth.

83,425.—GEORGE WALTERS and THOMAS SHAFFER, Phœnixville, Pa.—*Method of Constructing Wrought-iron Columns.*—October 27, 1868.

Claim.—An improved column, formed by the combination of the segmental bars C, skewback bars A, and interior rings or bands B, with each other, substantially as herein shown and described, and for the purpose set forth.

83,426.—JOSEPH W. WATTLES, Canton, Mass.—*Ring for Spinning Machine.*—October 27, 1868.—Upon a stoppage of the frame so as to sufficiently lessen the draught of the yarn on the traveler, the latter descends into the oil in the trough; hence when the traveler is again put in operation it lubricates the flange of the ring.

Claim.—The improved ring, as made with the traveler supporter or rail *a*, and the oiling trough *b*, arranged as represented in the accompanying drawings, and as hereinbefore described, such being so as to cause the traveler, on ceasing to revolve on the supporter, to dip its lower part into such groove, as and for the purpose specified, when such groove may be supplied with a lubricating fluid.

83,427.—JAMES D. WHELPLEY, Boston, Mass.—*Rotary Steam Engine.*—October 27, 1868.—The axes of the steam cylinder and abutment ring are parallel, but eccentric; the axis of the piston chamber and the motion of the reciprocating piston are at right angles to the axis of rotation of the cylinder, and the piston rod acts directly upon the abutment ring, causing it to rotate upon the friction cradle and impart a rotary motion to the cylinder through the medium of the interior ring. The valves are situated at the ends of the cylinder and operated by means of eccentrics.

Claim.—1. The friction cradle, consisting of exterior-bearing rolls *b* and interior ring *a*, in combination with abutment ring, G, substantially as described.

2. The arrangement of the interior friction ring *a*, whereby its axis of revolution coincides with the axis of revolution of cylinder A, substantially as described.

3. The arrangement of the steam cylinder D, revolving on its axis, perpendicular to the axis of its piston cavity, and carrying the reciprocating piston E, combined with rod F, abutment ring G, and friction roll *a*, substantially as described.

4. The arrangement of the steam cylinder D, the reciprocating piston E, rod F, abutment ring G, and friction rolls *b*, substantially as described.

5. The combination of the eccentric *m*, gib *l*, eccentric *k*, gib *i*, and valve plate *h*, with reference to the rod *n*, and ears on the induction pipe H, substantially as described.

6. The arrangement of the valve chest C, valve plate *o*, with the packing *p*, and adjustable eccentric *r*, substantially as described.

7. The arrangement of the cylinder A, with the trunnion K revolving with it, abutment ring G, and its friction cradle *b* and *a*, and the neck B of the steam chest revolving with cylinder A, with reference to the fixed steam pipe H, substantially as described.

8. The arrangement of the valve plate *h*, revolving about a ring, *k*, held from revolution by ears on pipe H, thereby allowing linear motion when combined with the adjustable interior eccentric *m*, pivoted on the axis of revolution of cylinder A, substantially as described.

83,428.—WILLIAM S. WIDGER and WILLIAM M. READ, Fairfield, Iowa.—*Apparatus for Tolling Grain.*—October 27, 1868.—The grist passes through the funnel and gives it a rotary motion, so that the spout, at each rotation, receives a portion of the passing grain and conducts it out of the regular channel. The spout may be adjusted so as to embrace a fractional part of the area of the funnel's mouth, which shall correspond with the amount to be tolled.

Claim.—The rotary funnel A, having a spout provided with the movable part C′, adjusted by means of the slot and set screw, all arranged and operating substantially as herein set forth.

83,429.—WILLIAM S. WILCOX, Wellington, Ohio.—*Trap Net.*—October 27, 1868.—The object is to afford better security at the point where the funnel enters the trap net or "pound." The cover is used when the net is set entirely under water. Weights are substituted for stakes.

Claim.—1. The supplementary funnel G, and cover C′, as arranged, in combination with the funnel C and pound A, in the manner as and for the purpose set forth.

2. The use of weights, J, for sinking and anchoring the net, in combination with buoys, in the manner substantially as described.

83,430.—WILLIAM LOUIS WINANS, Clarges Street, England, and THOMAS WINANS, Baltimore, Md.—*Condenser.*—October 27, 1868; patented in England March 23, 1866.—The pipe which conducts the water to the pump from the condenser-reservoir is surrounded at top by a tube, which always projects somewhat above as well as below the surface of the condensed liquid. The mouth of the pipe stands below said surface so that the water which passes into said pipe must be taken from a point sufficiently below the surface to preclude the passage of the greasy, floating matter to the pumps.

Claim.—The means herein set forth of constructing the condensers of steam engines, and providing for the drawing off therefrom of the greasy water or scum that may accumulate therein.

83,431.—GEORGE WINTER, Buffalo, N. Y.—*Beer Cooler.*—October 27, 1868.—Tanks within the reservoir are so connected that as soon as one tank is filled with beer, the surplus is discharged into the next, and so on, until all are filled. A reservoir receives the warm water from the surface, and subjects it to further use, by contact with the tank containing the warmest beer, before the water is discharged.

Claim.—1. The tanks A, in combination with the reservoir B and conducting pipes D, all parts being constructed, arranged, and operating substantially as herein described.

2. Supporting the tanks A, within the reservoir B, by means of the upright posts or rods B′ and cross-bars or tie rods C, substantially as set forth.

3. The reservoir F, in combination with the tanks A, for the purposes and substantially as herein described.

83,432.—ALBERT A. YOUNG, Boston, Mass., assignor to himself, HELEN J. DALTON, and GEORGE W. ARMSTRONG, same place.—*Wardrobe Bedstead.*—October 27, 1868.—The bed frame is supported upon legs, the center ones being detachable, and serve to fortify the hinges. The pillow rest is hinged to the bed frame, and has suspensory, yielding support.

Claim.—The combination and arrangement of the several parts of the wardrobe bedstead, to wit, the case A, with its drawers B B, the two parts of the bed frame *d d′*, joined by the hinges *i i*, with its pillow rest *e*, its cord *p*, with its spring *s*, the intermediate legs *k k*, having supports *q q*, and the turn-down legs *j j*, and the sacking *g*, all combined and arranged, substantially in the manner and for the purpose set forth.

83,433.—G. ZIPPE, New York, N. Y., assignor to himself and WERNER WERNER, same place.—*Process and Composition for Tanning Leather.*—October 27, 1868.—The hides are, after being unhaired, steeped in a solution of sugar of lead. They are then treated with a compound of alcohol, water, sulphate of iron, sulphuric acid, manganese, sirup, salt, and chlorochromic acid. Finally they are steeped in a soaping compound, of linseed, tallow soap, tallow, water, and alcohol.

Claim.—1. The composition herein set forth for impregnating hides during the tanning process.

2. The process herein set forth of tanning hides.

3. The soaping compound herein described for insolubly binding the metallic contents of the tanning compound.

83,434.—JOHN ABRAHAM and THOMAS RICHARD BAYLISS, Birmingham, England.—*Cartridge.*—October 27, 1868; patented in England, March 20, 1868. By reason of the incisions, the cartridge shell expands and prevents the escape of gas when the explosion takes place, and afterward contracts to admit of its ready withdrawal.

Claim.—1. Making a series of longitudinal, oblique, or helical incisions in the metallic cases or shells of the said cartridges, for the purpose and substantially as hereinbefore described, and illustrated in the accompanying drawing.

2. The construction, substantially as herein described, of the percussion chamber, by forming the same, as shown and set forth, of a blank, independent from the cartridge case, and securing it in the rim of the case, as herein described.

3. The combination, with a cartridge case, provided with a percussion chamber constructed as described, of a primed percussion pin, enlarged at its base, so as to close tightly the said chamber, substantially as herein set forth.

83,435.—ANSON T. ADAMS, Indianapolis, Ind. *Washing Machine.*—October 27, 1868.—The clothes in boiling are situated between the two "bottoms," the upper of which constitutes a presser operated by the lever. The end of the lever is fitted upon a journal or lug, and is held against any sliding movement thereon by a hook which engages in a groove in the lug.

Claim.—1. The application of the lever A B, and the perforated bottoms F G and H I, to an ordinary wash boiler, for the purpose and in the way substantially as herein set forth.

2. The combination of the hook *g h* and the lug *e c* with a common wash boiler, with perforated bottoms, constructed as aforesaid, and used in the way and for the purpose herein set forth.

83,436.—JOHN H. ALDRICH, Northbridge, Mass. assignor to himself and JOHN C. WHITIN, same place.—*Flier for Speeders.*—October 27, 1868.

Claim.—The flier, substantially as described, having the arm of the flier and the detachable presser connected by a spiral guide and worm so that when turning one way, the presser detaches from the flier when there is no bobbin or spindle for it to press against, and turning the other way, it stops by the presser arm itself coming in contact with the end of the flier arm, thus forming a more direct passage for the roving to the presser arm, substantially as described.

83,437.—PRUDDEN ALLING, Norwalk, Ohio.—*Vine Cutter and Garden Cultivator Combined.*—October 27, 1868.—The cutter serves to lop off the runners of the vines, and the cultivator shovel stirs the soil.

Claim.—The wheel B, cutter C, cultivator D, and beam A, combined and arranged to operate in the manner as and for the purpose set forth.

83,438.—JOHN E. ANDERSON, Boiling Spring, Pa.—*Grain Cleaner.*—October 27, 1868.—The scouring wheel consists of two disks set apart from each other upon a central hub and connected by groups of rods and strips of metal.

Claim.—1. The scouring wheel, substantially as described, when forming part of a grain cleaner, all as set forth.

2. The arrangement of the scouring wheel above the fan wheel, with the chute board K, inclined screen L, and chaff box B, all substantially as set forth.

83,439.—Daniel Armstrong, Chicago, Ill.—*Sash Fastener.*—October 27, 1868.—The two parts of the bolts are supported at their inner ends by a thimble or socket which incloses the single spring that forces outward both parts of the bolts.

Claim.—The arrangement of the thimble B and coil spring *m*, the latter fitting into the ends of the bolts A A′, and operating both of them at the same time, in combination with thimbles G G, pins *d d*, and thumb pieces *c c*, as and for the purpose set forth.

83,440.—Benjamin F. Atwood, New York, N. Y.—*Compound to be Applied to the Hair.*—October 27, 1868.

Claim.—1. A hair-stimulating compound, consisting chiefly of a decoction of quince seed and smart weed, substantially as herein described, as a new article of manufacture.

2. The addition, to the said quince seed and smart weed, of sage, sweet fern, and hemlock bark, to form a modification of the compound, substantially as described, the whole being softened with glycerine, all as set forth.

83,441.—N. Aubin, Plattsburg, N. Y.—*Peat Machine.*—October 27, 1868.—The shaft and cutters act to grind and work the peat as it is propelled through the cylinder. The ribs on the removable bottom of the mold form corresponding indentations in the molded peat, which, in drying, break up into bricks or blocks, the indentations being at the lines of separation.

Claim.—The cylinder A, provided with the stationary shear-bladed cutters E, shaft C, with trough-shaped revolving knives F, and mold D, with its removable bottom *d*, having annular projections *d*¹, all arranged together, and operating substantially as and for the purposes herein set forth.

83,442.—William W. Babcock, Harmar, assignor to himself, A. W. McCormick, and Samuel S. McNaughton, Marietta, Ohio.—*Car Brake.*—October 27, 1868.—The combination of the screw and toggle-joint levers is designed to constitute a powerful brake to insure the instantaneous stopping of the wheels.

Claim.—1. The combination of the screw spindle C, cross bar G, lever H, and brake head I, when said parts are constructed to operate substantially as described.

2. The combination of the screw spindle C, cross bar G, lever H, arm J, and wedge-shaped brake head K, when constructed to operate in the manner set forth.

3. The arrangement of the brake heads I K M, wheels B B, levers H L, cross bar G, and screw spindle C, as described and shown.

83,443.—John G. Baker, Philadelphia, Pa., assignor to Henry Disston, same place.—*Saw-grinding Machine.*—October 27, 1868.—The object of this arrangement of the stones is to allow the saw blade to yield to any slight irregularity of either stone. The guide bars prevent the tilting of the blade.

Claim.—1. A saw-grinding machine, in which two stones are so arranged that a line drawn through their centers shall be at an angle with the blade of the saw, as and for the purpose herein set forth.

2. The combination of the above with the guides E and E′.

83,444.—William Baxter, Newark, N. J.—*Steam Engine Valve Device.*—October 27, 1868.—The throw of the valve is controlled by interposing between the moving cam and the valve a resisting medium, the action of which on the valve increases or decreases, according to the speed of the engine, in such a manner that the speed of the engine is regulated by the valve itself without the use of a governor.

Claim.—1. The piston K and barrel J, in combination with the valve H, substantially as herein described.

2. The regulating valve *g*, in combination with the barrel J, piston K, and valve H, substantially as herein set forth.

83,445.—William Baxter, Newark, N. J.—*Steam Generator.*—October 27, 1868.—The fire box is provided with descending flues passing through the water space and communicating with a jacket surrounding the water space and extending up to the water line of the boiler, so as to leave the dome uncovered.

Claim.—The arrangement of the fire box A, flues D, jacket F, pipe K, and steam dome G, substantially as set forth.

83,446.—Sidney A. Beers, Brooklyn, N. Y.—*Splice for Railroad Rails.*—October 27, 1868.—A flat bolt fits in a mortise formed by slots in the end of each rail. The nut attached to such bolt is prevented from working loose by a key resting in a slot in the joint of the bolt and corresponding slots across the face of the nut.

Claim.—1. The combination and arrangement of the flat bolt and nut with fishing plates, as illustrated by letter *e*, Fig. 1″, and letter *c*, Fig. 3, when applied to any form of rail.

2. The device for preventing the nut from working loose, as illustrated by letters *c* and *d*, in Fig. 1″, whether used separately or in combination, for the purposes above set forth.

83,447.—Erastus S. Bennett, Brooklyn, N. Y., assignor to himself and Justus Smith, same place.—*Shirt and Drawers Combined.*—October 27, 1868; antedated October 7, 1868.—The shirt and drawers are made in one with buttons down the front. The back portion covering the lumbar region of the spinal column, is re-enforced. A drawing string is applied above the hips to take the weight of the drawers from the shoulders.

Claim.—1. The combination of the shirt or body E E, drawers or legs F, and the re-enforced portion B and C C, all substantially as described, and for the purposes set forth.

2. In combination therewith, the drawing string or adjuster *a a*, applied and operating substantially as described.

83,448.—Benjamin S. Benson, Baltimore, Md.—*Mold Blacking Machine.*—October 27, 1868.—The hub of the gear wheel is elongated below the bearing and is provided with a spool which, by means of a latch, may be locked so as not to revolve. A cord attached to the sleeve and extending over two pulleys is secured to the brush, and by locking the sleeve the cord is wound round the shaft and the brush is raised.

Claim.—1. Supplying the brush and mold with blackwash, or facing, for coating the inner surface of pipe molds, through a hollow shaft or tube, while the brush is spreading and smoothing it.

2. The reservoir D, communicating pipes E F, valves *e′ c*, and hollow revolving shaft, in combination with a revolving reciprocating brush.

3. The spool H and pawl or latch *h*, in combination with the cord I and pulleys *i i*.

4. A revolving reciprocating brush, in combination with a force pump, so arranged that it will supply the brush with the blackwash at the time of its being rotated.

83,449.—Alfred Berney, Jersey City, N. J.—*Tea-kettle Boiler.*—October 27, 1868.—The body of the boiler is made tapering to enable it to be fitted to any tea kettle. It is graduated so as to be read on the inside or outside.

Claim.—A combined tea-kettle boiler, pitcher, and measure, made of tapering form, as described, and provided with a handle, lid, and spout, also graduated into quantities, essentially as herein shown and described.

83,450.—John Bond, Versailles, Ill.—*Stirrup.*—October 27, 1868.—An oscillating bottom pivoted in flexible prongs opens and disengages the foot in case the rider is thrown from the horse.

Claim.—As a new article of manufacture, the riding stirrup, consisting of the elastic pendent prongs, A, between which the oscillating foot piece B is pivoted in such a manner as to fall out when the elastic prongs are spread apart, as herein described, for the purpose specified.

83,451.—PATRICK B. BONNER, New York, N. Y.—*Mode of Soldering Galvanized Iron.*—October 27, 1868.—The seam in the iron to be soldered is first coated with muriatic acid, which, when the copper is applied, wholly removes the galvanizing.

Claim.—The process of soldering galvanized iron, substantially as herein described and set forth.

83,452.—S. C. BRINSER, Middletown, Pa.—*Horse Rake.*—October 27, 1868.—The head is locked and prevented from rotating in raking over even ground, and is readily unlocked to trip the rake head to avoid stones and uneven surfaces.

Claim.—The combination and arrangement of the lever H, curved, as described, and shown with the connecting rod F, having a series of holes in its rear end; the frame K, having the series of holes *k'*; the arm E, and the rake teeth B B, when the said parts are so constructed and combined together as to operate in connection with a pin in the frame K, substantially in the manner described.

83,453.—SARAH H. BRISBANE, Fordham, N. Y.—*Scissors.*—October 27, 1868.—The gauge fits in a beveled slot in the back of the upper blade, and is held by a beveled wedge or a thumb screw.

Claim.—1. The combination, with a pair of scissors, of a gauge or measure, B, substantially as and for the purposes set forth.

2. A pair of scissors, one blade of which is provided with a slot at right angles to the line of its cutting edge, in combination with a gauge or measure, B, substantially as and for the purposes set forth.

83,454.—JAMES BROWN, Matteawan, N. Y.—*Trace Fastening.*—October 27, 1868.

Claim.—1. The socket A, having a tapering dovetailed groove formed in its outer end, the strap or bar B, having its rear part dovetailed and tapering, and having a crosshead *b'*, formed upon its rear end, and the spring C, or equivalent, in combination with each other, substantially as herein shown and described, and for the purpose set forth.

2. Forming an inclined recess *a'*, in the bottom of the forward end of the dovetailed groove in the end of the socket A, to receive the end of the spring C, in detaching the fastening, substantially as herein shown and described, and for the purpose set forth.

83,455.—HENRY C. BULL and SAMUEL T. SHELLEY, Louisville, Ky.—*Hose Coupling.*—October 27, 1868.—A slotted eccentric ring bears against the projections protruding through grooves in the female portion of the coupling, and on being turned the eccentric portions press the male portion toward the shoulder, and tighten the joint.

Claim.—A hose coupling, consisting of the following elements: The female portion E, with its concave shoulder *f*, the male portion F, having the elastic ring or tube secured therein, and the eccentric ring D, all constructed and combined substantially as herein described.

83,456.—FRANCIS L. CAGWIN, Joliet, Ill.—*Automatic Spading Plow.*—October 27, 1868.

Claim.—1. The spades *a*, when operating in the manner and by the devices described, so as to enter the ground on the cycloid line, as set forth.

2. The maintaining of the parallel between the spades *a*, from the time of their entry into the ground until the heel of the spades comes to a rest up against the drum or disk *b*, to any given point, either before or past the hinge line, by means of the traction and weight of the machine, causing them to turn on their hinge, as described.

3. The backward turn of the spades *a* from the cycloid entry line to their original position, as described, by means of the upright lever *e*, and spring *i*, as set forth, regulated to stop at any given cycloid point by means of the device shown in Fig. 5, or its equivalent.

4. The spades *a*, constructed with a crank and hinge, when attached, as set forth, to the periphery of the drum or disk *b*, in combination with the upright lever *e* and spring *i*.

5. A rotary spader or plow, constructed with spades *a*, hinged to the drum or disk *b*, as shown in combination with a frame, constructed and operating substantially as set forth.

6. The mode of leverage, substantially as described, to force the spades into the ground, and to raise them out of the ground when desired, as set forth.

7. The combination of all the parts described, when arranged and operating as set forth.

83,457.—CHARLES W. CAHOON, Portland, Me.—*Steam Generator.*—October 27, 1868; an improvement on his patent of November 5, 1867.—The water heated to a proper temperature is conveyed from the boiler into the tanks on the carriage, through flexible pipes which are connected by a coupling with the carriage pipes. When the temperature of the water in the carriage has fallen below the necessary temperature for producing power, it is conveyed through a flexible pipe into the boiler tank to be reheated.

Claim.—1. The boiler A, with the pipe B, flexible by means of the joints D D, having the coupling E, and valves, substantially as herein set forth and described.

2. The combination of boiler tank F with the boiler A, and with reference to the carriage C, substantially as herein described.

3. The combination of pipe G, flexible, as described, and having the coupling, whereby to convey the residuum of the carriage reservoirs into the boiler tank F, as described.

4. In combination with the boiler A, having a supply pipe, B, for connecting with the carriage C, to supply the tanks therein, as described, the relief pipe *b*, with its valve *c*, substantially as described.

83,458.—EDWARD CARD, Providence, R. I.—*Double Oven Cooking Stove.*—October 27, 1868.—A division plate under the hinged oven serves to throw an equal amount of heat over the bottom, the heat being again brought toward the center of the stove by the division plates at the back of the front oven, and then entering a branch of the return flue which extends under the back oven.

Claim.—1. Placing the forward oven, with its accompanying flue, upon joints or hinges, substantially as described.

2. The division plate *h*, in combination with either of the division plates *i* or *i'* and plate *a*, substantially as described.

83,459.—HENRY CARPENTER, Brooklyn, E. D., N. Y.—*Peach Basket.*—October 27, 1868; antedated October 17, 1868.

Claim.—Securing the raised bottom of the peach basket upon the inner hoop D by means of the central batten *a* let into said hoop at each end, beneath the bottom, and by the wires *c* and screws *b*, all arranged as described, whereby the bottom and batten are raised above the lower edge of the hoop D, and prevented from being knocked into the basket, when the latter is inverted and used as a seat, as herein shown and described.

83,460.—PATRICK P. CARROLL, Washington, D. C.—*Ironing Table.*—October 27, 1868.—The top of the table is provided with sliding sections of different widths, which, when drawn out and supported by supplemental legs, serve as ironing boards.

Claim.—A combined ironing and work table, consisting of the sliding parts C C C, and supplementary legs D D, in combination with a table of the usual form and construction, substantially as herein shown and described.

83,461.—DEXTER H. CHAMBERLAIN, West Roxbury, Mass.—*Elevator for Buildings.*—October 27, 1868.—In the event of the rope breaking, the pin is forced down by the spring, which causes the levers to raise the wedges until they impinge on the rods.

Claim.—The rods *c c*, or their equivalents, in combination with the wedges *d d*, or their equivalents, and the cross head C, substantially as and for the purpose set forth.

2. The levers H H, spring *h*, and pin G, in combination with the wedges *d d* and the rods *c c*, for the purpose described.

83,462.—THEODORE CLOUGH, Dobb's Ferry, N. Y.—*Lamp.*—October 27, 1868; improvement on his patent of November 26, 1867.—Designed to prevent the accumulation of the solid products of combustion in the burning of heavy oils.

Claim.—The two opposite segmental wick tubes, in combination with the air jet pipe, having a gas burner nozzle, when arranged in combination, substantially as described.

83,463.—T. S. Coffin, Harrington, Me.—*Hammer.*—October 27, 1868.

Claim.—The hatchet D, adapted to be removably attached to the hammer head A, having the short claws B, by means of the screw E, and held in any desired position by the spring-catch *a b d*, as herein described, for the purpose specified.

83,464.—Franklin Coffrin, Claremont, N. H.—*Car Coupling.*—October 27, 1868.—Designed to be self-connecting, and also to be automatically disconnected in case any car should run off the track.

Claim.—The levers or keepers *f*, the pins *h*, the spindles *g*, the springs *i*, the staple *l*, the hooks *e*, and link D, all arranged and combined substantially as and to operate for the purposes specified and set forth.

83,465.—J. Collier, Morenci, Mich.—*Machine for Twisting Jack Bands.*—October 27, 1868.—Rotating hooks, and a stationary hook for twisting the yarn, are arranged with the devices for operating them, and are automatically thrown out of gear when the yarn has been sufficiently twisted.

Claim.—The combination of the hook H, levers I and L, sliding wheel C, hooks F, and springs G K, substantially as and for the purpose described.

83,466.—William S. Colwell, Allegheny City, Pa.—*Stave Machine.* — October 27, 1868.—Into the rack which is secured to the back part of the ram are two wheels, one of them having teeth on only a part of its periphery, and above them, on a shaft, are placed corresponding wheels which gear into each other.

Claim.—The combination of the wheels *f*, *g*, *h*, and *i*, with the rack *e*, for imparting a reciprocating motion to the ram B, substantially as herein described and set forth.

83,467. — Levi Richardson, Comstock, and James N. Cherry, Keokuk, Iowa.—*Refrigerator and Cooler.*—October 27, 1868.—A removable tube, with a perforated cap at one end and a diaphragm at the other, is fitted in the ice chamber, which, with the refrigerator chamber, has a removable top of two lids hinged together. Two dead spaces, one inside of the other, surround the sides of the cylinder and the reciprocating space, and a trough with discharge pipes runs around the outside wall at the bottom.

Claim.—1. The combination of the ice chamber K with the horizontal detachable strainer L, and chamber I, and hinged lids C C′, as and for the purpose specified.

2. The combination of the non-conducting chambers A P, and the trough O, and pipes N and M, as and for the purposes specified.

83,468.—Ezra G. Cone, East Hampton, Conn.—*Call Bell.*—October 27, 1868.—Two gong-shaped bells are secured to the arms of a bifurcated shank which passes through the handle, and a two-headed hammer, the rod of which is held at one end by a pin passing through its eye and the arms, after striking the gongs, is brought back and held by a loop in the rod which strikes against the shank on both sides.

Claim.—The combination, with a suitable handle, of two gong-shaped or open-mouthed bells, provided with a suitable clapper or clappers, substantially as arranged and as herein specified.

83,469.—Horace I. Crandall, New Bedford, Mass.—*Cog Wheels for Gearing.*—October 27, 1868.

Claim.—1. The teeth of cog wheels, for gearing, constructed as hereinbefore described.

2. The thickness of the teeth spaced at right angles from the center line of the same, substantially as set forth.

3. The meeting point of the root and point face circles inside of the pitch circle, in accordance with the rules, as specified.

4. The radii, for sweeping the faces of the teeth, obtained from the wheel containing the least number of teeth in a set, as so described.

83,470.—F. A. Crane, Zanesville, Ohio.—*Hay Elevator.*—October 27, 1868.—A plank is provided with lateral rails on each side of its lower edge, on which the hanging truck with pulleys, rollers, and a catch lever travels to and fro, the arrangement being such that the truck will be held until the hay is at the proper height, and, on raising the catch lever, it will be free to move to the position for discharge.

Claim.—1. The combination of the plank A, having lashings B, side rails C, with the truck D E E, rollers G, catch lever H, having a shoulder, *h*, and stirrup plate I, shoulder cleat J, expanding pulley *a a*, having shoulders *k*, with India-rubber block interposed between them, rope K, and pulley L, all constructed and operating together, substantially as shown and described.

2. The pulley, constructed as described, of the circular plates *a a*, having radial shoulders *k*, clamping between them the India-rubber disk *b*, in such a manner that the width of the disk and the distance between the plates are made adjustable, for the purpose specified.

83,471.—Royal Cummings, Newport, Vt.—*Printing Press.*—October 27, 1868.—The type beds, one above the other, have each at one side a rack gearing into the toothed wheels of the pressure cylinder. The upper bed has also a rack which gears into the wheel of the lower cylinder, motion being thus given from the shaft through the upper bed to the lower one, and to both the cylinders, while the paper passes over and under a succession of large and small rollers at both sides of the two cylinders, respectively, to the shears.

Claim.—1. The pressure cylinders C C′ in connection with the reciprocating type beds B B′, and the paper feed rollers I I′, J J′, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The combination of the two impression cylinders C C′, revolving in opposite directions above the reciprocating beds B B′, with the paper-carrying cylinders I I′, J J′, substantially as described, for the purpose specified.

83,472.—John Custer, Corsica, Ohio.—*Subsoil Plow.*—October 27, 1868.—The share bar is fixed to the plow beam and to the lower end of the rear beam by which it passes through a slot in the bar, and also through the end of the beam, while through a slot in the flattened end of the bar, and another in the plow beam, passes a cutter.

Claim.—1. The share bar D I K, with slots *d* and *h*, when constructed and used in combination with the plow beam A and rear beam B, substantially as and for the purpose herein specified.

2. The peculiar arrangement and combination of the share and shoe F G, bolts *f f*, and share bar D I K, the several parts being arranged substantially as and for the purpose specified.

3. The peculiar arrangement and combination of the share and shoe F G with common point *g*, the cutter E, share bar D I K, and plow beam A, the several parts being arranged substantially as and for the purpose specified.

83,473.—John Dare, Liberty, Ind.—*Washing Machine.*—October 27, 1868.

Claim.—The arrangement of the roller D, pawl *j*, and ratchet *f*, for allowing the same to move without revolving one way, and to revolve the other, when suspended from the arms C, and exterior adjustable springs B, and operated by the double lever H, all as herein shown and described.

83,474.—John Davis, Allegheny City, Pa.—*Tellurium.*—October 27, 1868.

Claim.—1. Pivoting one pole of the earth to the disk 8, and pivoting it to the crank 7, and operating said disk and crank through the medium of disk 6, wheels *t*, x^1, 5, and endless screw 15, the whole being constructed, arranged and operating in the manner substantially as herein described, and for the purpose set forth.

2. The inclined disk B′, in combination with disk o^1, stem 18, and arm 11, provided with friction wheel 12, said disks being constructed, arranged, and made operative through the medium of the mechanism herein described, and for the purpose set forth.

83,475.—Lester Day, Buffalo, N. Y., assignor to himself, Henry F. Briggs, and Edward Belding, of same place.—*Apparatus for Transporting, Extending, and Elevating Pipes and Hose.*—October 27, 1868.

Claim.—1. The reservoir M, swivel G, windlass I, and the extension pipe C E, in combination with the platforms A and B, as and for the purpose described.

2. Pipes E and F, the latter having a spring cover, *u*, guide rope *f*, annular coupling *g*, and belt *v*, in combination with case C, socket D, raising and lowering devices *i j k l n*, and guides *r s*, as herein set forth.

3. The hollow axle N, with bars and supports J, as specified.

83,476.—F. W. Dean, Tremont, Ill.—*Trace Fastener.*—October 27, 1868.—A loop hinged to the singletree holds the trace from slipping off the pin in the singletree, and may also be moved away from the pin when the trace is slipped over it.

Claim.—The loop B, hinged to the rear of the singletree A, and adapted to rest against the front side of the pin *a*, outside the trace, and the equivalent of the hoop B, as shown at D *d* and *e e*, all operating as described, for the purpose specified.

83,477.—Thomas Depp, San Marcos, Texas.—*Stitching Horse.*—October 27, 1868.—To the forward part of a lever, which is connected with the seat, is attached a strap, which passes through a hole in the bench and in the stationary jaw, and is fixed to the movable jaw of the clamps.

Claim.—1. The combination of the seat D, lever F, and strap or cord H, with each other and with the bench B and clamps C, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the foot lever K, and strap or cord I with the lever F and bench B, substantially as herein shown and described, and for the purpose set forth.

3. An arrangement of mechanism by means of which the jaws of the clamps of a stitching horse may be closed to hold the work by the weight of the workman when sitting upon his seat, substantially as herein shown and described.

83,478.—Charles Dyer, Coal Run, Ohio.—*Combined Corn Planter and Cultivator.*—October 27, 1868.

Claim.—The described arrangement of the flexible tubes G, rigid tubes H, standards I, furrow shares J, seed coverers L^x, pivoted braces J^x, standard N, shares M, pivoted brace O, connecting rod *f*, crank shaft *g*, and lever K^x, as herein set forth for the purpose specified.

83,479.—Duncan Edge, St. Mary's, Ill.—*Beehive.*—October 27, 1868.

Claim.—A bee-hive, having the stationary central chamber, with the glass, D, at one end, and the removable piece *a* at the opposite end, with the drawers B, and doors C, arranged on opposite sides thereof, all constructed as described.

83,480.—Simeon F. Emerson, Seville, Ohio.—*Wringing Machine.*—October 27, 1868.—Upon the axis of the bearing plate revolve intermediate gears, and a curved slot in it receives the journal of the lower roller at the gear end, while the plate extends partly over the roller like a hook, and thus prevents its rising when operating.

Claim.—1. The bearing plate C^2, furnished with axes C and C^1, substantially as and for the purpose set forth.

2. The bearing plate C^2, furnished with axes C and C^1, slot *d*, and hook *d′*, substantially as and for the purposes set forth.

3. The curved slot *d* and hook *d′*, in combination with the gears $c\ c^1$, $b\ b'$, rollers B B^1, slotted plate G, wedge-shaped bearings *h*, and plate C^2, with the axes C C^1, substantially as and for the purposes set forth.

83,481.—William B. Evans, Bracken County, Ky.—*Shovel Plow.*—October 27, 1868.

Claim.—The circular conformation of the rear portion of the beam, the front or inner part of which is formed of steel, and reduced to a sharp cutting edge, and bent downward, at its lower end, for the reception of the plowshare.

83,482.—John Gilmore, Phœnixville, Pa.—*Horse Hay Fork.*—October 27, 1868.—The knives have on each side an elevation, a little distance from their edges and points, to keep them from cutting the hay when it is raised.

Claim.—The turning knives C C, provided with the projecting pieces *d d*, to prevent the knives from cutting through the hay when the latter is being elevated, substantially as set forth.

83,483.—Levi F. Goben, Spring Hill, Mo.—*Rotary Steam Engine.*—October 27, 1868.—The central cylinder has two longitudinal cavities diametrically opposite each other in its outer surface. Four cylinders in their respective chambers rotate in contact with this cylinder, and the pistons on each pair work in the cavities alternately, thus rotating the central cylinder.

Claim.—1. The construction of the central cylinder A, with longitudinal channels adapted to receive the pistons C of the cylinders B, substantially as herein shown and described,

2. The steam chambers *d*, having ports *e f*, and adapted to receive the cylinders B, provided with pistons C, substantially as herein shown and described.

3. The combination of the central cylinder, having longitudinal grooves, the cylinders B, provided with pistons C, and the steam chambers D, with ports *e f*, all arranged within the case A, to operate substantially as described.

4. The means for operating the cut off valve, consisting of the arms *n n* and crank *g*, all arranged to operate substantially as herein shown and described.

83,484.—George W. Goodwyn, Petersburg, Va.—*Rotary Steam Engine.*—October 27, 1868.—The rotary valve is fixed to a short spindle, revolving and working in the steam chest, and covering the steam port during most of its revolution, apertures in the valve at certain points coming over it to permit the passage of the steam, while an equal number of arms are attached to the spindle, outside of the steam chest, and as many more also are fixed to the shaft, so that as it rotates these arms strike the others, and partially rotate them with the valve.

Claim.—1. The combination of the rotary valve H with the arms *t t t*, R R R, when so constructed and operating that, by the rotation of the main shaft, the arms R R shall be caused to strike and turn the valve H, substantially as described.

2. The arrangement of the shaft B with the arms R R R, *t t t*, the rotary valve H, and the induction port G, substantially as described.

83,485.—William Graff, Philadelphia, Pa.—*Bottle Stopper.*—October 27, 1868.—The ribbon is passed round the bottle and its end fastened above the stopper by a strip of metal, the opposite ends of which are bent down into grooves formed in the sides of the stopper.

Claim.—The ribbon C, or its equivalent, passing around the bottle and over the stopper, in combination with a flexible strip, D, adapted to the ends of the ribbon, and to grooves in the said stopper, all substantially as herein described.

83,486.—Henry C. Griggs, Waterbury, Conn.—*Campaign Badge.*—October 27, 1868.—A ring formed with lips and with an annular flange fitting over the plate upon which the portrait is represented, is secured to the raised base plate by means of the lips entering perforations in the plate and then being turned over.

Claim.—1. The combination of the base plate, constructed with the raised surface A, and provided with perforations *a*, with the ring B, constructed so as to be applied to the plate, and secured through the perforations, substantially as described.

2. The arrangement of a common pin upon the plate, so as to be secured and held by a notch in the said plate, and so as to secure the badge, substantially in the manner herein set forth.

83,487.—A. M. Griswold, Momence, Ill.—*Cultivator.*—October 27, 1868.—An improvement on his patent of July 30, 1867. An extra shovel is secured to a bar on the beams, to be used when preparing the ground for the seed and can be removed when cultivating the growing crops.

Claim.—1. The trucks B, the slides F, one or both, when arranged with relation to the rod D and beams E, and to operate as and for the purposes set forth.

2. The extra shovel A, when arranged upon the beams E, substantially as described and set forth.

83,488.—John R. Guy, Springfield, Ohio, assignor to Rice & Guy, same place.—*Coupling for Railroad Train Heaters.*—October 27, 1868.

Claim.—In combination with the permanent pipes G and elongated, open sockets H, constructed with flaring mouths, the tubular coupling formed by a single rigid pipe, I, terminating with balls I′, fitting said sockets, substantially as and for the purpose set forth.

83,489.—Charles Hacker, Euphemia, Ohio.—*Spring Bed Bottom.*—October 27, 1868.—One series of spiral springs being shorter than the other, are only brought into action when the longer springs are compressed to a level with the shorter ones and by further compression the weight would rest upon the cushioned middle rail, thus adapting the bed to persons of different weight.

Claim.—The combination of the slats H K, the spiral springs A D, the cushioned rail B, the cords E F, in the manner shown and described, and for the purpose specified.

83,490.—John Hall, Marshfield, Mass.—*Device for Scuttling Vessels.*—October 27, 1868.—The gate slides in guides in a metal bed and is opened and closed by a screw attached thereto and protruding through the deck.

Claim.—The device above described, consisting essentially of the metallic piece C, having the flanges *c c′*, the former expanded sufficiently to form a bed, for the gate to slide upon, and having the guide flanges *e e*, the gate G, the rod R, swivel joint F, and screw rod M, all combined in the manner and for the purpose set forth.

83,491.—W. N. Hamilton, Odessa, Del.—*Grain Drill.*—October 27, 1868.

Claim.—1. The employment, in the fertilizer hopper or receptacle, of an adjustable bottom, capable of being moved from or toward the distributing wheels, so as to increase or diminish, at pleasure, the size of the openings from which the fertilizing compound in the hopper is discharged, substantially as and for the purposes set forth.

2. The combination, with the fertilizer receptacle and distributing wheel or wheels, arranged beneath and relatively to the receptacle, as described, of an adjustable bottom, hinged to the front of said receptacle, and actuated by a set screw, united to said bottom, and mounted in bearings attached to the frame of the machine, under the arrangement and for operation substantially as set forth.

3. Forming the adjustable bottom of the hopper, and the saddles attached to the same, of metal, cast in one piece, as and for the purposes specified.

4. The employment, in machines such as described, of distributing wheels formed of glass, porcelain, or other silicate, or of metal enameled or coated with a silicate, substantially in the manner and for the purposes shown and set forth.

83,492.—Henry J. Hancock, New York, N. Y. *Sewing Machine.*—October 27, 1868.—The needle bar slide is provided with wings which slide in inclined guides so as to cause the needle to move horizontally while in the cloth, thus acting as a feeding device.

Claim.—The combination of the needle bar slide I, with its wings *x x*, inclined guides or ways J J′, presser foot K, made capable of independent lift from the cloth, but reciprocating in direction of the feed together with the needle bar, from or through a rock shaft or center *i*, common to both, substantially as specified.

83,493.—Smith Harper, Leipersville, Pa.—*Fishing Net.*—October 27, 1868.—The bottom line is made small so that on coming in contact with an obstruction the line will break and release the net.

Claim.—A fishing-net, constructed as described, longer at the bottom than at the top, and the bottom line small and weak, and provided with balls, substantially as and for the purposes herein set forth.

83,494.—John M. Hassam, Mount Vernon, Me. *Apple Corer and Quarterer.*—October 27, 1868.—A spring plunger forces the apple against a series of quartering and coring knives. A tube conveys the core to one receptacle while the quarters drop in a box beneath the corer.

Claim.—The combination, with the spring plunger F, cross bar G, knives K or Q, and corer J, of the conveyer L, and the extended conveyer or spout N, whereby the cores and the quarters or slices are conducted to separate places of deposit, substantially as described.

83,495.—J. R. Hathaway, Westfield, N. Y.—*Composition for the Manufacture of Burial Cases.*—October 27, 1868.—Composed of paper pulp, glue, resin, oil, silicate of soda, and whiting.

Claim.—1. The compound herein described, substantially as and for the purpose described.

2. Burial cases, made either wholly of the compound herein described, or in part of the same, and wood, or other suitable material, as a new article of manufacture, substantially as and for the purpose set forth.

83,496.—George B. Head, Albany, N. Y.—*Artificial Leg.*—October 27, 1868.

Claim.—1. The bar J, in combination with the stand A, connected with the foot by one or more rods, and operated for unlocking the knee joint, substantially as shown and described.

2. The combination of the bar A, and the disk joint *h*, and its square pivot, with the coiled spring *i*, whereby the leg is thrown forward, substantially as described, for the purpose specified.

3. The stop N, in combination with the bar J, substantially as and for the purposes set forth.

4. The combination of the bar J and rods B B′ with the stand A, knee joint and foot, whereby the pressure of the toe or ball of the foot upon the ground, in the act of walking, relieves or unlocks the knee joint, substantially as described, for the purpose specified.

83,497.—Philip Hicks, Chicago, Ill.—*Truck and Wagon Reach.*—October 27, 1868.—This construction allows the front wheels of the truck at the sharp turns to pass freely under the casting.

Claim.—1. The reach, made of two wooden parts, A B, connected by a metallic curved splice, consisting of separate plates, P P, or of solid metallic piece K, the whole arranged substantially as and in the manner herein set forth and specified.

2. The metallic block K, constructed and secured to the curved part of the reach or splice, substantially as and for the purpose set forth.

83,498.—Austin D. Hoffman, Minneapolis, assignor to himself and Frank Brewster, Austin, Minn.—*Till Alarm.*—October 27, 1868.—On attempting to move the drawer a projection on the counter forces out a pin on the disk, and on turning the knob again this pin strikes against the end of a spring lever which strikes the bell.

Claim.—1. In combination with the drawer A, a revolving knob C, ring C′, rod D, notched disk E, and projection I, the pins F, lever G, and bell H, arranged to operate substantially as described.

2. The disk E, constructed with pins F, substantially as and for the purpose set forth.

3. The combination of the knob, the adjustable ring C′, shaft D, and notched wheel E, with the projection I, substantially as and for the purpose set forth.

4. The disk E and pins F, so arranged, in relation to the lever and bell, that the bell shall be struck when the disk is turned, after a pin has been projected behind it, substantially as and for the purpose set forth.

83,499.—LEONARD HOLTZSCHEITER, Philadelphia, Pa., assignor to A. B. SHIPLEY, same place.—*Box Opener.*—October 27, 1868.—The blade is pivoted in the handle and folds up like a knife blade when not in use.

Claim.—The within-described instrument, composed of the handle A, blade D, and head C, constructed and arranged as set forth, for the purpose specified.

83,500.—M. G. IMBACH, Hartford, Conn.—*Hasp Lock.*—October 27, 1868.—Consists of an arrangement of parts which the device can be used as a common latch lock or as a hasp lock.

Claim.—The arrangement of the casing I, sliding plate E, spring bolt D, escutcheon H, latch A, and staple C, all constructed and operating substantially as and for the purposes herein set forth.

83,501.—SAMUEL IVERS, New Bedford, Mass.—*Needle.*—October 27, 1868.—The needle can be threaded without passing the thread endwise into and through the eye.

Claim.—My improved needle, made substantially as described and represented, that is, with an opening leading out of one side, rather than one end of the eye, and also with an inelastic head at the upper end of the eye, and with an elastic hook, and either an elastic or inelastic abutment, constructed and arranged together, substantially in manner and so as to form the eye, as hereinbefore explained, the whole being to operate as set forth.

83,502.—I. O. IVERSEN, Madison, Wis.—*Dyeing Textile Fabrics with Aniline Colors.*—October 27, 1868.—The aniline color is moistened with hot water and then spread on a smooth non-metallic surface to dry in the open air. After being dried it is mixed with a compound of bichromate of potash, alum, and soda ash.

Claim.—1. The herein-described mode of treating aniline colors before they are dissolved in the dyeing compound.

2. The herein-described compound of bichromate of potash, alum, and soda ash, with an aniline color, substantially as and for the purpose set forth.

83,503.—THOMAS R. JAMES, St. Louis, Mo.—*Tram for Gauging Millstones.*—October 27, 1868.

Claim.—The tram bush C, constructed as described, bearing the vertical mandrel D, adjustable arm E, and screw gauge pins F, when secured to the runner by being wedged into the recess provided for the driver, in such a manner as to step the spindle D in the bail B of said runner, as herein shown and described.

83,504.—T. B. JONES, Radnor, Ohio.—*Fruit Box.*—October 27, 1868.—The fruit may be discharged from the bottom instead of the top.

Claim.—A box or basket, constructed with a hinged bottom, (which bottom is provided with a bail for dropping and closing the same,) for handling fruit and other articles, constructed, arranged, and operating substantially as and for the purposes set forth.

83,505.—THOMAS B. JORDAN, South Lambeth, England, assignor to B. H. BARTOL, Philadelphia, Pa.—*Steam Generator.*—October 27, 1868; patented in England October 28, 1865.—The horizontal pipes, and sockets in which the vertical tubes fit, are imbedded in brick work to protect them from the direct action of the heat. A horizontal pipe, at the upper part of the generator, acts as a steam receiver and distributor and communicates with the vertical tubes by small pipes.

Claim.—1. The combination of the upright pipes E, horizontal pipes B, and a steam chest or reservoir E, substantially as described.

2. A generator, constructed substantially as described, and having its lower portion imbedded in the brick work, substantially as set forth.

3. The combination, with a chamber containing a steam generator, of two or more flues having independent dampers, substantially as set forth.

83,506.—J. A. W. JUSTI, Savannah, Ga.—*Smoke Stack for Locomotives.*—October 27, 1868.—A series of detaining devices in connection with an annular grate to prevent cinders, sparks, &c., from passing out with the escaping smoke.

Claim.—1. The grate formed by the rings K, K^1, &c., or their equivalent, arranged in the ring G, and under the plate H, substantially as described, and fitted into the smoke stack of a locomotive, for the purpose of arresting sparks, ashes, &c., as set forth.

2. The combination, within the smoke stack of a locomotive engine, of the pipe B, having an enlarged upper end, of the cap C, ring D, deflector E, cap F, ring G, and plates K, K^1, &c., or their equivalents, plate H, and ring *p*, all arranged substantially as herein shown and described.

3. The caps C and F, and the ring E, constructed with inward and downward bent inner edges, substantially as herein shown and described.

83,507.—JAMES KAY, Salem, Ind.—*Wheel Plow.*—October 27, 1868.

Claim.—1. A two-wheel single-riding plow, having the plow E and its standard C′ secured to a hinged frame, C, as described, in combination with lateral, front, and rear braces arranged for sustaining said standard, substantially as described.

2. The brace bar *j*, connected to the bar *n* of the plow E, passed through the standard C′ and secured to the frame C, substantially as described.

3. The combination of levers or treadles *e f* with a plow which is applied to a hinged frame, C, upon a two-wheel carriage, one of which levers or treadles is adapted for raising the plow and its frame, while the other is adapted for depressing said parts, substantially as described.

4. The brace *g*, connected to the bracket *d′*, and the seat standards *c′*, substantially as and for the purposes described.

5. The adjusting screw rods *c c*, applied to the hinged frame C, and supporting this frame upon the axle A′ of a single riding plow, substantially as and for the purpose described.

6. In a machine which is constructed as described, the three holdback rods or chains *p p s*, attached to the doubletree, substantially as and for the purposes described.

83,508.—PETER KEFFER, Reading, Pa., assignor to himself and E. G. FISHBURN, same place.—*Car Brake.*—October 27, 1868.

Claim.—A railroad car brake, consisting of a yielding wedge-shaped frame, C, constructed and operating substantially as herein described, in combination with brake shoes B and B′, hung to the car or truck, substantially as set forth.

83,509.—JACOB H. B. KELLER, Chambersburg, Pa.—*Cultivator.*—October 27, 1868.—The machine is so constructed as to enable it to be used on rough and stony ground without liability of being broken or injured.

Claim.—1. The pivoted standards G, arranged in connection with the rods J, India-rubber springs I, and beams E, all arranged in the manner substantially as and for the purpose set forth.

2. The levers K, attached to the beams E, and arranged in relation with the driver's seat D, substantially as and for the purpose specified.

83,510.—MICHAEL KELLEY, St. Charles, Mo.—*Railroad Switch.*—October 27, 1868.—Lugs are attached to the outsides of the switch rails, on which the flanges of the wheels climb and mount over the rail should the switch be misplaced. It is designed for wheels having a central flange.

Claim.—The lugs C C and guard rails E E, when arranged relatively to each other, as set forth, in combination with switch rails A, as shown, for the purpose explained.

83,511.—Wilson W. Knowles, Plantsville, Conn.—*Thill Coupling.*—October 27, 1868; antedated October 17, 1868.—Between the ears of the ear piece is an eye piece, in a hole of which is inserted a center piece, a bolt being fitted into the holes in the ear piece, and fastened by a nut on its screw-threaded end.

Claim.—The combination and arrangement of the center piece C with the eared piece A, eye piece B, bolt E, and nut F, all arranged, combined, and operating as described.

83,512.—Perley Laflin, Warren, Mass., assignor to himself and John J. Sprague, Providence, R. I.—*Automatic Car Coupling.*—October 27, 1868.—An arm extends from one side of the draw piece, and has an upward projection, slotted to receive the rear of another arm pivoted in it, and has also two slotted projections, one to raise the toggle and the other the prop bar, the pivoted arm having a spring, bearing on a screw inserted in the under side of the slotted arm, and a rod striking against it raises it, allowing the prop bar to swing forward.

Claim.—1. The combination, with the draw piece B, the projecting arm C, and its slotted standard or upright piece *b* of the hinged or pivoted arm D, and the prop G and toggle pin E, attached to said arm, substantially in the manner described, the whole being arranged to operate as set forth.

2. In combination with the parts named in the preceding clause, the rod H, constructed and arranged to operate in connection with the swinging arm D, substantially as described.

3. The combination and arrangement, with the arms C and D, of spring *g* and screw *h*, substantially in the manner and for the purposes set forth

83,513.—Hervey Law, Chatham, N. J.—*Machine for Cutting Paper.*—October 27, 1868.

Claim.—1. In machines for trimming books, the turning of the bed S, on which the paper is cut, by the receding movement of the bed from the knife, after the completion of each cut, so as to present an uncut side of the pile of paper or books to the knife at each upward movement of the bed, substantially as set forth.

2. Giving the bed S, and consequently the paper to be cut, a lateral, horizontal movement at the termination of its upward, oblique movement, in order to effect a clean cut, substantially as shown and described.

3. The automatic mechanism, substantially as shown and described, for operating the clutch lever H and stopping the machine at the completion of the cutting of the four sides of the paper or piles of books on bed S, as set forth.

4. The pendent projections *r r′ r″ r‴* at the under side of the bed S, in connection with the projections *s s′*, on the upper surface of the fixed bed J, for the purpose of holding the bed S in proper position relatively with the knife C, when the paper is being cut, and also when receding from the knife, and at the same time admit of the bed being turned at the proper moment, substantially as set forth.

5. The trip, on the fixed bed J, composed of the fixed part *t*, the pivoted part *t′*, and the spring *u*, when used in connection with the projections on the beds S J, and arranged to operate in connection therewith, substantially as and for the purpose set forth.

83,514.—Benjamin Leckrone, Somerset, Ohio.—*Beehive.*—October 27, 1868.—In a removable cleaning box, which has a feed rack, is a slot for entrance, opposite to which is a hinged door, extending the whole height of the hive, and when open showing the comb boxes, between which are sliding boards, the boxes each having a glass window and a perforated ventilating plate, and their frames being hung from rods, which have a hook to catch in the flattened parts, and to be slid along them.

Claim.—1. The device for hanging the frames J J, so that they are independently attachable to or removable from the sliding boxes which support them, such device consisting essentially of the rods *m m*, flattened at *o*, and operating, in connection with the hook *n* and the perforated lug *r*, substantially as described.

2. The combination and arrangement of the feed rack D and cleaning box C, substantially as described.

3. The boxes F F^1 F^2, when constructed with the front doors hinged at *a a*, and latched at *a′*, having the catches or hooks *d d*, by which the slide boards can be attached to them at pleasure, and containing the comb frames J J, substantially as described.

4. The arrangement and combination of the ventilating aperture and bee entrance *c*, the foraminated slides I I, the foraminated plates H H, and the space K, between the front of the comb boxes and the wall of the hive, for the purpose of affording a free ventilation to all parts of the hive, whether the bees are confined or free.

5. The arrangement of the entrance *c*, cleaning box C, feed rack D, boxes F F^1 F^2, comb frames J J, windows G G, ventilators H H, and door E, substantially as and for the purpose set forth.

83,515.—A. W. Loomis, Atwater, Ohio.—*Gauge for Stone Ware.*—October 27, 1868.—The gauge is designed to finish the inside of stone ware smoothly and of a uniform size.

Claim.—The adjustable gauges G and F, in combination with the handles D E, when arranged in relation to a potter's wheel, in the manner as and for the purpose specified.

83,516.—Joseph Theodor Lossen, Würzburg, Bavaria.—*Governor for Steam and other Enginery.*—October 27, 1868.—A spur wheel gears into a pinion fixed to a shaft which has its bearings in a weighted lever bearing a bucket or shell immersed in a vessel containing fluid, and having its connection with the outside air regulated by a stop cock. The pinion shaft also carries arms which move the throttle valve of the engine and check its speed.

Claim.—1. The arrangement of the spur wheel F, pinion G, weighted lever I, and vane arms L, substantially as shown and described.

2. The inverted bucket or air shell M, having an air cock, *b*, and vessel N, in combination with the spur wheel F, pinion G, weighted lever I, and vane arms L, substantially as herein set forth.

83,517.—John T. Lyman, Jeffersonville, Ind.—*Grain Drill.*—October 27, 1868.—The cutters are attached to springs secured to the front cross bar, and to the rear end of each cutter is attached a tube, which latter receive the ends of fixed tubes.

Claim.—The combination and arrangement of the cutters F, springs E, and the tubes D G, all applied to a seed-drilling machine, to operate in the manner substantially as and for the purpose set forth.

83,518.—Allen Magowan, Boston, Mass.—*Wringer Roller.*—October 27, 1868.

Claim.—The elastic roller, having its core formed by winding the square mandrel A, having radial arms D, with a string or cord steeped in liquid raw India-rubber, an outer rounding filling, composed of longitudinal strips E, being interposed between the winding string and mandrel, as herein described, for the purpose specified.

83,519.—James Mallon, Lockport, Ill.—*Cultivator.*—October 27, 1868.—Handles are combined with an oscillating frame and the braces which support the shovels, so that the hands and feet may be used to guide the shovels.

Claim.—1. The handles E, brace Q in combination with the bar 5, pivoted to the under side of the tongue, reciprocating bar *g*, braces P, rods *f*, and braces G′, for giving a lateral motion to the shovels, as set forth.

2. The braces G G′, in combination with bars F F′, shanks J J′, and stirrups *d*, substantially as set forth.

3. The combination of the draft rod 1 1, spools T, bars F F′, cams V, and lever X, substantially as set forth.

4. The hill protector K, pivoted to the brace G′, and arranged substantially as set forth.

83,520.—Leander J. McCormick, William R. Baker, and Lambert Erpelding, Chicago, Ill., assignors to C. H. McCormick & Brother, same place.—*Harvester.*—October 27, 1868.—Behind the finger beam is pivoted a shoe, the rear end of which terminates in an arched recess which forms a shield or covering for an oval roller turning in bearings in the shoe.

Claim.—1. The combination, substantially as set forth, in a two-wheeled harvester, of a tongue, with its rear end pivoted so that the tongue can play laterally in a socket over the main axle, a corrugated laterally-slotted bracket on the front of the main frame, a correspondingly-corrugated socket on the tongue, and a vertical clamping bolt connecting the socket and bracket, whereby the angle of the tongue to the line of draft can be varied at pleasure.

2. The shields S, constructed as described, attached to the main frame, and inclosing the countershaft, the pinions which drive it, and the backing ratchets, for the purpose set forth.

3. The arrangement, as set forth, for joint operation, of the countershaft, the adjustable bevel gear O, and its sliding clutch, with the nut and removable pinion on the front end of the crank shaft, whereby we vary the speed of the cutters, by using a single gear wheel on the countershaft without moving either shaft.

4. The arrangement as described, for joint operation, of the finger beam, the shoe, and the stirrup, with the horn *l*, and dog L, whereby we lift the divider end of the finger beam first in raising the cutters.

5. The combination, as set forth, of the shoe, H and arched shield *i*, with the roller, provided with wooden bushing.

83,521.—John Mealey, Fairville, New Brunswick.—*School Desk.*—October 27, 1868.—The back is hinged to the rear part of the seat, and is secured by drop pawls pivoted to it and catching upon notched brackets. The desk is attached to arms, and so arranged that it may be turned down to serve as a table, or as a back to the seat.

Claim.—1. The adjustable desk G H, in combination with the seat C and its supports, said desk adapted to be folded back, to form a back rest for the seat, substantially as shown and described.

2. In combination with the adjustable desk G H, the seat C, and its supports, the hinged back C, as herein described, for the purpose specified.

83,522.—Jacob Miller, Washington, Pa.—*Machine for Forming the Hook or Eye on Pot Bails, &c.* —October 27, 1868.—A disk with a mandrel and guide is placed above the lever, which has a measuring guide and a grooved roller for forming "hook" and eyes of the bail while being bent around the mandrel.

Claim.—The disk *c*, provided with the mandrel *e* and pin *f*, combined with the lever B, furnished with a forming roller, *c*, and guide J, constructed, arranged, and operating as herein described, and for the purpose set forth.

83,523.—Jacob Miller, Washington, Pa.—*Machine for Bending Oval Handles for Tin Ware.*—October 27, 1868.—The wire being cut the proper length is placed between the guide pin and the forms. The levers are then forced around and cause the rollers to bend the wire around the forms.

Claim.—The frame A, provided with the slots B and *e*, pin J, forms C, and brace *l*, and used in combination with levers D, provided with rollers *f*, constructed, arranged, and operating as herein described, and for the purpose set forth.

83,524.—Warren P. Miller, New York, N. Y.—*Gauge for Circular Saws.*—October 27, 1868.—A tube is provided with forked arms at its lower end, which fit in and rotate on a grooved collar secured to the saw mandrel. A gauge rod slides in this tube, and, when adjusted properly to ascertain the relative position of the teeth of the saw, is held by a thumb screw on the tube.

Claim.—The gauge for rounding circular saws, consisting of gauge point *h*, gauge rod *g*, nut *k*, tube *f*, plug *c*, and curved arms or forks *m m*, in connection with grooved collar *b*, all constructed, combined, and arranged substantially as and for the purpose specified.

83,525.—Thomas W. Moore, Richmond, Ind.—*Bolt Cutter.*—October 27, 1868.—The bolt is passed through the perforations in the shears. By opening the levers the movable shear blade is drawn forward, thus cutting off the superfluous end of the carriage bolt.

Claim.—The arrangement of the shear blades, levers, and swivel pivot pins, in the manner described and for the purpose set forth.

83,526.—Charles F. Morrison, Rifton Glen, N. Y.—*Waste Saver for Carding Engine.*—October 27, 1868.—The horizontal waste carriers catch the fiber dropped from the main card cylinder doffer and feeding rollers, and present it to the stripping roller, which latter transfers it again to the main cylinder. The under currents of air act less on the fiber when the belts are horizontal than when inclined.

Claim.—1. The described arrangement of the horizontal waste carriers E F with relation to the doffer D, cylinder C, feed rollers B B′, and stripping roller G, as herein described, for the purpose specified.

2. The horizontal waste carriers E F, constructed as described, of small wire ribs, widely spaced upon the belts, and adapted to be shaken, in the manner described, for the purpose specified.

83,527.—E. P. Mosman, deceased, (Albert S Bolles and Sarah E. Mosman, administrators,) Norwich, Conn.—*Steam Generator.*—October 27, 1868; antedated October 24, 1868.—The diaphragm of the evaporizer is of less diameter than the case so as to leave an annular space around it for the ascent of the steam and water admitted below said plate. The flues in one boiler section are small near the outer edge and gradually increase toward the center of the shell, and in the alternate section increase in the opposite direction. The water is conducted from the feed-water chamber into the lower short flue section; it then passes down beneath the grate into a vertical pipe which rises through the fire chamber, the center of the short flue section and the bottom of the evaporizer.

Claim.—1. An evaporizer for a steam boiler, consisting of a case or shell, H, with an inclosed diaphragm, I, arranged within it, substantially as described.

2. The combination of short-flue boiler sections and evaporizers, constructed, arranged, and communicating with each other substantially as described.

3. A feed-water heating chamber, combined with a short-flue boiler section or sections, substantially as described.

4. The manner, substantially as shown and described, of conducting the water from a chamber, *j*, horizontally over the fire chamber, and thence vertically through said fire chamber.

83,528.—T. H. Müller, New York, N. Y.—*Steam Generator.*—October 27, 1868.—The openings are placed eccentrically in the heads so that the water and steam discharging from the elevated end of the pipes will strike the top and side plates of the head before going through the apertures. A brace is placed between the inner plate and the head which enables the bolt connecting the chambers and heads to throw the pressure caused by the nut directly to the joint between the plate and head. The pipes are surrounded by a water jacket composed of four chambers which form the side walls of the boiler and furnace.

Claim.—1. The heads E, provided with openings, *a*, in their sides, and openings, *b*, in their tops, placed eccentrically toward the center lines of the pipes D, substantially as shown and described.

2. The perforated tubular brackets *n*, through which bolts *m* pass, arranged, with relation to water jacket F and heads E, substantially as set forth.

3. The water chambers *c d e f*, communicating with the heads E, and inclosing the pipes D, substantially as shown and described.

83,529.—Joseph Neubrand, Green Point, N. Y.—*Composition for Forming Tiles, Floors, and for* *other Purposes.*—October 27, 1868.—Composed of white clay, kaolin, flint, feldspar, and heavy spar, and colored by suitable pigments.

Claim.—The combination of the within-described articles for the purpose specified.

83,530.—O. G. NEWTON, Edinburg, Mo.—*Tuyere.* —October 27, 1868.—A ball valve provided with cavities to receive the cinder is arranged on a rotary shaft which has a vertically-adjustable bearing so as to be raised or lowered, to be rotated for the discharge of the cinders.

Claim.—The combination of those parts with the adjustable bearing for the shaft G, as arranged and described.

83,531.—BARUH NEY and HENRY HOFHEIMER, Alexandria, Va.—*Paper File.*—October 27, 1868.—Around a part of the frame to which the papers are secured is a marginal casing or series of card holders for displaying a number of business cards.

Claim.—The paper file A, provided with an outer supporting edge A′, counterbalanced by the advertising frames E, arranged and combined substantially as shown.

83,532.—ABNER NIEBEL, Tiffin, Ohio.—*Beehive.* —October 27, 1868.—On removing the dirt drawers for cleaning, the slides cover the space left and prevent the ingress and egress of the bees. The bee boxes or chamber rest on the wire top of the feed box; the honey boxes are placed on the top of these boxes and are covered with a cap which rests upon the top of the feed box.

Claim.—1. The feed box A, constructed as described, in compartments, with wire-cloth top, door, and ventilating holes, and provided with dirt drawers B B, and slides *e e*, and with blocks *c c*, covering the openings *b b*, substantially as and for the purposes herein set forth.

2. The combination of the feed box A, chambers D D, honey boxes E E, and cap H, all constructed as described, and operating substantialty as and for the purposes herein set forth.

83,533.—PHILIP NUNAN, Sandusky, Ohio.—*Apparatus for Preserving and Freezing Fish, Meats, &c.* —October 27, 1868.—The compartments are constructed with two walls and a space filled with a non-conducting substance. A vessel filled with a material to produce intense cold is suspended from the center of the roof in each compartment, and is provided with pipes leading downward connecting with horizontal pipes which receive any liquid that may escape from the vessel.

Claim.—In a meat and fish-preserving house, having compartments B B, with walls, as herein described, the combination of the vessel C, pipes D and E, and vessels F F F F, all suspended in the house, so as to allow a space below them for the articles, substantially as herein shown and described.

83,534.—CHARLES H. NYE, Vineland, N. J.—*Bag Fastener.*—October 27, 1868.—A handle is secured to the buckle to facilitate the unbuckling of the straps.

Claim.—The described arrangement of the handle D, buckle B, and strap A, secured to the bag for the purpose specified.

83,535.—E. F. O'NEILL, Prairie du Chien, Wis. —*Washing Machine.*—October 27, 1868.—Corrugated rollers are journaled in a bow lever, which is kept in proper form by a board on the end, and is provided by a downwardly-projecting flange, which prevents the water from splashing out.

Claim.—The combination of the bow lever D, board I, apron or flange J, arms or bars G, and three or more corrugated rollers H, with each other, and with the tub A and cylinder B, substantially as herein shown and described, and for the purpose set forth.

83,536.—W. H. PAIGE, Springfield, Mass., assignor to himself, JOHN SWEENY, and JAMES W. RUSSELL, same place.—*Seat Back.*—October 27, 1868. —The back is so constructed as to conform to the shape of the back of the person using it.

Claim.—The metallic springs *b b*, attached to the body or frame A, the ends of said springs having a bearing in the channels *n* or *n′*, with the screws *a a* or other protuberances therein, the whole, when covered and stuffed, forming a seat back, all constructed and operating substantially as herein described and set forth.

83,537.—CLINTON J. PAINE, Young America, assignor to himself and HENRY CRESWELL, Warren County, Ill.—*Corn Plow.*—October 27, 1868.—The ends of the plow beams are forked and secured to plates which are pivoted to the drag bar by pins, thus forming a hinge.

Claim.—1. The curved draft bar B, running from the inside of the center of the wheels forward and upward, substantially as and for the purposes herein set forth.

2. The arrangement of the curved plow beams F F, coupled to the curved draft bar B, as and for the purposes herein set forth.

3. The bar E, running from the outside of the center of the wheels, and across the top, as and for the purposes herein set forth.

4. The combination of the forked ends *a a* of the plow beams, and the pins *b b*, and plates *c c*, forming a hinged coupling, substantially as and for the purposes herein set forth.

83,538.—JOHN W. PATTEN, North Greenbush, N. Y.—*Knife and Fork Holder.*—October 27, 1868.—A shelf for receiving the knife and fork is mounted on posts which are provided with clasping fingers and means for adjusting the shelf in a horizontal position when applied to any plate.

Claim.—1. The longitudinally-supporting device A, mounted on a standard or standards, B B, which extend up from a rod, C, substantially in the manner and for the purpose described.

2. The combination of the longitudinal-supporting device A, standards B B, rod C, and spring clamp or clamps D D, substantially in the manner described.

3. The rod C, with clamp screws *a* fitted to the standards of supporting device A, substantially as described.

83,539.—MICHAEL PINNER, Buffalo, N. Y.—*Roofing Compound.*—October 27, 1868.—Composed of asphaltum, slaked lime, sulphur, sand, and baryta.

Claim.—A cement composed of the ingredients above specified, in substantially the proportions and for the purposes set forth.

83,540.—HONORÉ ETIENNE PIQUET, Sartrouville, France.—*Apparatus for Shuffling and Dealing Cards.*—October 27, 1868.—A box, containing the cards, is divided transversely in the center by wires which separate or shuffle the cards when a longitudinal movement is given to the box. After being shuffled the box is inclined and the cards slide forward against a roller which receives a rotary motion from clock work and which pushes the cards out, one at a time, through an opening in the end of the box.

Claim.—1. The transverse metal wires H, in combination with the box A, substantially as and for the purpose set forth.

2. The combination of the clock movement with the distributing roller J, the spring D, the platform D^1, and the pin F G, constructed and operating substantially as and for the purpose described.

3. The platform D', in combination with the spring D^1, the pin F G, and distributing roller J, constructed and operating as and for the purpose set forth.

83,541.—CORNELIUS PLATT, New Haven, Conn. —*Chair Seat.*—October 27, 1868.—The bottom of the body is formed by a sheet of canvas and pasteboard glued together, then covered loosely with a suitable fabric, and stuffed between the covering and the bottom.

Claim.—The chair seating herein described, as an article of manufacture, consisting of the compound foundation *a* and *b*, covered, and so as to be applied to the chair frame, substantially in the manner herein set forth.

83,542.—Auguste Ponsard, Paris, France.—*Furnace for the Manufacture of Iron and Steel.*—October 27, 1868.—Vertical tubes on the hearth of an ordinary puddling furnace are filled with pure carbon, flux, and ore, and heated by the reverberating flame. As the ore is reduced it melts and runs into a hollow portion of the hearth.

Claim.—A furnace for the manufacture of iron and steel, constructed substantially as specified, and provided or fitted with tubes or ore, carbon, and flux receptacles B B, in communication at their base with the basin D of the furnace, essentially as shown and described.

83,543.—Louis B. Powelson, Pittsburg, Pa.—*Feed-Water Heater.*—October 27, 1868.—A "Giffard injector" is inclosed in an air tight steam cylinder and leads the water into a large conical cap, from whence it is conveyed into the boiler. If the injector is not in order the water is forced directly into the cylinder through an opening in the elbow of the supply pipe.

Claim.—Not any of the specified parts in severalty, but an improved feed-water apparatus, consisting of the several parts specified, all combined, constructed, and arranged as described.

83,544.—James D. Pratt, Cleveland, Ohio.—*Bed Lounge.*—October 27, 1868.—Designed as an improvement on his patent of July 16, 1868.

Claim.—So arranging the springs E and F on the flat horizontal bars C and D that the middle of the entire space of the bed shall present a soft and elastic surface, substantially as shown and described.

83,545.—George K. Proctor, Salem, Mass.—*Photographic Room.*—October 27, 1868.

Claim.—1. For photographing purposes, an apartment or room having its interior of such a curved form as to reflect and concentrate the rays from a lamp, or other light, upon the person or object to be photographed, substantially as shown and described.

2. The opening *c*, in the room or apartment A, for the purpose of adjusting the camera outside of the room in proper position with the person or object to be photographed within the room or apartment, substantially as set forth.

3. The employment of magnesium, when used for illuminating purposes, in connection with a room or apartment A, constructed in the manner or form as shown, and for the purpose specified.

83,546.—Robert Pyle, Wilmington, Del.—*Thill Coupling.*—October 27, 1868.—The die, when fastened in place between the jaws of the clip by means of a screw bolt, presses firmly against the eye of the thill iron, prevents the pin from turning and rattling.

Claim.—1. The die, as constructed, in combination with the bolt and washers, as shown and described.

2. The combination of the die *a* and screw bolt *c* with the clip iron *k*, tie iron *f*, and thill iron, with an eye or hooked end, constructed and operating in the manner and for the purpose substantially as herein shown and described.

83,547.—James M. Ragsdale, McCoy's Station, Ind.—*Road Grader.*—October 27, 1868.—As the machine is drawn forward the plow breaks the earth and throws it upon the revolving wheel, upon which the earth is carried to the opposite side of the machine to be there discharged by the revolving arms.

Claim.—1. The arrangement of the wheel E, plow R, and revolving arms H H, when connected with the frame A, and constructed and operating substantially as specified.

2. The combination of the hinged axle B′ and lever K with the frame A, provided with the wheel E, plow R, and arms H H, and connected to operate as set forth.

83,548.—Byron Reed, Kokomo, Ind.—*Photographic Printing Frames.*—October 27, 1868.—The follower is pressed toward the negative by a spring, and admits of the interposition of any desired number of papers for printing.

Claim.—1. Placing an indefinite number of papers, prepared for receiving photograph impressions from a negative, in a frame at one time, substantially in the manner herein shown and described.

2. The frame A, constructed substantially as described, and arranged for receiving a large or a small number of papers, substantially as set forth.

83,549.—Andrew J. Reynolds, Chicago, Ill.—*Steam Pump.*—October 27, 1868.—The water is discharged from the pump by gravity, and its descent is expedited by the steam. When the upper cylinder is emptied the floating piston descends and depresses the vertical rod, which closes the steam valve and exposes the escape valve. The steam in the upper cylinder is condensed by the water in the lower one, and creates in the upper cylinder a vacuum which causes the piston to rise and draw water into the pump from the reservoir.

Claim.—1. A water-elevating engine, having two cylinders, arranged one upon the other, the upper one for receiving the steam, which aids in expelling the water therefrom, and which, by means of its condensation, causes a vacuum to be created therein, and another, into which the steam from the latter is caused to flow by the discharge of the water from the former, and in which the steam from the upper cylinder is condensed, substantially as described.

2. The combination of cylinders A and B and float or piston M, with its apertures or passages O, substantially as described.

3. The combination of the float or piston M and valve P, substantially as set forth.

4. The combination of the rod E, float M, valves P, Q, and X, substantially as described.

5. The combination and arrangement of valves Q and X on rod E, and valve W in the head of cylinder A, substantially as set forth.

6. The arrangement of valve H in relation and with reference to valves X and W, substantially as set forth.

83,550.—John F. Rodgers, South Bend, Ind.—*Gate.*—October 27, 1868.—The lower bar and the short posts serve as guides and prevent the gate from swinging laterally.

Claim.—A gate, constructed as described, having the rail *a*, for sustaining the lateral pressure, placed at the bottom of the gate, in combination with the short post D, the rollers A, their supporting posts E, and connecting bar A′, and posts E′, all constructed and arranged as and for the purpose set forth.

83,551.—Henderson Ross, Pittsburg, Pa.—*Furnace for the Manufacture of Iron and for Other Purposes.*—October 27, 1868; antedated September 30, 1868.

Claim.—So constructing the fire chamber of furnaces used in the manufacture of iron and steel, that the interior walls of said chamber shall consist of iron, which are surrounded with water, substantially as herein described, and for the purpose set forth.

83,552.—John C. Ryan, Chicago, Ill.—*Water Heating Apparatus.*—October 27, 1868.—The water in the coil being heated passes upward into the boiler, while the water from the tank enters the coil from below, thus causing a rapid circulation of the water and keeping the main body of it hot.

Claim.—The combination of the pipes E D L C with the boiler A, stove S, and coil B, whereby the circulation of water is effected as above described, and at the same time the steam is taken from the pipe D or vessel A, and conveyed to the heater H, as herein set forth, for the purpose specified.

83,553.—George H. Sellers, Phœnixville, Pa.—*Hot Water Heater.*—October 28, 1868.—The form of this heater is designed to concentrate the heat upon the walls of the water chamber and induce a free circulation of water in the latter.

Claim.—1. In combination with the external water chamber C, the cylindro-conical fire chamber A, as and for the purpose substantially as described.

2. In a hot water heater, the immediate connection of the water chamber with the street mains, so as to

avoid the necessity of a reservoir, substantially as described.

83,554.—HENRY F. SHAW, West Roxbury, Mass.—*Screw-cutting Lathe.*—October 27, 1868.—The lever is connected with the tool carriage and operated by a nut running on the actuating screw of the lathe. The effective length of the lever may be changed at will to regulate the speed of the tool carriage and the pitch of the screw.

Claim.—The arrangement, substantially as described, of the lever L, pivoted at L′, the nut N having a slotted shank, N′, thereon, the adjustable connecting button K, carriage G′, provided with the swiveled and slotted disk H, and the screw F, or their equivalents, for the purpose described.

83,555.—EPHRAIM SHEPARD, New York, N. Y.—*Fastening for Carriage Curtains.*—October 27, 1868.—The eye is retained on the tube by a spring, the tube being fastened to the carriage frame by the screw.

Claim.—The tube B, slotted substantially as shown, to form a spring, *b*, in combination with the eye E in the curtain D, all constructed and arranged to form a new and improved curtain fastening, as set forth.

83,556.—DAVID B. SHIRK, Brunnerville, Pa.—*Railway Cattle Guard.*—October 27, 1868.—The crank shaft is weighted and provided with pickets to form the gate or barrier. The cranks are depressed by hinged levers, acted upon by the flanges of the wheels, the effect being to prostrate the gate until the cars have passed over. The weight then restores the gate to its upright position.

Claim.—The arrangement of the crank *c c′*, when not in the same plane, on the top of a shaft, which shaft is provided with pickets P, and a central weight, *w*, appended below, and when operated by a hinged lever, L, with its open jaws J, the lever being pivoted at one end, all combined and operating substantially in the manner and for the purpose specified.

83,557.—A. W. SILVIS, Birmingham, Iowa, assignor to himself and SAMUEL B. SHOTT, same place.—*Loom.*—October 27, 1868.—The spring hooks are hinged to a stationary bar of the frame, and actuate the picker staff by reason of their up-and-down movement relatively to the pivot of the staff as the lay vibrates, the picker staff being pivoted on a bar carried by the lay. The pivoted pawl effects the alternate engagement of the spring hooks with the notches in the opposite sides of the picker staff, and the picker staff is thus thrown to one side or the other at each backward movement of the lay. The bridge retains the parts in their operative positions.

Claim.—1. The arrangement of the picker staff *a*, with its enlarged lower end notched at a^2, the swinging reversing pawl a^1, provided at its enlarged lower end with double inclines, the hinged spring hooks a^3, and the bridge a^5, all operating as described, for the purpose specified.

2. The arrangement of the pawl b'', bracket b^1, secured to the lay, the pattern cylinder b^2, catch pawl b^3, and pivoted right-angular harness levers b^5, all constructed as herein described, for the purpose specified.

3. The combination of the right-angled harness levers b^5 with the harness frames and pattern cylinder, substantially as and for the purpose set forth.

83,558.—ALFRED SIMS, Brooklyn, N. Y.—*Jack for Turning Shafting.*—October 27, 1868.

Claim.—The lever pawl C D and jack E, in combination with the ratchet wheel B, mounted on the shaft A, substantially as and for the purpose described.

83,559.—CHARLES E. SMITH and FRANK T. JAQUES, Lowell, Mass.—*Shuttle for Looms.*—October 27, 1868.—The shank, remaining fixed in the wood, enables the tip to be applied or detached without liability of injuring the body of the shuttle.

Claim.—The twisted shank C, provided with the removable tip B, constructed substantially as shown and described, in combination with a shuttle.

83,560.—JOHN PATERSON SMITH, Glasgow, Scotland.—*Tool for Turning and Planing.*—October 27, 1868.—This device consists of a straight rectangular trough of metal with sides unequal in height, together with a cap piece of somewhat less length than the trough and a straight tool which fills the trough, the upper surface of the tool and that part of the cap which lies upon it being curved or molded.

Claim.—The within-described formation and adaptation of the under surface of the part *c*, to fit tightly and firmly to the properly-curved surface of the tool *b*, the curvature of each being uniform through the whole length, by rolling, molding, or otherwise, the part *c*, and the tool being used, in combination with the part *a*, substantially as and for the purposes herein set forth.

83,561.—WILSON SMITH, Tod Township, Ohio.—*Hay Rack.*—October 27, 1868.—This device compels the animal to take but a moderate quantity from the manger at a time, each mouthful being drawn through the bars of the rack.

Claim.—1. The rack, composed of side pieces *a* and *d*, and the rungs or cross pieces *b b b*, when applied to mangers, by hinging or attaching it to the top of said manger, and at the side next to the animal that feeds therefrom, substantially as shown and described.

2. The combination of manger *g*, the rack *a b b d*, and feed trough or troughs *f f*, all as shown and described.

83,562.—CHARLES L. SPENCER, Providence, R. I.—*Hat Hook.*—October 27, 1868.—The rim of the hat is introduced between the jaws of the tongs, and the hook is then opened so as to suspend the hat from any convenient support. In opening the hook it acts like a cam, to close the jaws tightly.

Claim.—The combination of the hook, strap, and tongs, when constructed to operate substantially as set forth and for the purpose specified.

83,563.—ELIHU SPENCER, Ottawa, Canada.—*Station Indicator.*—October 27, 1868.—An improvement on his patent of December 31, 1867. A bell is provided which is sounded as often as the device is operated to exhibit the name of the station; a stop prevents the device from being casually turned in the wrong direction by the attendant; a lamp illuminates the names of the stations, and a mode of applying cards to the front of the device, notifies passengers where to change cars, &c.

Claim.—1. The cutting out or otherwise constructing the plates *c*, so as to form frames, over or on which a transparent or semi-transparent fabric, *d*, is secured, having the names of the stations upon them, in combination with a candle, lamp, or other light D, placed at one side of the box A, and arranged so as to throw the rays of light within the same, substantially as and for the purpose specified.

2. The adjustable, or sliding bar or stop E, arranged and applied in the manner substantially as and for the purpose set forth.

3. The bell operating mechanism, composed of the lever K′, spring I, right angular plates H H, and hammers G G, all arranged to operate by the turning of the heads B, substantially as and for the purpose specified.

4. The flaps L, when applied to the box A, and used in connection with the drop catch M, substantially as and for the purpose specified.

83,564.—WILLIAM H. STARTZMAN, Big Lick, Va.—*Cultivator.*—October 27, 1868.—The stay rods or the adjusting keepers of the pivoted shanks are attached to the respective ends of the oblique bar.

Claim.—The arrangement of the standards B B, oblique bar C, rack bar I, and keeper E, with nuts *g* and plows D, all as herein set forth.

83,565.—L. M. STOOPS, Grand View, Ind.—*Beehive.*—October 27, 1868.—The only entrance to the hive leads into the tube at the bottom, and while the entering moths do not have access therefrom to the interior of the hive, they are likely to be destroyed by the bees in passing in and out.

Claim.—1. The perforated tube E, placed in the bottom of the hive, at its front side, and provided with the entrance F, all substantially as shown and described.

2. The ventilating tube G, provided with openings to admit air through the sides of the hive, and other openings leading into the brood chambers and honey boxes, substantially as herein set forth.

3. The arrangement of the brood chambers C C, ventilating tube G, feed box H, and honey boxes I I, all constructed substantially as and for the purposes herein set forth.

83,566.—**Jerome B. Sweetland**, Pontiac, Mich. —*Wash Boiler*.—October 27, 1868.—As the water is heated it rises in the central tube, and is discharged from the spouts of the horizontal, surmounting tube, the latter being whirled around by the reaction of the outflowing water. A valve closes communication between the filling side of the chamber and the ascending tube, so that the water in the other side may have no other mode of egress than that afforded by the upright tube.

Claim.—1. The reversed bottom B, provided with a rim C, projecting downward, and said rim provided with openings, covered on the inside with valves D D, substantially as and for the purposes herein set forth.

2. The removable cone-shaped tube E, secured to the reversed bottom B, by means of the notched flange *c*, and keys *d d*, or its equivalents, and provided at the top with a grooved flange, *e*, on which is placed the cap F, with its lugs *f f*, forming a loose joint, substantially as and for the purposes herein set forth.

3. The reversed bottom B, provided with a partition or wall, J, and hinged pallet or valve L, the latter extending up into the tube E, substantially as and for the purposes herein set forth.

83,567.—**C. W. Thiessen**, Effingham, Ill.—*Corn Planter*.—October 27, 1868.—The seed box and the dropping mechanism are contained in, or applied directly to, the main or supporting wheels. The seed slides work in boxes projecting from the face of the wheel, and communicate with the seed box, and seed may be dropped in the ground and imbedded at each revolution or partial revolution of the wheel.

Claim.—1. The drop box, constructed as described, of the parallel ribs *d d*, one of which is provided within the seed receptacles *i m*, as herein set forth and shown.

2. The circular seed receptacle E, constructed as described, and secured to the inner face of the wheel B, within the flange *c*, as herein set forth and shown.

3. Pivoting the connecting rods *j* of the slides *g*, by means of a common pin, K, to the stationary axle of the revolving wheel, so that, by the revolution of the wheel, the slides will receive reciprocating motion in the drop boxes, substantially as set forth.

4. The arrangement of the circular seed receptacle E and slides *g* upon opposite sides of the wheel B, as herein described, for the purpose specified.

83,568.—**James Toay**, Mineral Point, Wis.—*Harvester*.—October 27, 1868.—Relates to sprocket wheels and their attachment, for the purpose of driving harvester rakes. The object is to prevent the straw from winding upon the shaft of the wheels.

Claim.—1. The wheel A, constructed substantially as shown and described.

2. The plate B, constructed substantially as shown and described.

3. The combination of wheel A, plate B, and the framework of a harvesting machine, substantially as shown and described.

83,569.—**P. R. Totten**, Adams, Ill.—*Cultivator*.—October 27, 1868.—The plows are connected to the bow-shaped lever, and the latter to the treadle, so that by depressing the treadle all the plow beams may be raised simultaneously.

Claim.—1. The bow-shaped lever K, in connection with the treadle L, combined and arranged substantially as and for the purpose specified.

2. The connecting of the beams G G of the inner plows H by means of staples passing through oblong slots *e*, to admit of the lateral movement of said plows, substantially as set forth.

83,570.—**Leonhardt Uitting**, Philadelphia, Pa., assignor to himself, G. Massa, Ch. Ammlung, and H. Zimmerman, same place.—*Hasp for Trunk Locks*.—October 27, 1868.

Claim.—Hinging the swinging hasp B to the upper edge of its plate b''', so that it can be freely turned sufficiently upward to allow the plate b''' to be fastened to the trunk lid by rivets b^5, which will be covered by the said hasp when the trunk is closed and locked, substantially as and for the purpose set forth and described.

83,571.—**Elias F. Varner**, Harveysburg, Ohio. *Fodder Cutter*.—October 27, 1868.—The slotted shank adapts the knife to have its position reversed upon the shaft, so that either its hook or its cimeter-edge may be made to operate. The feed hands which actuate the rollers are pivoted to a cross head reciprocating with a bar which is forced toward the front of the machine by a spring and retracted by a cam, the latter being adjustable, to regulate the feed.

Claim.—1. The provision, in a fodder cutter, of the knife N, having one cimeter cutting edge, *n*, and one hooked cutting edge, n', and being furnished with a slotted shank, O *o*, or its equivalent, for attachment to a driving shaft, in the manner herein described.

2. The combination and arrangement, substantially as described herein, of the feed rollers C C', springs D, ratchet wheels $c\ c'$, pivoted feed hands E E' $e\ e'$, cross head F, reciprocating bar G, spring H, adjustable cam I *i*, driving shaft J, and fly wheel K, for the object explained.

3. The combination of the knife N $n\ n'$, driving shaft J, nut L, and washer *l*, for the purpose described.

83,572.—**Anton W. Walter**, Canton, Ohio.—*Door Hinge*.—October 27, 1868.—The lips at the sides of the leaves are drilled, to receive the hinge pin. The leaves may be U-shaped, in which case the lips are at the inner edges.

Claim.—1. A hinge, composed of two leaves, having eyes or lips turned up at their outer or inner edges, and combined with a hinge pin, substantially in the manner and for the purpose herein specified.

2. In combination with a hinge, constructed as herein specified, a spiral spring, F, arranged and used substantially in the manner and for the purpose specified.

83,573.—**William H. Whitlock**, Rising Sun, Ind.—*Turning Tool*.—October 27, 1868.—A cylindrical block, provided with a handle, has an axial hole through it of larger diameter than the stick to be turned and is made flaring at the end. A side excavation receives the bit, which is secured by bolts passing through slots in the bit.

Claim.—The hand tool for turning, herein described, composed of the stock A $a\ a'\ a''$, bit or cutter B $b\ b'\ b''$, set screws C C', and handle D.

83,574.—**Bennet Whitney**, New Brunswick, N. J.—*Grist Mill*.—October 27, 1868.—An elastic hose or band is placed between the curb and the upper stone, which has two projecting pins, in a line with each other, fitted into the lower ends of two vertical, adjustable bars, which pass through openings in a plate, and are hung from a bar, with a horizontal slot, and a nut working on a screw, around which also the bar is fitted and swings upon it.

Claim.—1. The arrangement of the elastic packing H, interposed between the upper stone E and the curb C, substantially as and for the purpose set forth.

2. In combination with the stone E, the pins *h*, slotted sliding bars *i*, slotted plate *g*, adjustable plate L, stationary screw *i*, and nut *j*, all operating as described, for the purpose of adjustably suspending the stone E, in the framing, as herein shown and described.

3. The reversible Z-shaped bars M, when provided with hooks *l*, arranged to support the hopper and shoe of the grist mill, as herein described.

83,575.—**Jay J. Wiggin**, Syracuse, N. Y.—*Preparation of Roofing Fabrics*.—October 27, 1868.—Upon a bed formed of side and end pieces of wood, and filled with sand on a clay packing, are placed three iron rollers, in a frame, holes being made in their interior through nuts screwed into their ends, for admitting steam or hot water to heat them.

Claim.—1. The box or bed C, constructed as and for the purpose described.

2. The three rollers B B B, constructed and arranged substantially as and for the purpose described.

3. The rolling apparatus, composed of the three rollers B B B, the frame A A, and the parts contained in the same, constructed and arranged substantially as and for the purposes set forth and described.

4. The heating and keeping hot the rollers B B B, by the introduction into them of either hot water or steam, substantially in the manner set forth.

5. The process, herein described, of coating felt, paper, and other roofing fabrics, the same consisting in the use of heated rollers acting over a clay bed, or its equivalents, constructed substantially as described.

83,576.—JAY J. WIGGIN, Syracuse, N. Y.—*Roofing Composition for Houses, Boats, Barns, &c.*—October 27, 1868.—Clay and air-slaked lime are mixed together and boiled with coal or gas tar.

Claim.—The compound made of the ingredients before described, in the proportions above set forth, substantially as and for the purpose described.

83,577.—JOHN D. WILKINSON and E. O. BOYLE, Plattsburg, N. Y.—*Combined Tool.*—October 27, 1868.

Claim.—Combining and securing or pivoting the wire gauge A, dividers C, rule D, square E, and calipers F and H together, when made to correspond in dimensions with each other, as and for the purpose set forth.

83,578.—MILETUS J. WINE, Long Glade, Va.—*Harvester.*—October 27, 1868.—An endless apron receives and deposits the grain on a chute between it and the right-hand draught wheel, the hub of which actuates one of the apron rollers by means of a belt connected with a shaft rocked in one or the other direction by a treadle, an arm being fixed to it, which at its outer end supports an idle pulley for tightening the belt.

Claim.—1. The chute M, having its rear end left open, and attached only to the finger bar at its front end, when arranged between the grain wheel W and the apron A, and below the level of the latter, in the manner and for the purpose specified.

2. In connection with the belt C, for moving the apron A, and the chute M, for receiving the grain from said apron, the rock shaft G, the rake J, the idle pulley N, and the treadle *t* or arm *z*, when combined and arranged to operate in the manner and for the purposes substantially as specified.

83,579.—A. N. WOLF, Sheridan, and JOEL HAAG, Bernville, Pa.—*Water Wheel.*—October 27, 1868.—Six chutes are fixed between the ring and the inner periphery of the lower casing, to which the gates are pivoted in a groove near the inner ends of the chutes, and are hinged at their outer ends to the ring, so that by turning the latter all the gates are opened at the same time.

Claim.—The combination of the casing A, wheel E, chutes B B, hinged gates C C, and ring *a*, all constructed, arranged, and operated, substantially as set forth.

83,580.—DAVID WOLF, Easton, Kansas.—*Registering Scale.*—October 27, 1868.—By the fall of a scale beam on a shaft, which has a wheel with a wrist pin set into it, a crank is made to lift a hammer shaft, and work a pawl fixed to it by a pin on the other side of the wheel, a hammer striking a bell when the required quantity is secured.

Claim.—The arrangement of the dial plate E, pawl *f*, shaft C, wheel D, with its pin *g* and wrist pin *d*, the hammer *j*, and bell *k*, as constructed, in combination with the beam A, to be operated by a platform or weighing scale, substantially in the manner as described, for the purposes herein set forth.

83,581.—JOSEPH WRIGHT, Philadelphia, Pa.—*Stop for Umbrella Runner.*—October 27, 1868.

Claim.—A stop for umbrella runners, consisting of a staple, having legs a a^1, of different lengths, and a shoulder, a^2, substantially as described.

83,582.—JOHN W. KIDWELL, Washington, D. C.—*Extracting Gold and Silver from their Ores.*—October 27, 1868.—Sulphurets of iron containing precious metals, being concentrated and roasted, yield oxide of iron mixed with metallic gold and oxide of silver, which is mixed with a carbonaceous substance and heated for six hours in Bischoff's oven. This gives finely-divided iron mixed with gold, which, after being cooled, is amalgamated, to secure the gold.

Claim.—The use of finely-divided iron, prepared according to Bischoff's patent process, in connection with the amalgamation of gold and silver ores, as herein described and set forth.

83,583.—WILLIAM H. ABEL, Greenville, R. I.—*Knitting Machine.*—November 3, 1868.—The knocking-over bar is provided with a lip notched vertically and longitudinally to receive the knocking-over points which are secured to the bar by a clamp.

Claim.—1. The knocking-over points, constructed substantially as described, for the purpose specified.

2. The combination of the separately removable knocking-over points, substantially such as described, with the bar B, having the notched lip *g*, clamp A, and screws *a*, or equivalent.

83,584.—WILLIAM H. ABEL, Greenville, R. I.—*Knitting Machine.*—November 3, 1868; antedated October 22, 1868.—A series of vertical sliding jacks on the slide bar are provided with loop sinkers and dividing sinkers, which are secured to the lower end of said jacks, the latter being held up by small friction springs. A plate is secured to the face of the leads and sinkers and draws the old loops over the newly-formed loops. The vertical shaft is rotated by a segment wheel oscillated by cords fastened to said segment and the top bracket.

Claim.—1. The sinkers c^6 and c^7, constructed as described, combined with the jacks *c*, and operating in combination with the needles, in the manner and for the purpose set forth.

2. In combination with the jacks *c*, which have sinkers c^6 and c^7, constructed, combined, and operating as set forth, the springs g^6, arranged to operate as and for the purpose specified.

3. The plate *f f*, applied to the face of the knocking-over bar, in the manner and for the purpose sub-substantially as specified.

4. The combination of the vertical shaft 19, operating as set forth, the crank arm 17, connecting rod 15, the segment, with its arm A^2, cords 24, pulleys 27 and 28, and the top bracket, the whole arranged to operate substantially in the manner and for the purpose specified.

5. The combination of the friction slide and slide box with the parts last above claimed, as and for the purpose set forth.

6. The lever M, for operating the presser bar, when provided with a pin or stud, *m*, and a rotary sliding roller *n*, and with a shipping device, substantially as and for the purpose specified.

7. The combination of all the operative parts herein described, arranged to operate substantially in the manner and for the purpose set forth.

83,585.—MAX ADLER, Buffalo, N. Y., assignor to himself and HENRY BREITWIESER, same place.—*Blind Hinge.*—November 3, 1868.—A bearing cushion is interposed between the leaves of the lower hinge to prevent jarring, when the blind is turned.

Claim.—The combination of the interposed bearing cushion *k l* with the geared hinge leaves *a d*, arranged as described, and operating in the manner and for the purpose specified.

83,586.—T. G. ARNOLD, New York, N. Y.—*Die and Punch.*—November 3, 1868; antedated October 24, 1868.—The plate holding the die is detachable. The punch holder bar is beveled on its edges to slide in a groove in the lower face of the cross head, and is provided with tubes in which the punches are secured.

Claim.—1. The combination of the die plate A, series of removable dies C, and spring die clearer L, arranged substantially as described.

2. The combination of the plate H, series of punch-supporting tubes K, and punches E, arranged substantially as described.

83,587.—E. H. Ashcroft, Lynn, Mass.—*Steam Engine Oil Cup*.—November 3, 1868.—Two cups are arranged one within the other, the inner one being open at the top and provided with a valve which, when open, allows the melted tallow to run into the outer cup, which latter is provided with a valve to regulate the amount of oil to be fed to the steam cylinder.

Claim.—The combination and arrangement of the outer cup G, inner open-mouthed cup A, stem B, and valve C, operated in the manner as shown and described, and for the purpose set forth.

83,588.—E. H. Ashcroft, Lynn, Mass.—*Steam and Water Check Valve*.—November 3, 1868.—The part forming a seat for the valve is provided with a conical end which is held in a correspondingly-shaped seat in the other part by a union joint piece.

Claim.—The construction of the piece E, and its arrangement in relation to the valve piece *e*, piece C, and union joint piece D, substantially as shown and described.

83,589.—William Anheuser, St. Louis, Mo.—*Extracting Saccharine Matters from Malt*.—November 3, 1868; antedated October 28, 1868.

Claim.—1. The process of forcing a direct current of steam, water, or compressed air into a tight compartment containing the malt, for the purpose of pressing the saccharine juice from the malt.

2. The application of a suction apparatus to secure a ready issue of the saccharine liquid, either separate, or in combination with the device specified in first claim.

83,590.—James A. Ball and Peter B. Lawson, Cold Spring, N. Y.—*Machine for Blocking Hats*.—November 3, 1868.—The brim portion of the hat is stretched by the conical ribs. The cone has a horizontal surface which serves as a bearing for the lower edge of the lower portion of the chamber.

Claim.—1. The perforated cone H, having recessed surface *f*, in combination with the hollow chamber mold or former C, arranged so as to pinch and hold fast the hat body. substantially in the manner set forth.

2. In combination therewith, the conical ribs *e e e*, applied to and forming part of the horizontal upper surface of the chamber *d* of the box mold or former C, substantially in the manner and for the purpose specified.

3. The combination of the recessed perforated cone H, flexible covering I, plate B, and steam pipes K and L, with the box mold C, arranged and operating substantially as specified, so as to force a felt hat body into the said mold C, by applying the pressure of steam internally.

83,591.—Robert M. Barthelmess and Chas. C. Millar, Savannah, Ga.—*Car Coupling*.—November 3, 1868.—A curved slotted latch vibrating on a pivot in the slotted draw head and abutting against the curved ends of the slot in the draw head, operates as a self coupler and can be raised or lowered by the hand.

Claim.—The application, within a longitudinal slot *b*, through a buffer head, B, of a slotted segmental latch, D, of described construction, guided and kept in place by means of a pin, *g*, and curved abutment *h*, substantially as described, and for the purposes set forth.

83,592.—Walker B. Bartram, Danbury, Conn.—*Gathering Attachment for Sewing Machine*.—November 3, 1868.—The upper blade is riveted to a lower plate provided with two tongues. The upper strip of cloth is passed underneath the riveted blade while the lower strip is passed between the two blades, and is less retarded in its movement toward the needle than the upper one, consequently the lower strip will be sewed to the upper one in a gathered condition.

Claim.—The within-described gathering attachment for sewing machines, composed of three elastic blades or plates, B *b a*, all arranged relatively to each other, as shown, and constructed to guide and give the required pressure to the strips of material to be gathered, as described and specified.

83,593.—W. W. Batchelder, New York, N. Y.—*Lighting Gas*.—November 3, 1868.—The friction fuse is saturated in a bath of phosphorus which is held in solution by bisulphide of carbon, then drawn through collodion, and afterward dried and coated with shellac varnish. It is wound around a spool fitting over a tube which forms part of the cup.

Claim.—1. The friction fuse or cord, saturated and coated with the ingredients and in the manner herein set forth.

2. The method of effecting the feed of the fuse by means of two racks or pinions, constructed and arranged so as to admit of the passage of the fuse between them, the said pinions being operated by a spindle and endless screw, or equivalent device, substantially as set forth.

3. The combination, with the feed pinions or racks and fuse, and the spindle for operating the racks, and effecting the combustion of the fuse, of the hollow standard case, in which the said spindle and racks are supported and inclosed, substantially as and for the purposes set forth.

4. The combination, with the rotary spindle for operating the feed racks, of a thumb-piece, mounted upon the spindle, substantially as herein described, so as to prevent the retraction of the fuse from between the said racks.

5. The fuse receptacle, constructed as described, in combination with the gas burner, under the arrangement herein shown and specified.

83,594.—Alma Bedford, Coldwater, Mich.—*Check Hook*.—November 3, 1868.—A ball, sliding vertically on a pin secured to the rear end of the check hook, can be raised high enough to permit the check rein to pass under it, and, when dropped, prevents the check rein from being withdrawn.

Claim.—A harness check hook, B, provided with a vertical pin C, and ball D, all constructed and arranged to operate substantially as herein described.

83,595.—George Beisner, Chicago, Ill.—*Churn*.—November 3, 1868.—The beater is provided with the movable paddles in shape of troughs for producing a greater agitation in the cream. The pinion driving the beater is held in place by a spring, and is taken off to remove the beater when the churning is done.

Claim.—1. The movable paddles *b b*, arranged and operating substantially as set forth.

2. The spring *d*, as and for the purpose set forth.

83,596.—Charles P. Benedict, Hoboken, N. J.—*Sewing Machine*.—November 3, 1868.—A slotted lever, pivoted to the frame and actuated by a cam, gives the horizontal reciprocating motion to the feed. The presser foot is provided with a thin spring plate on its under side to prevent any noise when the feeding bar strikes the under side of the presser foot.

Claim.—1. The slotted lever B C, having one of its jaws so constructed that it shall always hold and keep the pin *g*, on the arm E, in contact with the other jaw, by a spring pressure, substantially as set forth and specified.

2. The frame A, and vibrating slotted lever B C, constructed substantially as described, so that it may be readily attached to a four-motion-feed sewing machine, in co-operative relation with the feeder thereof, substantially as and for the purposes set forth and specified.

3. The combination, with a reciprocating feeder, of the vibrating slotted lever B C, constructed as described, so that said lever shall always be in contact with the ordinary feed cam of a four-motion-feed sewing machine, without making or breaking contact therewith, substantially as described and set forth.

4. The supplementary presser foot or spring *h*, in

combination with a reciprocating feeder H, and vibrating slotted lever B C, constructed and operating substantially as described and specified.

83,597.—Lorenz Bommer, New York, N. Y.—*Block and Die for Forming Hats.*—November 3, 1868.—The hat blocks, molds, and dies are composed of a material described in letters-patent granted to T. C. Krause, on the 17th of February, 1863, which allows the dampness or steam to pass off through the pores by filtration and evaporation.

Claim.—Making porous hat blocks, molds, and dies, substantially as described, as distinguished from molds made porous by perforations or woven meshes.

83,598.—B. S. Burgan, Congress, Ohio.—*Horse Hay Fork.*—November 3, 1868.—The fork is constructed with two tines, each of which have pivoted points, which allow a small quantity of hay or short hay to be removed from the load.

Claim.—The links E, bow F, lever G, and cross bar C, as arranged to operate in combination with the feet D and limbs A, substantially as and for the purpose described.

83,599.—Charles Thomas Burgess, Brentwood, England.—*Harvester Rake.*—November 3, 1868; patented in England September 8, 1866.—A number of arms are secured together in pairs, forming obtuse angles, through the vertex of which passes the reel shaft, so as to permit each pair of arms, when revolved, to vibrate in its plane, their inclination being controlled by a cam. To the extremity of each of these arms is hinged an arm carrying a rake, and connected by a jointed link to the reel shaft, each rake being rotated while sweeping over the platform.

Claim.—1. The combination, as herein described, of the reel shaft, the rake arms, and the cam for carrying the delivery rake or rakes of the reel or fly by the arm or arms which are inclined to the shaft of the reel, and which are caused to vary their angle to the shaft, substantially as described.

2. The arrangement of mechanism, herein described, for causing the delivery rake of the reel or fly, as it is moved back over the platform, not only to move endwise toward the draught side of the machine, but also to turn into a position inclined to the line of the knife, substantially as hereinbefore described.

83,600.—James W. Burns, Medway, Ohio.—*Letter Package.*—November 3, 1868.—The labels, showing the destination of the bundle of letters, are fastened to the upper one of the plates holding the letters, by a narrow strip of metal firmly secured at one side and passed through a slot and bent on the other side.

Claim.—The direction papers E, when attached, as described, by the fastening *e*, or the band *x*, and combined with the parts A B, as and for the purpose set forth.

83,601.—William Burtis, New York, N. Y.—*Propeller Shaft.*—November 3, 1868.—A gear wheel on the crank shaft actuates two counter shafts, (one on each side of the crank shaft,) which operate the propeller shaft.

Claim.—The application of the double counter shafts C C with their gear wheels F, in combination with the gear wheel E on the crank shaft, and the gear wheel D on the wheel shaft, as herein described.

83,602.—James E. Carter, Portland, Me.—*Non-freezing Hydrant.*—November 3, 1868.—A gas pipe ascends from the main with the water pipe, and both are protected by the hydrant case. The gas burner is arranged beneath the gooseneck termination of the water discharge pipe.

Claim.—The improved hydrant, having the gas and water pipes combined and arranged within the shell or stock of the same, from their respective mains upward, as and for the purposes set forth.

83,603.—Charles B. Clark, Buffalo, N. Y.—*Blind Hinge.*—November 3, 1868.—A movable knuckle sliding down the incline of a stationary knuckle, causes a slight lateral movement of the blind sufficient to bring the angular side of the axial pin of the male portion in contact with the angle of the socket in the female portion, thus locking the parts together.

Claim.—The angular socket *g* and pin *n*, in combination with the inclines *m m'*, constructed and operating as described.

83,604.—Mark J. Colbourn, Karthaus, Pa.—*Water Wheel.*—November 3, 1868.—The radial buckets are each provided with hoods so shaped as to prevent the water, after acting on the buckets, from rebounding against the surfaces of the succeeding buckets. The wheel is supported in a metallic frame secured to a wooden frame. The removable box, adapted to receive a wooden step block for supporting the shaft, is supported in the standard, and held by a hook.

Claim.—1. The hoods or shields D, constructed of the form substantially as described, upon the backs of radial floats *m*, substantially in the manner and for the purposes described.

2. The shields D, constructed with interlocking segments S' and shoulders *l*, in combination with the float plates *m*, flanches H, and a locking key *k'*, substantially as described.

3. The convolute case, inclosing the water wheel, of two sections, C C^1, constructed and connected together by the devices as shown, so as to be detachable, substantially as described.

4. The combination of the sectional frames A A', the sectional water wheel case, and the tongue-and-groove and bolt fastenings, all constructed and arranged substantially in the manner and for the purpose described.

5. The removable box *d*, provided with hooked fastening *d'*, adapted for use with a standard, C^3, substantially as and for the purpose described.

83,605.—William J. Cochran, Baltimore, Md., assignor to himself and John Cochrane, Farmingdale, N. J.—*Annealing Pit for Annealing Car Wheels.*—November 3, 1868.—A chamber formed beneath the molding floor, of a larger diameter than the clear of the wheels, has arranged within it three vertical guide strips which keep the wheels in the center of the pit, the top of which latter is closed by an iron plate, on which sand is placed and kept from spreading by a cope-ring. A vent tube is provided to relieve the pressure within the chamber.

Claim.—1. The cooling or annealing pit herein described, with a top covering and bottom vent, arranged for the purpose set forth.

2. The arrangement of the cope ring with the top plate, substantially as described.

3. The cooling or annealing pit, in combination with the guide strips, or their equivalents, arranged and operating substantially as described.

83,606.—John F. Cory, New York, N. Y.—*Noiseless Bell-pull.*—November 3, 1868.—The rubber on the end of the slide prevents any noise when the slide is released after pulling the bell. It is intended particularly for pilot houses on steamboats.

Claim.—The carrying of the rubber D on the slide B, attached to the wire C, leading to the bell, so that it is raised and lowered therewith, substantially as and for the purposes herein set forth.

83,607.—Patrick H. Coyle, Newark, N. J.—*Boiler Flue Brush.*—November 3, 1868.

Claim.—1. A boiler flue brush, the flexible or brush portion of which is composed of strips or pieces of steel or other metal, inserted in the hub, substantially as set forth.

2. The combination of a metallic lined tubular hub or base, with a steel or metallic brush, substantially as set forth.

3. The combination, with a boiler flue brush, of removable end pieces or heads, and a removable center rod or handle, substantially as set forth.

83,608.—Job A. Davis, Watertown, N. Y.—*Steam Generator.*—November 3, 1868.—As fast as the water in the generator is vaporized, the water in the supply reservoir flows in, thus causing a small quantity of water to be heated at a time.

Claim.—The combination of the generator A, and the water supply reservoir F, whereby to generate low pressure of steam, and to supply heated water to the boiler, substantially as herein set forth.

83,609.—Charles de St. Charles, Jalapa, Mexico.—*Coffee Huller and Polisher.*—November 3, 1868.—The coffee is discharged from the hopper upon the rim of a cylinder, covered with elastic material, and carried between the crushing plate or rubber and knobbed belt. The crushing plate is hinged and held in position by an elastic belt, the end of which is secured to an adjustable stretcher.

Claim.—The combination of the cylinder A, rubber *b*, belt *e*, and adjustable stretcher *h*, when constructed and operating in the manner herein described.

83,610.—Joseph Dick, Jr., of Oshawa, Ontario, assignor to himself and Eugene Glen, Rochester, N. Y.—*Harvester Rake.*—November 3, 1868; patented in Canada, June 26, 1868.—An improvement on his patent of January 28, 1868. The movement of the rake arm backward and forward produces the necessary rising and falling motion of the rake. A catch holds the rake in position on its return stroke, and is thrown up and allows the rake to drop when in position to move forward again, by means of an adjustable trip roller on the main standard.

Claim.—1. The bed plate B, provided with bearings for the driving and crank wheel shafts and rake pivot, and for the adjustable stops and rake latch, arranged substantially as described.

2. The latch *f*, attached to the rake-carrying arm, and operating in connection with the sector arms, substantially as described.

3. The adjustable roller arm, in combination with the latch *f*, for releasing the same, in the manner set forth.

4. The pivoted latch lever *i*, operating in combination with the sector and rake-carrying arms, substantially as described.

5. The pivoted latch lever *i*, provided with the adjustable latch or hook, for the purpose set forth.

6. The pitman J and boxes I and K, in combination with the adjustable washers or jam nuts *k*, arranged and operating substantially as described.

7. The vibrating rake arm, provided with the heel extension or counter-arms D′, in combination with the crank wheel shaft, arranged and operating in relation thereto, substantially as described.

83,611.—John B. Draper, Salem, Ill.—*Post Auger.*—November 3, 1868.—A screw shaft provided with a point and auger at the bottom and a wheel at the top rotates in a nut and feeds the auger into the ground. On retracting the auger the shaft remains stationary and the nut is rotated.

Claim.—The arrangement of the screw shaft G, with its wheel I, and the nut D, with its wheel F, and restraining plates E, operating respectively for the rotation and insertion of the auger, and for its upward withdrawal, substantially as described and represented.

83,612.—James W. Eardly, Grand Rapids, Mich.—*Corn Marker.*—November 3, 1868.—The corn marker bar is hinged at the center so that one-half of the frame may be raised by the handle to pass over obstructions. It is also provided with adjustable guide arms to keep the machine at a proper distance from the rows previously marked. The markers swinging on bolts can be set at an angle with the marker bar.

Claim.—1. The adjustable hinged bars A A, in combination with the arms *a a a a* and slotted arms *b b*, arranged and operated substantially in the manner shown and described, for the purpose set forth.

2. The manner of adjusting the marker *a*, Fig. 2, substantially as and for the purpose described.

83,613.—Dexter Estes, Stockholm, N. Y.—*Washing Machine.*—November 3, 1868.

Claim.—The corrugated roller A, moving in the curved box B, by means of the lever *d*, pivoted to a projection extending from one side of the box, and furnished with the handle C.

83,614.—Amos Fassett, Sterling, Ill.—*Wagon Stake.*—November 3, 1868; antedated October 17, 1868.—A flange around the center plate rests upon the bolster. The part of the plate below the flange passing through the bolster is formed thicker than the body of the plate and terminates in a screw, by which it is fastened. On each side of this plate are secured plates which hold the entire stake securely to the bolster.

Claim.—1. The plate B, when provided with the flange *b′*, and the enlargements *e e*, projecting below said plate, substantially in the manner and for the purposes herein set forth.

2. In combination with the above, I claim the side plates C D, arranged and operating in the manner specified.

83,615.—H. D. Flower, Chicago, Ill.—*Compound for Killing Insects on Trees.*—November 3, 1868.—Composed of iron fillings, tartaric acid, and calomel.

Claim.—The ingredients herein named, compounded and applied substantially as and for the purpose set forth.

83,616.—Elias T. Ford, Stillwater, N. Y.—*Manufacture of Paper.*—November 3, 1868.—The water from the pulp is drawn from the suction box through tubular bearings of the forming cylinder. The slice bars secured to the side of the reservoir support the blades which regulate the flow of pulp forming the sheet of paper and permit the suction to assist in the formation of the paper and suck the water from the paper before coming to the couch roll.

Claim.—1. The perforated cylinder A, with the interior suction box B, both constructed and arranged to operate substantially as herein described.

2. In combination with the perforated cylinder A, the suction box B, when constructed and arranged to operate substantially as herein described, and for the purpose set forth.

3. The reservoir D, with a packing roll, G, or its equivalent, for preventing drip, in combination with the forming cylinder A, when constructed and arranged to operate substantially as herein described.

4. In combination with the perforated cylinder A and sucking box B, the slice bars *r r* and blades H H, when constructed and arranged to operate substantially as herein described, and for the purpose set forth.

5. Providing the forming cylinder A, and its attachment as herein described, with a reciprocating movement, for the purpose of interweaving the fiber of the pulp, as set forth.

83,617.—Elias T. Ford, Stillwater, N. Y.—*Machinery for the Manufacture of Paper.*—November 3, 1868.—The wire cloth passes over and is supported by a perforated cylinder rotated in a box which is open at the top and provided with packing plates, the open edges of which hold rubber packing strips that support the wire cloth. The cylinder is provided with plungers which extract the water from the pulp as the wire cloth progresses, and with concave plungers between the cylinders and the box for preventing the passage of air or water.

Claim.—1. In the manufacture of paper, the method of sucking the surplus water from the pulp formed into a sheet on the wire cloth as it passes to the couch roll, substantially as herein described.

2. The perforated cylinder B, when constructed and arranged to operate substantially as herein described, for the purpose of avoiding the wear of the wire cloth in the manufacture of paper.

3. The water box A, perforated cylinder B, circular plungers C, concave plungers J Q, packing plates I, and packing Z, when constructed and arranged substantially as herein described, and for the purpose set forth.

4. In combination with the perforated cylinder B, the sucking box W, with its plungers C, when constructed and arranged substantially as herein described.

83,618.—Elias T. Ford, Stillwater, N. Y.—*Wrench.*—November 3, 1868.—The jaws embracing the nut are secured to a lever which is provided with an adjustable slide made to embrace the spokes of the wheel, and, on rotating the latter, the nut is unscrewed without greasing the bands.

Claim.—The above-described wrench for axle-nuts of carriages, the whole constructed and operated substantially as and for the purpose specified.

83,619.—ELIAS T. FORD, Stillwater, N. Y.—*Finger Bar for Harvesters.*—November 3, 1868.—The finger bar is composed of two oval plates riveted together and perforated on one side to receive square lugs on the guard finger, and on the other side with circular apertures for the insertion of a screw which secures the guard fingers to the bar. A metal plug is inserted in the extremity of the bar and affords greater solidity at the point of attachment.

Claim.—The oval plates A B, provided with apertures F and *r*, in combination with the guard fingers C, provided with shanks *e*, screws *a a*, and metal plug J, all constructed and arranged substantially as described.

83,620.—JOHN FRAZEE, St. Louis, Mo., assignor to HIRAM PROBASCO, of same place.—*Windmill.*—November 3, 1868.—Cams are fixed on the wing shaft, and are guided by cam plates. The governor devices, supported by the upper rotating frame, are connected by a pulley on the governor shaft, with the main power shaft to control the action of the vanes.

Claim.—1. The vanes G and G′, respectively, combined with the frame B, cam plate B^2, cams *f* and *f′*, and fan shafts E, substantially as and for the purposes set forth.

2. The governor device *h* H h^1, acting upon the vanes G and G′, to cause them to turn the frame B, substantially as and for the purpose set forth.

83,621.—JOHN G. GARRETSON, Cincinnati, Ohio.—*Loom.*—November 3, 1868; antedated October 22, 1868.—The web is shed by the action of the batten in its backward vibration upon the pendants of the harness, by means of a finger, without the intervention of treadles. Guide pins are inserted in the hand rail to guide the shuttle through the web, the same being propelled by an endless cord, in the hand of the operator, the guides transferring the shuttle from one to the other as they meet in the middle of the web.

Claim.—1. The combination of the batten, the finger *b*, the pendants *d*, the cord *f*, the pulley *e*, and the case *c c*, for the purpose of operating the harness, as above described.

2. The cords *w* and *x*, in combination with the lever *y* and finger *b*, for the purpose of operating the pendants, as above described.

3. The combination of the guide pins *n n n*, with the hand rail or batten cap, and with the sliding guides *o o*, in the manner and for the purpose above set forth.

4. The endless cord *a a a*, arranged with the batten and its guiding pulleys, in combination with the shuttle-working or carrying guides *o o*, for the purpose above shown and described.

5. The combination of the pawl *k*, the fly *m*, the dog *i*, and the lever *h*, acting on the rag wheel of the cloth beam, and making a take-up motion, as above set forth and described.

83,622.—JAMES GARVEY and MATTHEW H. KIMBALL, San Francisco, Cal.—*Bell-pull.*—November 3, 1868.—The striking hammer has an arm resting on the pull-bar at the inner end of which is fastened a lug, on which is hung the lifting wedge.

Claim.—The application of the lifting wedge H, combined with the lug I, which, being attached to the pull-bar G, operates, with it, directly on the hammer E, in the manner herein described, and for the purpose before mentioned.

83,623.—JAMES GARVEY and MATTHEW H. KIMBALL, San Francisco, Cal.—*Bell-pull.*—November 3, 1868.—On one end of the lever is pivoted the lifting wedge connected by a wire with the pull-bar, and its lower end is connected with the hammer by a spring which actuates the hammer, and, when the bell is struck, restores the lever and pull-bar.

Claim.—1. The lever D, as constructed, and the attachment of the wedge piece G, thereto.

2. The attachment of the handle or pull-bar H directly to the lifting wedge G.

3. Connecting the lever D and hammer K by the spiral spring P, or its equivalent, the whole constructed in the manner substantially as herein described, and for the purposes as set forth.

83,624.—HENRY A. GASTON, Stockton Cal.—*Seeding Machine.*—November 3, 1868.—A valve slide with a projecting spur works under the bottom of the bin, which is provided with valves and has within it stationary fingers, a shaft with fingers being so arranged that when it is rotated, one set of the fingers pass on one side of the valve while the next follow on the opposite side.

Claim.—1. The rotating fingers *d*, when constructed to operate between fixed fingers *f*, of a grain-sowing machine, substantially as above described.

2. The combination and arrangement of the rotating shaft D, and its fingers *d*, with the stationary fingers *f*, and the further combination and arrangement of the relief board H with the remaining internal machinery of a grain-sowing machine, substantially as above described.

3. The spur *c′*, in combination with the slide C′, substantially as above described.

83,625.—JOSEPH GATCHELL, Rahway, N. J.—*Machine for Bending Elliptic Springs.*—November 3, 1868.—Upon the rollers, which move on a spring conforming to the curve of the templet, rests the weight of the cross-head. The rollers are fixed to the ends of two levers and have a curvilinear motion from those centers.

Claim.—1. The combination, substantially as described, of the templet, rolls, bending levers, and weight.

2. The combination of the series of rolls with the bending levers and templet, arranged substantially as described.

83,626.—H. C. GOODSPEED, New York, N. Y.—*Sash Supporter.*—November 3, 1868.—Two cords are fixed to the upper and lower corners of the sash, the upper one being carried through between double and single sheaves, over the single and through the second groove of the double, while the lower one passes over a single pulley. Both cords are connected by a spring of coiled wire.

Claim.—The construction and arrangement of the grooved single pulleys or sheaves *a a*, double sheave *b*, cords C C, and spring D, when applied to a window sash and frame, substantially as described, and for the purpose set forth.

83,627.—MARTIN HALLENBECK, Albany, N. Y., assignor to ALFRED BLAKER, Newtown, Pa.—*Harvester.*—November 3, 1868.—The tongue is bolted on the foot board, to which is secured the standard, for the driver's seat, and on the grain side of which is pivoted a lifting lever. Two down-hangers support a pin, on which fits a tubular socket, and which passes through the eye of a lever bearing against the under side of the foot board, a flanged plate, with a socket for a screw in the finger beam, keeping the pitman head from flying out of its socket in the cutter bar.

Claim.—1. The arrangement, as described, for joint operation, of the tongue, the driver's seat, and the lifting lever on the foot board, pivoted to the main frame behind the main axle, for the purpose specified.

2. The arrangement, for joint operation, as described, of the main frame, the down-hangers *h* h^1, the lever H, the socket I, and the cutting apparatus.

3. The combination, as described, with the sickle eye and pitman, of the flanged, slotted guard-plate N, for the purpose specified.

83,628.—MARTIN HALLENBECK, Albany, N. Y., assignor to ALFRED BLAKER, Newtown, Pa.—*Cutting Apparatus for Harvesters.*—November 3, 1868.—A divider is pivoted to play vertically on the finger beam, its upward movement being limited by a spring. The vibration of the divider is limited by a stop.

Claim.—1. The combination, with the cutting apparatus of a harvester, of a vertically-moving divider and a depressing spring, for the purpose set forth.

2. The combination, substantially as set forth, of a vertically-yielding divider, a depressing spring, and a stop to limit the vibration of the divider.

3. In a harvester cutting apparatus, the construction and arrangement, for joint operation, substantially as set forth, of the finger beam, the guard fingers, and their ledges *e*, the brackets, and their ledges *b*, with the cutter bar and cutters, for the purposes specified.

83,629.—Warner Hatch, Plainfield, Ill.—*Furnace for Heating Soldering Irons.*—November 3, 1868.—The throat connected with the fuel chamber has a slide, by pulling up which the fuel is let into the fire box, which has a circular partition, partly covered by a lid around the grate.

Claim.—1. The combination of the fuel chamber *a* with the throat *d* and slide *m*, when applied to a furnace for heating soldering irons, all constructed and arranged as and for the purpose set forth.

2. The throat *d* and slide *m*, in combination with the fire box *b*, when constructed with a circular partition, *o*, and lid *s*, all arranged and operating as and for the purposes set forth.

83,630.—Dexter Hathaway, Wyoming, Wis.—*Grain Separator.*—November 3, 1868.

Claim.—1. The two short screens C and D, as described.

2. Attaching the spout G to the lower edge of the shoe, as specified.

3. The movable tail board H, as shown and described.

83,631.—George Havell, Newark, N. J.—*Skate.*—November 3, 1868.—An angular bar slides in a box under the heel of the foot plate, its bent ends being in the rear and corrugated, forming clamps, both bar and clamps being moved by the screw rod.

Claim.—The angular sliding bar G, encased in the box F, and provided with clamps, H H, and operated by means of the screw rod I, substantially as and for the purposes herein set forth.

83,632.—Orion R. Hight, Dowagiac, Mich.—*Window Sash and Frame.*—November 3, 1868.

Claim.—The arrangement of pin J K, loosely in stop G, for the purpose of rigidly fastening the sash when desired, substantially as and for the purposes described.

83,633.—Thomas M. Hill, Richmond, Ind.—*Animal Trap.*—November 3, 1868.—A gate, working between parallel guides, is operated by arms which form part of the rocking platform inside, the trigger having a hook for bait at its lower end, being pivoted to a central post, and is connected at the other end by a rod to the head block, which is held by a spiral spring, and has a pin for keeping up the gate.

Claim.—The arrangement and combination of the vibrating platform I with its levers J J, the door B working in guides *i i*, the head block K, spring H, connecting rod G, post E, and trigger F, with the box A, when provided with the hinged lid C and opening D, for the purpose and in the manner substantially as herein set forth and described.

83,634.—Hatfield Hopper and John G. Hetzell, Newark, N. J.—*Slate Cutter.*—November 3, 1868.—The gauges regulate the angle for cutting the slate, and the pin prevents the slate from moving too far under the cutter.

Claim.—1. The combination of fixed knife R with beveled cutter A, when the latter is operated by means of an up-and-down motion, in the manner substantially as described.

2. The gauges O O and the center pin P, substantially as described, and for the purpose named.

3. The frame B, hinged at C, carrying the beveled cutter A, when operated by means of the treadle E, through the media of the connecting rods F K, and crank shaft H, carrying fly wheel L, all constructed and arranged to operate in the manner and for the purpose substantially as described.

83,635.—Horace J. Hubbard, Chicopee, Mass.—*Bobbin.*—November 3, 1868.—The catch is formed of a ring with arms, having each a pin at right angles from them, and driven in the bottom of the bobbin outside of the edge of a groove, so that the arms cross it.

Claim.—The combination, with the bobbin, of the fly catch, consisting of the ring A, with one or more arms B, with pins C, constructed and arranged substantially as herein described, and for the purpose specified.

83,636.—Aaron P. M. Jeffers, Allegan, Mich.—*Tool Holder for Grinding.*—November 3, 1868.—The apparatus is designed to be attached to a grindstone of any size. It is made adjustable, so as to hold the tool upon a true bevel firmly in place.

Claim.—The construction of a tool holder, with the rock shaft C, standard D, set screw E, rest E″, provided with slots F and H, thumb nut G, standard I, pin J, bolts K M, and O, rest L, ratchet N, jaw P, bail R, springs S, screw M, and nut U, or their equivalents, when arranged and operating substantially as and for the purposes herein set forth.

83,637.—Nathaniel Jenkins, Boston, Mass.—*Composition for the Soles and Heels of Boots and Shoes.*—November 3, 1868.—Upon sliced India-rubber is spread raw hide, reduced to as fine a powder as possible, and rolled into and thoroughly incorporated with it.

Claim.—1. A combination of caoutchouc, or India-rubber, and raw hide, in suitable proportions, for the purposes before explained.

2. The addition, to a compound of caoutchouc and raw hide, of a less expensive and heavier substance or substances, to produce results before described.

83,638.—Eliza Joyce, New York, N. Y.—*Low Water Indicator.*—November 3, 1868.—A valve is affixed to a spindle which passes through a screw, connected by a crank to the float, and an elastic arm of a hammer, reaching above a bell, is fixed to the opposite end of the spindle.

Claim.—The arrangement, in connection with the boiler, of the float C and alarm E, directly connected together by the crank spindle B, substantially as described, so that the ebullition of the water, when at a determined level in the boiler, will effect the vibration of the float, and the consequent sounding of the alarm, as set forth.

83,639.—Edward H. Kent, Portland, Oregon.—*Rotary Spading Machine.*—November 3, 1868.—When the spades are ready to enter the ground, by the rotation of the cylinders they are in nearly a vertical position, and are held down by one of the latches, remaining in the same position until the cylinder has passed over them, causing the earth to be broken up and overturned.

Claim.—The spade bars E, moving in slots O, operated by pawls H and lever L; also, fastening the spade bars E, when extended outward in the slots O of the cylinder B, by the latches D, falling in and out behind the collars G, with the groove M, on the shaft N, and the concentric segment I and bars J, and combination of the various parts as herein described, and for the purposes set forth.

83,640.—Albert J. Kletzker, St. Louis, Mo.—*Paper Fastener.*—November 3, 1868.—A lever is pivoted to a stand, and also connected by a link to the follower, the bottom of which is perforated to receive the pins affixed to the plate, as the follower descends.

Claim.—The stand A, lever B, follower C, and perforators D, when arranged and operated as described and set forth.

83,641.—John D. Kneedler, Collinsville, Ill., assignor to himself and Thomas S. Davis.—*Gang Plow.*—November 3, 1868.—Inside of the bearing frame is pivoted a frame so that the front end of the latter will vibrate up and down, being held up by a spring pressing against the bottom of the loop which is attached to its front beam, from the central beam of the outer frame, to the front end of which latter is fixed a treadle resting on top of the loop and ending in a foot piece for the driver.

Claim.—The frame A and vibrating frame A^1, the spring a^1, loop a^2, and treadle a^3, all operated and combined substantially as set forth.

83,642.—John A. Lee, Chattanooga, Tenn.—*Animal Trap.*—November 3, 1868.—As the animal pulls upon the bait the entrance to the cage is closed by the turning of one of the concentric drums; at the same time a lighted entrance to the cage is opened, into which the animal passes, and which is closed by a wire grating, when the trap is again automatically set.

Claim.—1. The two concentric drums A and A′, one stationary and the other rotating by means of a coiled spring upon the upright axis *b*, when in combination with the platform *c*, spring trigger *o*, and bait hooks *q*, as and for the purposes set forth.

2. The combination and arrangement of the glass gate I and wire grating J and pawl *f′* with the lugs *f* upon the outside drum A, as and for the purposes set forth.

83,643.—David Lees, Blair County, Pa.—*Manufacture of Oxide of Zinc from Sulphureted Ores.*—November 3, 1868.—The intensity of the blast maintains a constant oxidizing atmosphere above the charge. This is effected by means of a supply pipe with valves, and with slots inclined in a pipe filled with water and kept hot, and the perfect distribution of the air over the whole surface of the furnace.

Claim.—The application of a hot blast, substantially in the manner and by the process above described, to the manufacture of oxide of zinc, whereby the oxide is always formed in an oxidizing atmosphere, and at a temperature sufficiently elevated to decompose all injurious products.

83,644.—Michael Leidecker and Philip Cron, Rochester, N. Y.—*Barber and Dental Chair.*—November 3, 1868.—Toggles, acted upon by a screw for inclining the chair back and forward, are arranged together, with a worm and screw for elevating the loose seat.

Claim.—The combined arrangement of the screw D, nuts *b b*, and toggles *c c*, for producing the backward and forward adjustment of the chair, and the worm *h*, nut *g*, and screw *f*, for producing the vertical adjustment of the seat, independent of the chair, as herein set forth.

83,645.—Robert F. Leighton and Solomon Severy, Melrose, Mass.—*Writing Slate.*—November 3, 1868.

Claim.—The improved manufacture of elastic-frame slate or writing tablet, as made with the India-rubber, or material of the frame, not only molded upon the tablet about its edges, but through holes made through the tablet and near to such edges, as set forth, such extensions of the rubber through the tablet serving to effectually prevent detachment of the frame from the tablet.

83,646.—John L. Little, Atkinson, N. H.—*Stove-pipe Thimble*—November 3, 1868.—A collar is secured in a cylinder by means of slots in its rim, which allow the passage of the projections on the cylinder.

Claim.—A stove-pipe thimble, composed of cylinder A, having the inward projections P, removable collar C, with rim R and slot S, all constructed and operating in the manner and for the purpose described.

83,647.—Orrin Luce, Cortland, N. Y., assignor to himself and Martin Luce, of same place.—*Trunk Hinge.*—November 3, 1868.—The hinge is intended to be applied to the corners of a trunk, and is fastened both to the end and back of the same.

Claim.—The construction and arrangement herein described of the parts *a*, *s*, *b*, *t*, *g g*, *p*, *d*, *e*, and *c*, for the purpose set forth.

83,648.—George H. Mallary, Poughkeepsie, N. Y., assignor to himself, Alexander L. Van Buren, Herbert Reed, William H. Clark, and John A. Standish.—*Paper-Bag Machine.*—November 3, 1868; antedated October 17, 1868.—One edge of the sheet is pasted by means of a roller as it passes into the machine; then one of its sides is folded over a former, and over it is folded the pasted side. The bag so far formed is drawn off by rollers, by which it is passed into an inclosure made with a bottom of a series of rollers, which carry it forward. One roller applies paste across the bag near the bottom, while another forms a fold for the bottom lap. It then passes out between another pair of rollers, which press the bottom fold of the bag into place.

Claim.—1. The combination of the moving bed *f* and the rollers *d e* and the folders *h h*, actuated substantially as set forth, so that the feeding of the sheet of paper and folding the same are effected at the right time, as set forth.

2. The rollers *k k′* and *l l′*, in combination with the moving bed *f* and the folders *h h*, for the purposes and as set forth.

3. The pasting and creasing mechanism applied on the axis of the roller *o*, as and for the purposes set forth.

83,649.—John Mallory, Penn Yan, N. Y.—*Broiler.*—November 3, 1868.—A gridiron is made in two parts, hinged together, and so that it may revolve and expose both sides of the meat, which can be examined during the cooking process by means of a transparently-covered opening in the top of the case.

Claim.—1. The gridiron B, when made as specified, and used in combination with the case A, substantially as set forth.

2. The opening in the case, when made as and for the purpose herein specified.

83,650.—William May, Binghamton, N. Y.—*Door Stop.*—November 3, 1868.—A plate attached to the door is provided with a slide, to which is attached a cam. By pressing down the slide with the foot the door is held open in any desired position. A spring holds the slide in place.

Claim.—The cam F and spring D, in combination with the slide B and plate A, as arranged and shown, for the purpose set forth.

83,651.—Henry E. Mead Centreville, Mich.—*Stump Extractor.*—November 3, 1868.—A capstan is mounted on a frame and is provided with a self-acting clutch by means of which when the draught on the sweep secured to a cup on a journal ceases, the cylinder will be thrown out of gear and the rope slackened automatically.

Claim.—The combination and arrangement of the capstan head H, provided with recesses L, clutch plates M, and the yoke O, with the cylinder E, provided with a journal, F, and clutch G, sills A, center plate B, standard C, cross-tie D, sweep I, evener J, guide yoke K, lever N, and cord P, when constructed and operating substantially as herein described, and for the purposes specified.

83,652.—W. T. Munger, Branford, assignor to P. Corbin and F. Corbin, New Britain, Conn.—*Knob Latch.*—November 3, 1868.—A lever arm extends from the hub of the spindle, and a suspending link connected with the inner end of the latch, has on it pins, against which the lever operates.

Claim.—The swinging link *f*, jointed to the latch *e*, in combination with the projections 2 and 3, and lever arm *h*, from the spindle hub *k*, substantially as and for the purposes specified.

83,653.—Henry A. Newhall, Providence, R. I.—*Ventilating Attachment for Ash Sifters.*—November 3, 1868.—A current of air from the chimney flue flows through the sifting box during the process of sifting and causes the dust to be carried into the stove.

Claim.—1. A funnel, to connect the inclosing case of a coal-sifting apparatus with a flue, constructed substantially in the manner herein described.

2. The sifting box *t*, provided with pipes *w v*, constructed in the manner and for the purpose herein set forth.

83,654.—Frank L. Oliver, Scarborough, Me.—*Wrench.*—November 3, 1868.—The handle of the wrench is curved, and after loosening the nut another wrench is applied which allows the handle to be turned like a bit stock.

Claim.—The improved wrench for carriages, made in the manner and combining the parts herein specified.

83,655.—ELIPHALET H. PARKER, Bucksport, Me.—*Steam Governor.*—November 3, 1868.—When the speed of the piston is greater than the friction between it and the hub of the fan the action of the truck on the screw flange carries the fan upward and raises the end of the rod connecting with the throttle valve.

Claim.—A steam governor, constructed with fan G, spindle *a*, spiral flange *c*, truck *e*, or other suitable bearing for the fan upon the flange, pulley *f*, or its equivalent device, for imparting motion, and the rod *g*, or its equivalent, for connecting the governor with the valve, all arranged substantially as described and shown.

83,656.—ANDREW PATTERSON, Birmingham, Pa.—*Harrow Teeth.*—November 3, 1868.—The tooth is held by a wedge fitting the inner angle of the tooth and the adjacent edges of the hole.

Claim.—An angular iron or steel harrow tooth, made substantially as shown and described.

83,657.—HENRY PEASE, Brockport, N. Y., assignor to himself and H. W. SEYMOUR, same place.—*Cooking Stove.*—November 3, 1868.—The oven is made open and unobstructed and a downward passage is made for the air from the top. Apertures in the fire pot form a communication between the air jacket and the interior of the fire chamber. A false bottom is made to revolve in the oven to bring the articles in a convenient position to be handled. The arms sweep over the bottom of the stove and remove the fallen ashes.

Claim.—1. The arrangement of a fire pot, E, concentrically within a circular oven space, B, substantially as shown.

2. In a central independent fire pot, E, suspended concentrically within the circular oven space, the air jacket *i i*, induction orifices *k k*, and ventilating dampers *p p*, communicating externally through the top of the stove, combined and arranged substantially as set forth.

3. The combination of the revolving false bottom P and sweeping arms *s s*, arranged as described, and operating as herein set forth.

83,658.—C. T. PHILLIPS, Jordan, N. Y.—*Smut Mill.*—November 3, 1868.—The several devices and their combination are disclaimed.

Claim.—The arrangement, herein described, of the scouring cylinder D *d c*, annular chamber *h*, blast wheels L I, screen B R *r*, chamber J K, conduits *k*, and spouts F G, all operated as shown, and for the purpose specified.

83,659.—BENJAMIN CHARLES POLE, Richmond, Va., assignor to himself and GEORGE F. MCLELLAN, of Washington, D. C.—*Butt Hinge.*—November 3, 1868.—When the door or lid is closed the hinge is concealed from view, leaving a smooth, unbroken surface.

Claim.—The bed plate A, the spring B, the hinge plate C, with slot D, the hinged lever E, rod I, plate K, hinge plate F, all constructed, combined, and operating substantially in the manner and for the purpose herein set forth.

83,660.—JOHN POLLOCK and THEODORE J. DIEDRICK, Philadelphia, Pa.—*Manufacture of Metal Cans.*—November 3, 1868.—The edges of the metal which form the sides of the can are joined together by means of tongues interlocking and fastening into each other.

Claim.—1. Table T, levers L L^1 L^2 and L^3, plates P and P^2, lug *l*, standards S and S', rods *r* and r^1, springs s s^1 s^2 s^3 and s^4, block B, and its beveled punches *b*, saddle E, and its hammers *h*, cylinder C, flexible tongue *f*, flat bar F and F', arm *a*, rod R, vibrating guide G, and treadle D, all arranged, constructed, and operating in the manner and for the purpose set forth.

2. The combination of the sliding plates P and P', rods *r* and r', and springs *s* and s^1, with the cylinder C and flexible tongue *f*, for the purpose of interlocking the tongues, and bringing the edges of the can together, as herein set forth.

83,661.—WARREN PORTLOCK and J. R. DODDS, New London, Iowa.—*Railway Car Brake.*—November 3, 1868.—A longitudinally-sliding frame is attached to the tender of a locomotive, and pressed forward by a spring, and is connected with a system of levers, rods, and chains, arranged beneath the cars, so that the engineer can operate the brakes of each car in the train.

Claim.—1. The arrangement of the rod D^2, links S R *g*, chain *h h'*, rocking bar J, brake bars N, suitable connections and rod D^1, substantially in the manner and for the purpose described.

2. The arrangement of the chain or cord *b* and brake shaft *a*, in combination with the sliding self-retracting frame D D, in the manner shown and described.

3. The rods D^1 D^2, arranged on opposite ends of a car, and connected to the brake bars as described and shown, in combination with the right-and-left arms of the sliding self-retracting frame D D, substantially as and for the purpose described.

83,662.—DAVID QUINN, Chicago, Ill.—*Raft.*—November 3, 1868.—The light being excluded, the workmen are placed in a medium darker than the water below them, thus enabling them to see down into the water.

Claim.—A raft or boat, having an interior opening in combination with a house, box, or cabin over it, whereby wind and waves are excluded from the surface of the water in the opening, and light excluded from the interior of the cabin, substantially as herein set forth.

83,663.—JOSEPH READ, Philadelphia, Pa.—*Gutter in Foot Pavement*—November 3, 1868.—The sides of the metallic drain are formed with flanges to support the blocks or bricks of the foot pavement.

Claim.—In combination with the foot pavement of a city or town, the iron drain C, having the side flanges c''' c''', and the detachable covering plate c^4, constructed and applied, substantially as and for the purposes described.

83,664.—E. P. RUSSELL, Manlius, N.Y.—*Churn.*—November 3, 1868.—The dash is turned a portion of a revolution at the termination of its upward and downward movement to prevent a continuous flow of the cream in one direction.

Claim.—The link I, pin J, adjustable sleeve *f*, and loose band *d*, all constructed and arranged as described, for the purpose specified.

83,665.—R. J. RUSSELL, Moundsville, W. Va.—*Skate.*—November 3, 1868.—The toe slide is beveled on the ends and fits tightly in the beveled sides of the front bar secured to the runner. The heel slide beveled on one end and slotted at the other, fits in the back bar and is held by a washer, grooved to fit against the beveled end of the heel slide, and a nut in the bar.

Claim.—The combination of the slides A and B with the bars C and E, and the washers H and nut F, substantially as described, the whole constructed and operating as herein set forth and shown.

83,666.—THOMAS COOKE SILLIMAN, Chester, Conn.—*Trap for Destroying Insects.*—November 3, 1868; antedated October 24, 1868.—The driving shaft is placed out of the axial line of the sweep so that as the arms on the shaft rotate they gradually recede from the sweep and allow it to return while they still continue to rotate.

Claim.—1. The regulator, substantially as described, to insure silence, and to simplify the mechanical combination and movement.

2. The flat or elliptical form of the driving shaft S, to economize power.

3. The placing of the driving shaft, or the arm or arms for driving the sweep, out of the axial line of the sweep, for the purpose specified.

4. The sweep P, to convey the insects to the drowning box, or its substitute.

5. The arch A, as located relatively to the sweep, to increase the trapping surface.

6. The strainer F, to remove the insects from the liquid.

83,667.—GEORGE SMITH, Providence, R. I., assignor to himself and JOHN C. DE LANY, Detroit, Mich.—*Device for Unloading Hay.*—November 3, 1868.

Claim.—The combination and arrangement of the hook C, latch D, cords E and A, pulley *p*, for latch cord E, sling *a c*, and rings *b b*, all constructed and operating substantially in the manner described.

83,668.—WILLIAM SMITH, Allegheny City, Pa. —*Pipe Molding Machine.*—November 3, 1868.—The packer shaft is made to rotate by means of a shaft, with which it is connected by bevel gearing, and which is actuated by a pinion working in a rack on the frame and rotates as the carriage descends. The flask is held in position on the carriage by pivoted clamps having rollers which press on the flange at the bottom of the flask.

Claim.—1. A packer shaft, mounted in bearings on a vertically-moving carriage, arranged and operating so as to communicate rotation to the packer shaft during its vertical movements, substantially in the manner described.

2. The carriage G and racks G^3 G^4, in combination with the pinions D^1 D^2, counter shafts D C, gear wheel D^d, pinion C^c, loose pulleys C^1 C^2, clutch C^c D^d, and driving shaft A^b, arranged and operating substantially as described, and for the purposes set forth.

3. The pivoted clamps L^2, having friction rollers upon their ends, in combination with the car K and flask B, as set forth.

83,669.—DANIEL M. SOMERS, and WALTER S. ATWOOD, Brooklyn, N. Y.—*Instrument for Attaching Buttons to Fabrics.*—November 3, 1868.—The blades are constructed to lap over each other so as to compress the shank all around, equally without leaving a burr.

Claim.—1. The bed piece A, lever E, friction roller F, sliding die plate C, attached to and operated by sliding piece H, having an inclined face, and a stationary die plate, B, combined and arranged substantially as herein described, and for the purposes set forth.

2. The die plates B and C, so constructed, with removed surfaces *t t'* and *v v'*, that they may overlap, and their dies provided with inclined sides *i i'* and *e e'*, combined and operated substantially as herein described.

83,670.—JOHN STEWART, Jackson, Mich.—*Potato Digger.*—November 3, 1868.—The triangular frame can be easily detached when the apparatus is to be used simply as a plow.

Claim.—1. The extension of the mold boards B by means of the curved bars or wings C, when the latter are held and rendered yielding by means of braces D, constructed and operating substantially as herein set forth.

2. The triangular frame E, with its attachments, in connection with plow A, when constructed, arranged, and operating substantially as and for the purposes specified.

83,671.—HENRY D. STOVER, New York, N. Y. —*Mortising and Tenoning Machine.*—November 3, 1868.—The cutter heads are mounted on arms attached to the driving shaft in a bed on which, upon an adjustable bracket, is a cutter at right angles to the others which, after they have done their work, forms the double tenon. The "throw" of the mortising tool is effected by friction disks operating alternately by means of a rack and a pinion on a shaft moved back and forth by a lever. The disks are also connected with a friction wheel, with a bevel pinion on its axle operating a screw working through a slide, carrying the crank pin. Gain or notches may also be formed in heavy timber by using only one of the cutter heads.

Claim.—1. The bed plate A and A', when so constructed that the cutter heads may be worked back and forth, or to and from the work, substantially as described.

2. Varying the throw or motion of the chisel in mortising machines, by means of the friction disks C and C', when arranged substantially as described.

3. The cutter heads, attached to levers N and N', in combination with cutter head *x*, when constructed and arranged as described, for the purpose set forth.

4. Mounting a cutter head upon the adjustable lever N, attached to the sliding bed L, so that gains or notches may be readily formed in heavy timbers, substantially as described, and for the purpose set forth.

83,672.—JOSEPH T. STYER, Richwood, assignor to himself and EBER BRADLEY, Whitehouse, Ohio.—*Sheep-shearing Table.*—November 3, 1868.—The table is formed with hinged, folding legs on its under side, held in place by rods which pass through eyes on the sections of the legs. On the top of the table are revolving concave disks.

Claim.—The construction of a sheep-shearing table, A, provided with folding legs or standards B, and revolving concave disks E, when operating substantially as and for the purposes herein set forth.

83,673.—HORACE TARBOX, Warwick, R. I.—*Automatic Car Coupling.*—November 3, 1868.—To a shaft inside the box is fastened one end of a lever, the other end being fitted in a slot in the coupling pin. This pin has a guide plate, and the short arm of a bent, sliding staple also rests against it near the slot, the longer arm passing through the front of the box, while a lever, having a coiled spring at its lower end, presses against the bend.

Claim.—A car coupling, composed of the box A, with a shaft, *b*, and spring *c*, which has a lever, *d*, connected to the slotted coupling pin, with a guide plate, *e*, when combined with a projecting staple, *f*, and lever *i*, all constructed and operated substantially as described, and for the purpose specified.

83,674.—BJARNE O. THOMPSON, Chicago, Ill.—*Railway Car Brake.*—November 3, 1868.—Designed to operate the brakes of a whole train of cars from the locomotive.

Claim.—1. The combination and arrangement of the arms B, when connected to the driving wheels of a locomotive, and to disk C, thereby giving motion to bevel wheel D, keyed on the same shaft C' as the disk C, when the driving wheels are in motion.

2. The combination of the vertical brake shaft S', slotted plate *c*, pin *e*, shaft *h*, pinion or serrated flange *d*, pawl *f*, spring *g*, bevel pinions E and G, cog wheel H, shaft I, projection I', and chain L, substantially as and for the purpose set forth.

83,675.—STERLING C. THORNTON, Macomb, Texas.—*Combined Cultivator, Plow, Harrow, and Roller.*—November 3, 1868.—A cultivator, plow, harrow, and an adjustable frame are arranged in such a manner that the several parts can be used together or independently, the adjustment of the plows, draught pole, and clearing of the harrow being also secured.

Claim.—1. The combination and arrangement of the fixed frame C, movable frame E, parallel ruler joints *d d d d*, lever G, rod *g*, rack H, and spring catch lever *g'*, the whole being constructed to operate in the manner and for the purposes set forth.

2. The joint plates *d d*, when constructed in the triangular-shape described and shown, and provided with notches *v v* in their under edge, and used in connection with the pin v^1, and series of holes v^2 v^2 v^2 in the fixed frame, for the purpose of adjusting the depth to which the plows, &c., can work.

3. The pivot *a*, in combination with the lugs a^1 a^1 and bolts *c* and *c'*, passing through the rear end of the draught pole, the whole being constructed to operate in the manner and for the purpose specified.

4. The use of the standards L L, in combination with the springs *l l*, and middle beams J J, for the purposes and operating in the manner described.

5. The rocking frame M, when pivoted to the drag bars or arms R R, as described, and provided with the lever *s* and adjusting bar r^2, by which the whole frame can be raised or depressed at pleasure, in combination with the cleaning device *u u*, when made to operate substantially as described.

6. The described method of attaching the tooth or plow K to the frame of the machine, namely, the em-

ployment of a bifurcated standard, so constructed as to brace the tooth laterally, and, if necessary, provided also with braces to brace it longitudinally with the machine, substantially as shown and specified.

83,676.—PETER VANDE SANDE, Rochester, N. Y., assignor to himself and STEPHEN COLEMAN, same place.—*Machine for Cutting Meat and other Articles.*—November 3, 1868.—The knives and clearers are arranged adjustably to different positions by means of a vertical gate on which the knives are pivoted. A flexible rack, with clearers pivoted at their opposite ends to straps and angular corners, is adjusted to set them at corresponding angles with the knives. The meat box is moved back and forth by means of a divided screw, cams, and thread plate, and adjustable collars having threads of different coarseness on the crank shaft.

Claim.—1. The combination of the knives *a a* and clearers *i i*, having an angular adjustment, and otherwise arranged as described, and operating in the manner and for the purpose specified.

2. Constructing the rack H in such a manner as to have a degree of flexibility, as herein described.

3. The arrangement of the divided screw threads, *q q*, upon the collar I, in such a manner as to alternate in position when combined with the thread plate K, in the manner and for the purpose specified.

4. The combination of the cams *r r* with the screw threads *q q* and thread plate K, operating in the manner and for the purpose specified.

5. The arrangement of a series of the collars, I I I, upon the same shaft, and having screw threads of different degrees of coarseness, whereby one may be substituted for another, as described.

6. The arrangement, as a whole, consisting of knives *a a*, rack H, box C, thread plate K, and screw collars I, operating as described.

83,677.—JAMES F. WALKER, Murrayville, Ill.—*Corn Planter.*—November 3, 1868.—The seed slides of two hoppers are operated by compound levers applied to the vibrating hopper frame, and controlled by hand levers, so that two hills may be dropped into at one time, the dropper raising or lowering the frame and also clearing the rear transporting wheels by means of the same lever.

Claim.—1. The construction of the tread of each covering and transporting wheel E, of three tires or rings, *a* a' a', so applied to forked ends, *b*, of the spokes of the wheel as to leave spaces for the escape of earth, substantially as described and shown.

2. The lifting lever F, in combination with the looped lever *c* and scrapers *m*, when these parts are constructed and arranged so as to operate as herein described.

3. The looped lever *c*, the longitudinally movable and vibrating lever F, and the vibrating hopper frame, when these parts are arranged, combined, and constructed, substantially in the manner described.

4. The levers H, J J, connected to the seed slides *s* s', and operated by means of one or two hand levers G^2, substantially as described.

5. Removable perforated cut-off plates *d*, applied to hoppers above the seed slides, substantially as described.

6. While not claiming broadly anti-friction casters, I do claim providing the transverse beam C with channeled blocks P, having supporting wheels P^2, and swiveling standards, P^1, applied to said blocks, with anti-friction balls, p', interposed between said blocks and standards, as described.

83,678.—JAMES W. WESTON, New York, N. Y.—*Fruit Carrier.*—November 3, 1868; antedated October 17, 1868.—A cylindrical fruit carrier is formed with perforated sides for ventilation, and with a removable cover, and a series of these cylinders is strung together by wires or cords so as to allow of their being hung or packed in a frame.

Claim.—A fruit carrier, formed of a perforated cylinder, fitted with heads that are retained in place by the cords that suspend the carrier horizontally, as and for the purposes set forth.

83,679.—STEPHEN WILKS, Chicago, Ill.—*Cooking Range.*—November 3, 1868; antedated October 17, 1868.—Designed for use in sleeping cars and other places where the space allowed for cooking is limited.

Claim.—The arrangement of the several parts constituting my said range, as above specified and shown.

83,680.—WILLIAM H. YOUNG and L. YOUNG, Boston, Mass.—*Curtain Fixture.*—November 3, 1868.—The slide is self fastening, and with its connected tassel is made to slip upon the lower part or stick of the curtain.

Claim.—The slide C, constructed as described, and for the purpose specified.

83,681.—SEWALL ALBEE, Wiscasset, Me.—*Fishing Jig.*—November 3, 1868.—The hook passes through a tube into the aperture in the center piece, and is held firmly by the open parts of the lower end of the center piece, being closely compressed when the tube is screwed on.

Claim.—The method of forming the body of the jig of three adjustable parts, substantially as described, and especially the method of adjusting, securing, and holding the hook, by means of an adjustable tube or cap, in combination with a center piece, containing a screw, fitting the cap, and an aperture, for the admission of the stem of the hook, all substantially as above described.

83,682.—JULIUS AMBRUN, Leavenworth City, Kansas.—*Straw Cutter.*—November 3, 1868.—Reciprocating oblique cutters are arranged in frames, moving in opposite directions, by means of racks, into which meshes a pinion and a lever pivoted to and swinging around on an elastic support, so as to cause the frames to move up and down, while the straw is fed and regulated by means of an arm connected with a ratchet wheel, belt, and presser roller.

Claim.—1. The frames C and D, which hold the two cutters, E and F respectively, when connected with each other by means of a pinion, *b*, and racks, operated by a lever, G, substantially as herein shown and described.

2. The reciprocating frames C D, carrying the cutters E F, in combination with the pawl *f*, ratchet wheel *g*, belt *h*, feed wheel K, and presser wheel L, all arranged on a straw box, A, substantially as herein shown and described.

83,683.—WILLIAM AUSTIN, London, England.—*Composition for the Manufacture of Safety and other Friction Matches.*—November 3, 1868.—Phosphorus, spirits of tar, black sulphuret of antimony, red ochre, and emery, wherewith to produce the match-igniting surface, are mixed with Japan or other varnish, or resinous, oleaginous, or other "anti-hydro" matter, instead of being mixed with size or other watery preparations.

Claim.—1. The manufacture of match-igniting chemicals and ingredients with anti-hydro matter, so as to render the same, and the igniting surfaces and matches prepared therewith, wet and damp-proof.

2. The manufacture of friction-igniting chemicals and ingredients for safety matches and their igniting surfaces, with the anti-hydro matter or compound herein mentioned, and applying the same directly to or upon the natural surface of the material of boxes, match-containers, or match-igniters, of metal, china, stone, or earthenware, or other similar materials.

3. The manufacture of other match-igniting chemicals, with the anti-hydro matter or compound herein mentioned, and applying the same to matches.

83,684.—EZRA BAILY, Cincinnati, Ohio, assignor to himself and JOSEPH PARKER, Covington, Ky.—*Plank and Timber Dresser.*—November 3, 1868.—The stuff to be dressed is supported upon a carriage which simply rests upon the single stationary rail, and which is held to the hinged guide rails by jaws fastened to the under side of the carriage near its ends.

Claim.—The adjustable hinged rails C D, jaws I I', carriage H, and adjustable heads J J', herein described, arranged to operate for the purposes set forth.

83,685.—ALFRED BICKNELL, South Reading, Mass.—*Sash Guide Block.*—November 3, 1868.—The blocks are set in the casing in the same position in which the cord pulleys are usually placed. The blocks are kept in place by the shoulders. The cords run in the grooves of the block.

Claim.—The anti-friction grooved guide blocks A, constructed substantially as herein shown and described, that is to say, with grooves upon their semicircular upper edges, and with shoulders or notches upon either or both their sides and lower edge, or upon their lower edge only, as and for the purpose set forth.

83,686.—E. BLUNT, JR., New York, N. Y., assignor to HENRY P. NICHOLS, trustee.—*Coffee Pot.*—November 3, 1868.—As soon as the rapid generation of steam in the lower vessel occurs, as indicated by the steam whistle, water is introduced to the lower from the upper vessel by raising the valve.

Claim.—The combination of the vessels A and C, double partition *c c′*, valve and rod G, and whistle D, all constructed and operating substantially as herein shown and described.

83,687.—JOHN A. BORGOORT, Hudson City, N. J.—*Pile Driver.*—November 3, 1868.—The piles are inserted in the ground by a continuous steady draught applied by means of the grappling hook, instead of being subjected to the injurious blows of a hammer.

Claim.—The combination and arrangement of a grapling hook, H, pulleys K and L, with the frame, composed of the uprights B and C, and base A, substantially as herein shown and described, and for the purposes set forth.

83,688.—HARVEY BROWN, Harlem, N. Y.—*Cooking Stove.*—November 3, 1868.—This invention has reference principally to the method of connecting together the main parts of the stove. In using the oven the rack is first placed upon the top of the stove with the article to be cooked upon it, and is then covered by the box.

Claim.—1. The cleats *a b*, attached respectively to the sides *c c* of the body of the stove, and the base, A, for the purpose of securing the body of the stove to its base, substantially as shown and described.

2. The combination of the hooked cleats *f k* with the lugs *g* and bolts *h*, for the purpose of securing together the plates *c c*, *e e*, *i i*, *j j*, of the stove, substantially as set forth.

3. The pins *d*, or their equivalents, in combination with the cleats *a b*, arranged substantially as and for the purpose specified.

4. The oven, placed upon the top of the stove, consisting of elevated rack E, covered with the closed box F, whereby the article to be cooked is raised above the stove, to receive the heat from the plate D, and that radiated from the top of the box, in about equal proportions, as herein shown and described.

5. The combination of the upper flaring or inclined plates *i i*, *j j*, of the stove, with the upright plates *c c*, *e e*, of the lower part of the same, when used in connection with the rack E and cover F, substantially as and for the purpose set forth.

83,689.—WILLIAM COLBORNE, Cambridge, Bristol, Great Britain, assignor to himself and J. T. GRIFFIN, New York City.—*Grate Bar for Furnaces.*—November 3, 1868.—The ribs, projecting above the surface of the web, prevent the fuel, in a measure, from resting upon the web, thus leaving a space for the circulation of air.

Claim.—A fire bar, constructed with vertical side ribs A A, having raised ledges *a a*, in combination with the depressed web B, and oblique opening *c*, substantially as and for the purposes set forth.

83,690.—ANDREW CHAMBERS, Providence, R. I.—*Machine for Drying Cloth.*—November 3, 1868.—Air is forced through the meshes of the cylinders and through the fabric which is made to traverse the peripheries thereof.

Claim.—The arrangement of the perforated cylinders B B, geared as described, independent fans C C, guide rollers L L^1 L^2 L^3 L^4, feed and take-up rolls M N, presser roll O′, shaft H, and belts G I K, all operating as described for the purpose specified.

83,691.—THOMAS CHAMBERS, St. Louis, Mo.—*Pump.*—November 3, 1868.—Power is applied to operate the pump, through a modification of a hydraulic press, the platen of which moves in the cylinder, and constitutes the piston of the pump.

Claim.—A large forcing cylinder, A or B, a vacuum or air cylinder, D or E, and a small forcing cylinder, F^1, when combined substantially in the manner and for the purpoes set forth.

83,692.—ANGELOS MCCLARA, Whitney's Point, N. Y.—*Post Driver.*—November 3, 1868.—The secondary tongue enables the ram to be elevated by the team. The elevated ram is sustained by a spring latch, and may be dropped at any time by pulling the tripping line.

Claim.—The combination of the secondary sliding tongue *m* with the ram C B F and wagon A, as and for the purpose set forth.

83,693.—A. W. CLARK and GEORGE W. MARBLE, Charlestown, N. H.—*Bow Iron for Carriages.*—November 3, 1868.—The pointed clasps on the bow iron are bent around and driven into the bow, thus securing the two parts together without the use of nails or rivets.

Claim.—The bow iron C, constructed as described, with holding points or clasps, for attachment to the bows of a baby cab or other carriage, substantially as and for the purpose herein set forth.

83,694.—SAMUEL T. COTTERILL, Dayton, Ohio, assignor to COTTERILL, FENNER AND COMPANY, same place.—*Tobacco Drier.*—November 3, 1868.—The tobacco is placed upon racks or trays having perforated bottoms, and inserted in the upper end of a drying chamber, through which a continuous and evenly distributed current of air is forced, said air having no other means of egress than through the trays and their contents.

Claim.—1. A drying chamber, consisting of the frame C, having cleats E, and an open end, D, provided with stops L, in combination with the nest or series of gravitating trays F, for the purpose of allowing the withdrawal of said trays, in the manner described for the purpose specified.

2. The combination, with the upwardly flaring trunk B, and drying chamber C, arranged as described, of the series of branch pipes or goose necks K K, having downwardly projecting nozzles, for the purpose of distributing the blast of air forced through said drying chamber, as set forth.

3. The arrangement, substantially as described, of the flaring trunk B, drying chamber C, removable and porous-bottomed trays F G, blast pipe H, and goose necks K, for the object stated.

83,695.—M. Z. CRANE, New York, N. Y.—*Receptacle for Watch Keys and other Articles.*—November 3, 1868.—By bringing the aperture in line with any one of the marks or names on the head, the contents of the compartment, appropriated to the articles indicated, will be displayed and rendered accessible.

Claim.—The cover D, provided with an aperture, *b*, of the same size as one of the compartments in the stationary box A, and adapted to be rotated around the fixed pin C, whose enlarged head is marked or numbered to correspond with the number of compartments in the box, all arranged and operating as described, for the purpose specified.

83,696.—C. N. CUTTER, Worcester, Mass.—*Velocipede.*—November 3, 1868.—The crank shaft is turned and the velocipede propelled by the hand levers, which, being moved back and forth, alternately raise and depress the elbow connections.

Claim.—1. The combination, with the frame A, cross piece I, and crank shaft B, of the elbow connections G H, or either, and right-angle levers K L, or either, substantially as and for the purposes set forth.

2. The combination, with the crank shaft of a velocipede, and main frame thereof, of one or more sets of elbow connections G, connected to a right-angle

lever, K, by means of a swing piece M, substantially as and for the purpose set forth.

83,697.—ADDISON DAVIS, Boston, Mass.—*Sash Supporter.*—November 3, 1868.

Claim.—The window-sash fastener, consisting of a spring lever, *c*, having at its top a wedge-shaped bolt, formed and applied as shown, so as to perform the double function of locking the sash securely in position, and also of wedging or pressing back the sash against the bead *d*, the lever having a slide rod or other provision for releasing the bolt, substantially as set forth.

83,698.—JASPER N. DAVISON and NAAMAN SPENCER, Jr., Buffalo, Ill.—*Gang Plow.*—November 3, 1868.—The lever is pivoted to the tongue, and has upon its lower end a cam which rests upon the platform. When the lever is drawn back a rigid connection is formed between the tongue and platform, and the plows are raised. The seat may be slidden backward to cause the driver's weight to press the plows into the ground.

Claim.—1. The combination of the plows, the beams, the adjustable platform, the lever E, and the tongue, so arranged that the tongue shall be flexible when the plows are at work, and only stiff when used to carry the plows above the ground, the depth of the cut being independently regulated, substantially in the manner set forth.

2. The combination of the plows, the beams, the platform, and axle, with the braces N and sliding seat O, arranged to operate substantially as and for the purpose set forth.

83,699.—ALPHEUS C. DUNN and ISAAC L. DUNN, New York, N. Y., assignors to PHILIP DUNN and JAMES YATES, Trenton, N. J.—*Spike with Screw Threads.*—November 3, 1868.—The bolt or nail is driven into the wood, and a spiral rib thereon forms for itself a spiral bed or groove.

Claim.—The construction of the bolt, to conform to the form shown, and in the manner described.

83,700.—JOHN DURAND, Cincinnati, Ohio, assignor to PERKINS, LIVINGSTON, and POST, same place.—*Railroad Signal Box.*—November 3, 1868.—Designed as a receptacle for the customary signaling apparatus, such as flags, torpedoes, and the like.

Claim.—The railroad signal-box arrangement, consisting of the portable case, provided with a flag on a jointed and folding staff, and with pockets containing torpedoes, substantially as described and represented.

83,701.—JOHN ERVIN, Sr., Princeton, Ind.—*Fireplace.*—November 3, 1868.—Air is supplied from beneath the fire gate or hearth, and air flues and orifices are formed in the jambs.

Claim.—The flues H and J, with the orifices *l*, *m*, *i*, *k*, and *e*, arranged substantially as and for the purposes described.

83,702.—JAMES FALLOWS, Philadelphia, Pa., assignor to himself and JOHN PFEIFER.—*Beer Cooler.*—November 3, 1868.—This device is hung upon the faucet of a beer keg, so that the beer may be drawn off through the cooling chamber, it being cooled during the short period of its transit by reason of the extended surface presented by the cold pebbles.

Claim.—A portable cooler, consisting of a vessel, C D, filled with pebbles, coarse gravel stones, or their equivalents, in combination with an ice-holding case, A B, the same being constructed and arranged to operate together, substantially as and for the purpose described.

83,703.—LEVI FOSDICK, Tiskilwa, Ill., assignor to DAVID RUSSELL, same place.—*Plow.*—November 3, 1868.—This plow belongs to a peculiar class employed for breaking up new ground, and the rods constitute the mold board. Set screws, bearing against the back of the handle, are made to produce a pressure of the stirrups against the bolts, and thereby firmly retain the rods and bolts in place.

Claim.—The securing of the rods G to the handle B, by means of bolts *b* and stirrups H, substantially as shown and described.

83,704.—L. H. GANO, New York, N. H.—*Hand Stamp.*—November 3, 1868.—The stamp head revolving in elastic bearings, which permit the faces of the die to come in contact with the ink pad, is held in position by a ratchet and spring pawl. The conical stem valve, regulating the flow of ink to the pad, is opened by one of the faces of the stamp head coming in contact with it, and closed by a spiral spring. The pad is held in place by the cam ears fitting in recesses in the standards, and by a set screw.

Claim.—1. The combination of the revolving stamp head B with ink pad *c'* and ratchet *k*, substantially as and for the purpose set forth.

2. Disclaiming the use of an inking ribbon in a postal and canceling stamp, an apparatus for automatically inking the die, substantially as described.

3. The conical stem valve *d*, provided with the spiral spring *e*, when said stem is applied to the fountain of a self-inking stamp, and used in combination with the perforated pad *c'*, as and for the purpose set forth.

4. The standards *a*, in combination with arms *h* and springs *h''*, in the manner and for the purpose described.

5. The pad holder *c*, provided with the cam ears *c'' c''*, in combination with recessed standards *a* and thumb screw *a''*, in the manner and for the purpose described.

83,705.—WILLIAM M. GILLAN, Mount Parnell, Pa.—*Horse Hay Fork.*—November 3, 1868.—The lower end of the fork is provided with two opening and shutting blades, which are capable of being locked in position or unlocked, by means of two levers pivoted to the center bar and connecting with the blades by two rods, said levers being operated by another arm.

Claim.—The center bar A, side rods D D', levers C C', arm E, with the notch *e*, and blades B B', all in combination, and arranged as and for the purposes set forth.

83,706.—HENRY GIROUD, Paris, France.—*Gas Regulator.*—November 3, 1868.—The gas passes to the burner through an annular chamber containing water, which is opened and closed by a conical plug suspended from a pulley, from which plungers are also suspended, which latter are operated by the return of the excess of gas supplied to the burners.

Claim.—1. The method, herein described, of regulating the flow of gas, by the employment, in combination with a regulator or regulating apparatus and valves, of a return pipe, in which the pressure of the gas supplied to the burner or burners, in excess of combustion, acts upon said regulator, so as to control the flow of gas therefrom, in the manner shown and set forth.

2. The improved regulating or equilibrium valves or regulators herein described, arranged and operating as shown and set forth.

83,707.—THOMAS GRAY, of London, England.—*Preparing Resin Size for Use in Paper-making.*—November 3, 1868.—Patented in France, June 30, 1868.

Claim.—1. The improved process for making size, by first bleaching the resin in a solution of warm water and salt of soda, or other alkaline salt, and mixing the same with a solution of chloride of sodium, under the conditions substantially as and for the purpose specified.

2. Size prepared by the herein described process, as a new article of manufacture, substantially as and for the purpose specified.

83,708.—JOHN C. GUERRANT and BENTON J. FIELD, Leaksville, N. C.—*Engraving Machine.*—November 3, 1808.—Designed as an improvement on their patents of December 18, 1866, and November 5, 1867. This machine is intended to operate on flat surfaces, on the inside and outside of cylinders, &c., and for regular and irregular ornamental figures.

Claim.—1. The combination, with the graving tool, of an adjustable presser, substantially as and for the purpose described.

2. The stock C^5 of the graving tool, provided with the pulley C^6, for communicating rotary motion

thereto, substantially as and for the purpose described.

3. The disk F^2, provided with the recess and set screw F^{14}, for tightening the belt F^{13}, substantially as and for the purpose described.

4. The combination, with the slotted holder G^6 and the slotted disk F^6, of the chuck G^7, provided with the shank G^{12}, substantially as and for the purpose described.

5. The combination, with the holder G^6, of the toothed rack, and the pinion G^8, on the shank of the chuck, or the equivalent thereof, substantially as and for the purpose described.

6. The chuck G^7, adjustable in a horizontal plane, coincident with the vertical axis of the graver support, substantially as and for the purpose described.

7. The chuck G^7, provided with means for giving it rotary motion on its own axis, while it is adjusted in the horizontal plane of the vertical support of the graving tool, substantially as and for the purpose described.

8. The combination, with the weighted graver supporting frame, of the yoke H and treadle H^5, suitably connected thereto, substantially as and for the purpose described.

9. The combination, with the presser support C, of the screwed rod D and the rod D^3, adjustably connected to the said end D, substantially as and for the purpose described.

10. The combination, with the rod D^3, of the rollers L^9 and L^{10}, and the frame L^8, or its equivalent, for actuating the said rollers, substantially as and for the purpose described.

11. The combination, with the staff B, of the slide L^1, provided with a vertical guide connected to the staff, substantially as and for the purpose described.

12. The combination, with the staff B, of a vertically, adjustable rest, I^2, substantially as and for the purpose described.

13. The combination, with the staff B, of a counterpoised frame, I^4, substantially as and for the purpose described.

14. The combination, with the staff B and adjustable rest I^2, of the adjustable gauge, for producing wave lines, substantially as and for the purpose described.

15. The combination, with the staff B and slide L^1, of the adjustable gauge O, substantially as and for the purpose described.

16. The combination, with the staff B and adjustable rest I^2, of the gauge P, substantially as and for the purpose described.

17. The combination, with the staff B, and adjustable rest I^2, of the mechanism, substantially as described, for producing circles and ellipses, as and for the purpose specified.

18. The combination, with ring R^5, of the ring R^{16}, yoke R^6, and crank shaft R^{12}, connected to the screw R^{17}, by a universal joint, substantially as and for the purpose described.

19. The combination, with the crank shaft R^{12}, of the rings R^8 and R^9, slotted plate R^{12}, shaft R^{13}, and pinions R^{15} and R^{16}, substantially as and for the purpose described.

20. The mechanism for actuating the staff, for producing circles, arranged for adjustment in a horizontal plane, substantially as and for the purpose described.

21. The combination with the rings R^5 and R^{16}, of the spring snap R^{20}, substantially as and for the purpose described.

22. The combination with the crank shaft R^{12} and yoke R^6: of the adjustable slotted plate R^{12} and rings R^8 and R^9, for effecting the adjustment of the ring R^{16}, substantially as and for the purpose described.

23. The combination of the adjustable copy-holding plate with adjustable pointer, and with the graving tool, substantially as and for the purpose described.

24. The pointer F^3, provided with the presser gauge E^4, substantially as and for the purpose described.

25. The arrangement of the pointer support, for adjusting it axially, with reference to the staff B, and vertically, substantially as and for the purpose described.

83,709.—WARREN H. GUTHRIE, Brooklyn, N. Y.—*Machine for Trimming Wall Paper.*—November 3, 1868; antedated October 24, 1868.—The under one of two feed rolls rotates in a paste box which distributes paste upon the paper as it passes through the rollers. A circular knife rotating on the shaft of the upper roller, and driven by gearing from the lower roll, trims the edge of the paper as it passes through the rolls.

Claim.—1. An automatic machine for pasting and trimming wall paper, substantially as shown and described.

2, A circular rotating cutter a^1, in combination with the rollers A and B, substantially as shown and described, and for the purposes set forth.

3. The pasting roller B, in combination with the roller A and paste cup C, substantially as shown and described, and for the purposes set forth.

4. The lifting lid D, in combination with the frame M, substantially as shown and described.

5. The roller e', in combination with the binding roller R, and frame M, and rollers A and B, substantially as shown and described, and for the purpose set forth.

83,710.—PATRICK J. HOGAN, Cincinnati, Ohio. *Attaching Handles to Picks.*—November 3, 1868.—The ferrule is provided with a threaded aperture, into which the screw stem of the rectangular eye, which surround the pick head, fits. The pick head fits in a groove across the face of a socket which is swiveled on the face of the ferrule of the handle to adapt the letter to turn.

Claim.—The combination of the handle A, rectangular eye B, screw stem *b*, ferrule nut E e', socket F, pick head D, and notches *e* and *f*, all constructed, arranged, and employed in the manner and for the purposes described.

83,711.—THOMAS A. HUNTER and JOHN BLEWITT, New York, N. Y.—*Lamp.*—November 3, 1868.

Claim.—1. The fountain *a*, provided with the plug *b* in the bottom, for filling, in combination with the cylinder *e*, that is tightly attached at its upper end to the fountain *a*, and provided with a foraminous bottom as and for the purposes specified.

2. The fountain *a*, formed with a depression in its upper surface, for receiving the collar of the burner, as and for the purposes specified.

3. The handle, formed so as to set upon the bracket *h*, and support the lamp, or be removable therefrom, as set forth.

83,712.—S. H. KENNEDY, Hydetown, Pa.—*Machine for Forming Sheet Metal Pans.*—November 3, 1868.—The bending bar is provided with a series of grooves which have beveled surfaces arranged to operate in connection with the forming surface on the detachable end former, which latter is cast on the end of the bed plates.

Claim.—1. In combination with the bed plate A, the detachable end former a', arranged to operate in connection with the forming surfaces c' c', upon the bending bar, substantially as and for the purposes set forth.

2. In the construction of the bending bar B, the described arrangement of the forming surfaces c'' c', (one or more, as may be required,) to operate in connection with the detachable end former a' upon the bed plate, substantially as and for the purposes set forth.

3. The general arrangement and combination of the bed plate A, provided with its detachable end former a', the bending bar B, with its channels *d d*, and forming surfaces c' c', skeleton clamp bars C C', and bending lever D, all arranged to co-operate substantially in the manner and for the purposes set forth.

83,713.—HENRY C. KNOWLTON, Gardner, Mass. —*Chair Seat.*—November 3, 1868.

Claim.—The arrangement of the bearing faces of the seat frame and each of the confining bars at an acute angle with the upper surface of the seat frame, in combination with the arrangement of each of the clamping screws, so as to incline upward at an obtuse angle with the said bearing faces, the screw hole in the confining bar being made so as to admit of the upward movement of the bar while it may be in the act of being forced against the bottoming to confine it to the frame, the same serving to effect not only the fixation of the bottoming to the frame, but the straining or tightening of the said bottoming, and the setting of it up so as to be flush or even with or in its proper position with respect to the upper surface of the seat frame.

83,714.—Charles Ernest Krüger, New York, N. Y.—*Photographic Rest.*—November 3, 1868.—The rest allows any movement for the proper adjustment and fixing of the desired position of the person to be photographed.

Claim.—1. The combination of the foot part or its equivalent with the main body of a photographic rest, in the manner as described, and for the purpose set forth.

2. The head part of a photographic rest, consisting of jointed pieces, or their equivalents, in connection with the movable rod of the rest, as herein fully described and for the purpose set forth.

83,715.—J. K. Landis, Palmyra, Pa.—*Car Coupling.*—November 3, 1868.—When the cars are brought together the links push back the vertically-vibrating pins until the latter pass the swinging plates, which allow said pins to fall into slots in the link.

Claim.—1. The pin *e*, and the rock shaft *f*, in combination with the swinging plate *h*, all being applied to operate substantially in the manner and for the purpose set forth.

2. The link C, constructed as shown, and secured to the draw head by a screw bolt, D, occupying slots *a* in the draw head, as and for the purpose set forth.

83,716.—E. B. Latch, General Wayne, Pa., assignor to himself and Edmund Lincoln, Cleveland, Ohio.—*Steam Engine Slide Valve.*—November 3, 1868.—The upper face of the valve is provided with a plate which is made to bear against the packing plate, by means of springs interposed between it and the face of the valve. A thin metal strip covers the joint between the face of the valve and the plate.

Claim.—1. The combination of the valve E, plate F, and intervening springs or elastic packing with the packing plate G, the whole being constructed and arranged substantially as herein set forth.

2. The thin metal strip *j*, adapted to the valve E and plate F, substantially as specified.

83,717.—E. T. Ligon, Demopolis, Ala.—*Railway Car.*—November 3, 1868.—If the car wheels get off the track the stringers act as flanges with the sides of the rails and keep the car on the rails.

Claim.—The body of a railroad car, having its bottom extended down between the trucks, as described, and provided at its bottom side with V-shaped metallic stringers, *a*, as herein set forth, for the purpose specified.

83,718.—Robert Marsden, Sheffield, England.—*Apparatus for Rolling Metals.*—November 3, 1868; patented in England March 13, 1865.—Friction rollers on each of the four shafts, in connection with toothed wheels, prevent the cogs of the pinions from meshing too deeply, whatever the distance the die rolls may be separated.

Claim.—The mode described of combining the two shafts by means of the toothed wheels and rollers and countershafts, connected by loops or rods, substantially as specified.

83,719.—Don Carlos Matteson and Truman Pane Williamson, Stockton, Cal.—*Horse Hoe.*—November 3, 1868.—The cutter is secured in the ends of curved bars, which are pivoted to the beam and held by adjustable braces, by means of which latter a greater or less "rake" may be given to the cutter.

Claim.—The combination of the reversible double-edged cutter D, the pivoted bars C C and adjustable braces E, with a beam A, substantially as described.

83,720.—George McAleer, Worcester, Mass., assignor to E. W. Vaill, same place.—*Folding Chair.*—November 3, 1868.—The chair can be folded into a compact form for transportation.

Claim.—A chair, composed essentially of the crossed pivoted legs A A, B B, seat C, rod E, connected to the seat, as described, and bearing in slots or sockets *e e* in the legs B B, back G, straps J J, round R, slat *s*, and cross bar *o*, the whole being constructed to operate in the manner and for the purpose substantially as set forth.

83,721.—Joshua B. Moore and Erwin G. Moore, McDonough, N. Y.—*Apparatus for Unloading Stone.*—November 3, 1868.—The box is hinged to either side by a removable bolt, and is raised by means of a tackle attached to the frame and box and operated by a windlass.

Claim.—The movable platform A, so attached to a wagon or sled that it may tilt from either side, in combination with frame F, tackle C, and windlass D, all constructed, arranged, and operated substantially as and for the purpose described.

83,722.—Gustavus Natorp, New York, N. Y.—*Car Wheel.*—November 3, 1868.—The wheel is constructed without any metallic confining band and with dovetailed recesses which interlock the web tie and grooved wooden blocks without the aid of bolts or other securing devices.

Claim.—A compound wheel, in which the wooden and metallic portions are interlocked and bound together, substantially as described.

83,723.—John Nichols, Paterson, N. J.—*Machine for Burring Wool.*—November 3, 1868.—The burrs caught by the notched blade are knocked off by the reel and the wool is removed from the teeth by the brush.

Claim.—A burring machine, consisting of the combination with each other of the drum E, having the toothed triangular band F, of the notched blade I, rotating reel G, and brush H, all made and operating substantially as herein shown and described.

83,724.—O. J. Nutting, Warwick, N. Y.—*Milk Can.*—November 3, 1868.

Claim.—The described construction of the milk can, consisting of the body A, provided at top and bottom with internal grooves *b a*, for receiving the edges of the top C and bottom, the latter being supported by the bruise hoop B, secured within the body below the bottom, as herein shown and described.

83,725.—Charles R. Otis and Norton P. Otis, Yonkers, N. Y.—*Hoisting Apparatus.*—The object of the interposed springs and ratchet attachment is to divide the strain on the two screws.

Claim.—The combination, with the hoisting drum, of screws operated through pulleys, by a belt or band coupling the same, said screws gearing with worm wheels arranged at opposite ends of the drum, and connected with the latter by interposed spring and ratchet attachments, or either, substantially as specified.

83,726.—George N. Palmer, Greene, N. Y.—*Stone Drag.*—November 3, 1868.—The rope for raising the boat passes over two pulleys rotating in standards on the front part of the runners, and is secured to a slide on the tongue.

Claim.—A low sled, having a boat or body, B, secured to the rear ends of the runners A A, as described, so that the body B may be lifted at the front end for discharging the load by the arrangement of mechanism, constructed and operated substantially in the manner as and for the purposes herein set forth.

83,727.—W. E. Phelps, Elmwood, Ill.—*Combined Seeder and Harrow.*—November 3, 1868.—The adjustable harrow is suspended from the frame, between two seed boxes, one placed on the front and the other on the rear end of said frame.

Claim.—The arrangement, upon the frame A, of the adjustable harrow I and the seed boxes H H, all operated in the manner described, for the purpose specified.

83,728.—Stephen Randall, Centreville, R. I. *Railway Car Brake.*—November 3, 1868.—A sleeve sliding on and allowing one of the axles to turn in it is provided a grooved eccentric, to the end of which is fastened the brake chain, by which means the leverage is increased, while a shoulder on the same axle has a face so shaped that the end of the sleeve fits tightly into it, and whenever the sleeve is moved toward the disk it will, by friction, be carried around the axle.

Claim.—The combination of the grooved eccentric F' with the sleeve F, shoulder G, and brake chain or chains, as herein described, for the purpose specified.

83,729.—G. W. REED, Brooklyn, N. Y., assignor to himself, REUBEN S. MIDDLETON, and HENRY ROTHFELDER.—*Watch.*—November 3, 1868.—The winding pin passes through the arbor of the spring barrel, and is so connected with two ratchet wheels that when it is wound one way the teeth of the winding ratchet wheel pass beneath the end of a pawl, and the other wheel is stationary, but when wound the other way the winding wheel and pawl turn the other ratchet wheel and wind up the spring, and thus the key can be held firmly during the whole operation.

Claim.—A winding pin, applied at the arbor of the spring barrel, in combination with the double ratchets, acting in opposite directions, as and for the purposes set forth.

83,730.—JOSEPH RICHARD, New York, N. Y., assignor to himself and G. W. BAKER, same place.—*Apparatus for Carbureting Air.*—November 3, 1868; antedated October 28, 1868.—The inclined shelves are covered with sheets of absorbent material, which dip into troughs under their highest ends, and conduct the hydrocarbon liquid in the troughs down over the shelves in a zigzag course. Vertically-adjustable rods are connected to the suction ends of the sheets and the lowest ends of the shelves, by which they may be lowered or raised and the flow of the liquid regulated or stopped at pleasure.

Claim.—1. The arrangement and combination of the inclined shelves $e\ e^1\ e^2\ e^3$ and absorbing sheets $i\ i^1\ i^2\ i^3$, the upper edges of which dip into the troughs $d\ d^1\ d^2\ d^3$, substantially as and for the purpose described.

2. The vertically-adjustable rods $g\ g'$, in combination with the shelves $e\ e^1\ e^2\ e^3$, absorbing sheets $i\ i^1\ i^2\ i^3$, and troughs $d\ d^1\ d^2\ d^3$, constructed and operating substantially as and for the purpose set forth.

3. The vertically-adjustable rod g, in combination with the sheets $i\ i^2$ and troughs $d\ d^2$, substantially as and for the purpose described.

83,731.—EDWARD Y. ROBBINS, Cincinnati, Ohio.—*Passenger Railway Car.*—November 3, 1868.—Hollow ribs are attached to the body, which consists of a cylinder of plates of iron, riveted or bolted together, as stiffeners, and also to receive and discharge fresh air through different apertures; further stiffening being likewise effected by a semi-tube of sheet iron, and the floor made of wrought iron. Attached to the roof plate, to support it, are angle irons, while an elastic platform serves to break the violence of collisions.

Claim.—1. The body of a passenger railway car, made of wrought iron, steel, or other metal, the different parts or sheets being riveted or otherwise firmly fastened together, the whole forming one continuous shell, of a cylindrical or approximately equivalent shape, the shape itself being such, together with the thickness of the metal, as to give the requisite strength and stiffness without the necessity of a general framework of bars and rods, or hoops, &c.

2. The yielding platform X, constructed and employed as and for the purposes herein specified.

3. The hollow, annular ribs F, extending completely around the interior of the cylindrical shell, in the manner and for the purposes specified.

83,732.—ADOLPH SCHLINGMAN, DETERICK GLANDER, and JAMES CAMPBELL, West Alexandria, Ohio.—*Churn.*—November 3, 1868.—Between two cross-bars, secured at their center to each end of a bar fastened to the lower end of a rod fixed to the lever handle, are pivoted the dashers, which consist of rollers with a twisted core through their entire length.

Claim.—The churn dashers I I, consisting of rollers, constructed substantially as herein described, and pivoted in a frame, as and for the purposes herein set forth.

83,733.—CARL DIETRICH JULIUS SEITZ, Bury, England, assignor to himself and CHARLES EDMUND BAILLIÈRE, New York, N. Y.—*Recovering Waste Alkalies from Paper Stock and Other Fibers.*—November 3, 1868.—The liquors obtained by the pressure of the fibrous substances are run into pans and evaporated to one-fourth their bulk, after which they are treated with soda, caustic soda, soda ash, and quicklime, and the mixture, now in a dry state, is subjected to the action of a furnace or kiln.

Claim.—1. The general system or mode of treating the waste liquors resulting from the preparation of bamboo, cane, Esparto grass, alfa, straw, or other similar fibrous substances, as and for the purposes herein set forth.

2. The system or mode of mixing the concentrated waste liquors with a certain proportion of soda, (caustic soda, soda ash, recovered ash, or sulphate of soda,) and with quicklime, in the manner herein set forth.

83,734.—N. B. SHERWOOD, New York, N. Y., assignor to himself and W. H. WILLSON, same place.—*Piano Forte Tuning Key.*—November 3, 1868.—By means of the movable frame, the endless screw may be thrown out of gear, enabling the handle to be applied directly to the keys. The adjustable base allows the endless screw to stand in any direction most convenient for manipulation.

Claim.—A tuning key, so constructed that the wrench may be applied directly to the pipe, or through the medium of the worm wheel and endless screw, and provided with an adjustable base, substantially as shown and described.

83,735.—ANDREW H. SHREFFLER, Joliet, Ill.—*Dropping Platform for Harvesters.*—November 3, 1868.—A narrow platform rests upon the finger-beam, and hinged to its rear edge is an extension, which may be set at any desired angle to the platform by means of curved, slotted arms and set screws. Underneath the platform is a spring which assists in returning the platform to a position for receiving another gavel.

Claim.—1. The combination of the stop b with the tilting floor a, arranged, operating, and constructed substantially as and for the purposes set forth.

2. The use of the spring i to start the dropping device back past the center, after letting go of the lever e, substantially as described.

3. The combination, of the platform a, slotted extension $b\ c$, curved slotted plates d, spring i, and lever e, arranged in rear of the finger-bar, and operating substantially as described.

4. The circular slotted plate d, for the purpose of regulating the stop b, substantially as and for the purposes set forth.

83,736.—ALVAN A. SIMONDS and GEORGE F. SIMONDS, Fitchburg, assignors to THE SIMONDS MANUFACTURING COMPANY, West Fitchburg, Mass.—*Machine for Serrating Sickle Sections.*—November 3, 1868.

Claim.—The arrangement, with the anvil block b, upon which the sickle section or blank is supported and clamped, of the two cutter carriages, at an angle to each other corresponding to the angle of the cutting edges of the blank, each carriage having a feed-movement imparted to it, and carrying a cutter having blow-giving movements imparted to it, in such manner that the two edges of the blank may be simultaneously or alternately serrated, without movement of the blank, the mechanism being arranged to operate substantially as described.

83,737.—GEORGE W. SPOTS, Jacksonville, Ill.—*Compound for Destroying Insects on Trees, Plants, &c.*—November 3, 1868.—A wash, consisting of a decoction of tobacco, unslacked lime, and sulphur.

Claim.—The composition, substantially as and for the purpose above set forth.

83,738.—WILBUR F. STANLEY, Casenovia, N.Y.—*Manger.*—November 3, 1868.—The necks of the cattle are placed between pivoted bars, which permit the cattle to reach all parts of the manger without interfering with each other.

Claim.—The suspended pivoted neck bars D, constructed, arranged, and operating substantially in the manner herein shown and described, and for the purposes set forth.

83,739.—M. C. STEBBINS, Springfield, Mass.—*Piston Valve.*—November 3, 1868.—Projecting downward from the disk valve is an axial tubular guide, which receives a projection on the bar, the effect being to retain the valve in proper position with reference to its seat. The valve is held against its seat by a spring between said disk and bar.

Claim.—The combination and arrangement of the piston D, having the beveled seat or chamber *m′* therein, the disk *m* having the chambered projection *d* thereon, with its spring *s*, and the bar *a′* with the projection *n* thereon, operating within said chambered projection *d*, the whole constituting an improved piston valve, and constructed and operating substantially as herein described and set forth.

83,740.—JOHN STETSON, West Harwich, Mass.—*Fishing Apparatus.*—November 3, 1868.—The clamp is designed to be secured to the gunwale of a boat, and it has a swiveled pulley-guide attachment for the fishing line, and a rest for the hand.

Claim.—The combination of the clamp, thumb screw, guard pin, pivot joint, hand rest, or their equivalents, with the pulley.

83,741.—S. STEVENSON, Dansville, N. Y.—*Carpet Stretcher.*—November 3, 1868.—The head piece is fitted to slide between the side pieces of the frame, and is gradually moved up to the wall by the action of the hand lever, alternately, upon the two rack bars. The head piece, together with the toothed plate and edge of the carpet being thus forced up to the washboard, the tacks, guided through openings of the head piece, are driven by the handle end of the lever.

Claim.—1. The head-piece B, having the toothed plate C attached, and provided with the rack bars E E, in connection with the pawls F F, on the framing of the device, all arranged substantially as and for the purpose set forth.

2. Providing the head piece B with a series of holes *e*, with or without the clamps *f*, for the purpose of facilitating the tacking down of the carpet, as described.

3. The bar G, when constructed to be used in combination with the racks E, pawls F, and perforated head piece B, as herein described, for the purpose specified.

83,742.—WILLIAM M. STODDARD, San Francisco, Cal.—*Binder for Sewing Machine.*—November 3, 1868.

Claim.—The two pieces, A B, shaped, bent, and otherwise constructed and arranged substantially in the manner and for the purposes described.

83,743.—WILLIAM MONT STORM, New York, N. Y., and GEORGE H. ENNIS, Hudson County, N. J.—*Machine for Fulling and Felting Hat Bodies.*—November 3, 1868.—The rollers carry around the apron, which, by contact, rotates the "form," and acts upon every portion of the perimeter of the hat body, the latter being saturated with water which may be conducted through the tubular support of the form, and be diffused between the walls of the form, so as to escape outward. Owing to the eccentricity of one of the rollers, the apron is repeatedly stretched and relaxed, laterally, and in the act of drawing narrower the apron produces a greater pressure upon the hat body, and has the effect to interlock and compact the fibers.

Claim.—1. The apron or aprons of netting or sheet rubber, one or both, so arranged that, while moving in contact with the body to be fulled, they shall be alternately stretched and relaxed, by means substantially as described, and for the purpose specified.

2. The hollow double-shelled form E, its outer shell perforated, and its inner shell whole, mounted and operating substantially in the manner and for the purpose described.

3. In combination with the above, the water cock *c* and conduit standard *d*, arranged and operating substantially in the manner and for the purpose described.

4. In combination with the perforated form E, the external sprinkler Q, arranged and operating substantially in the manner and for the purpose described.

5. The rolls G G^1 G^2, mounted upon movable standards, so that they shall be adjustable in position relative to the form E, substantially as and for the purpose set forth.

6. In combination with the above, the supplemental roll or rolls *p*, located and operating substantially in the manner and for the purpose described.

7. The latching bar K, in combination with the swinging standard *d*, for the purpose set forth.

83,744.—E. W. VAILL, Worcester, Mass.—*Folding Chair.*—November 3, 1868.—An improvement on the patent of David Howarth, April 16, 1867. The invention has reference to the attachment of a flexible back and an upholstered seat, and to a different arrangement for effecting the co-operation of the short legs and seat.

Claim.—1. The improvement in the Howarth chair, consisting essentially in placing the legs B B outside of the legs A A, and pivoting them to the sides of the seat frame, which is provided at its rear end with pins, adapted to slide in grooves in the legs A A, in closing the chair, substantially as shown and described.

2. A chair, constructed of the legs A A, B B, pivoted upon short pins or bolts *e e*, the stuffed upholstered seat C, jointed to the legs B B by means of short pivots *c c*, behind the front edge of the seat, and connected with the legs A A by a pin working in a slot or groove, the upholstered back D, and the flexible arms O O, the whole being constructed and operating substantially as and for the purpose above set forth.

83,745.—SAMUEL VANSTONE, Providence, R. I.—*Machine for Making Nuts.*—November 3, 1868.—A bar is indented on its opposite sides by compression in dies, a series of united nut blanks being thus formed. Separate pairs of jaws hold the bar during the operations of punching the eyes of the nuts, and cutting them apart from each other. The dies are in a drop press, and the jaws are forced together by wedges which project downward from the hammer die plate.

Claim.—1. The combination of the crimping jaws D D′, pressing jaws K K, and punches E E, with the plunger plate A′ and bed plate B, all constructed and arranged substantially as described.

2. In combination with the subject-matter of the foregoing clause of claim, the jaws I, studs G, and punches G, arranged substantially as described.

3. In combination with the bed plate B, plunger plate A′, and jaws I I and K K, the tapering studs N N, arranged and operating substantially as set forth.

83,746.—L. M. WHITMAN, Sterling, Ill., assignor to himself and A. B. ENDERTON, same place.—*Invalid Chair.*—November 3, 1868.—When the chair is converted into a couch, the standards serve as supports and prevent rocking. The truck may be attached to the front standard to facilitate the moving of the invalid, and the occupant may change the position of the several parts by turning the crank wheels.

Claim.—1. The combination of the pivoted slotted bar J, cord L, pulleys *o n*, rocker E, shaft and crank wheels H, and the standards T U, with the back A, seat B, front C, and foot piece D, substantially as described, for the purpose specified.

2. In combination with an invalid's chair, the adjustable stands T and U, arranged substantially as shown and described for the purposes set forth.

3. In combination with an invalid's chair and the stands T and U, the truck W, substantially as and for the purposes set forth.

83,747.—DENNIS C. WILCOX, Meriden, assignor to MERIDEN BRITANNIA COMPANY, West Meriden, Conn.—*Manufacture of Double Wall Ice Pitchers.*—November 3, 1868.—The upper edge of the inner wall is electrotyped to prevent that portion of the metal from corroding, and also to prepare the surface to be tinned to facilitate soldering.

Claim.—Electrotyping the upper end or unprotected surface of a glazed coated or enameled vessel, substantially as and for the purpose described.

83,748.—CYRUS M. WILLIAMS, New York, N. Y., assignor to HENRI L. STUART, same place.—*Charging Gas with Vapor of Hydrocarbon Liquid.*—November 3, 1868.

Claim —1. A gas holder, in which is suspended or retained any suitable absorbent or capillary material, saturated with hydrocarbon liquid, through which air or gases are passed for carbureting.

2. A carbureting chamber, placed in the gas holder tank, arranged to receive and distribute hydrocarbon liquid, through which air and gases are forced, for the purpose set forth.

83,749.—ISAIAH M. WILLIAMS, Blanchester, Ohio, assignor to himself and HARVEY SMITH, same place.—*Self-loading Hay Cart.*—November 3, 1868. —The hay is prevented from falling back by the shifting board which pushes it to the back part of the bed. Knives are attached to the under side of the fingers to sever any stalks of hay that would otherwise clog the forward progress of the machine.

Claim.—1. A self-loading hay or grain cart, capable of being depressed for raking and loading, and elevated for conveying, when provided with the ground wheels D D′ on bent axle C, and driving wheels E E′, for operating the board M N O, or equivalent shifting mechanism, substantially as herein explained.

2. The shifting board M N O, arranged and operated substantially as set forth.

3. The arrangement of depressible bed A, bent axle C, lever G, and cross piece I, for the purposes designated.

4. The provision of one or more severing knives R, or their equivalent, beneath the fingers B.

83,750.—WILLIAM C. WILLMARTH and C. N. FARR, Philadelphia, Pa., assignors to B. W. LACY, same place.—*Sewing Machine.*—November 3, 1868.—By means of the adjustable plate, on the end of the lever, a lock or chain stitch can be formed. An opening in a plate, which is secured to the fixed arm so as to be adjustable diagonally, serves as a fulcrum on which the needle vibrates, and by adjusting the plate the fulcrum of the needle is moved to and from the fabric, thus altering the size of the stitch.

Claim.—1. The combination of the plate R, its thread carrier *i*, lever P, needle *b*, and an adjustable plate S, the whole being arranged and operating substantially as and for the purpose specified.

2. The vibrating needle arm I, with its needle *b*, in combination with the plate J, and its projection and opening for the passage of the needle, when the said plate is adjustable diagonally on the arm C, as and for the purpose described.

83,751.—JOHN ZIEGLER, Dayton, Ohio.—*Casting Hollow Ware.*—November 3, 1868.

Claim.—1. The sprue pattern herein described, constructed with wings *e e e*, and downward projections D D D, so arranged as to correspond in position with the feet of the vessel to be cast, as and for the purposes stated.

2. The process of casting hollow ware, by introducing the metal through the part or parts of the mold which are to form the feet of the vessel, substantially as and for the purposes set forth.

83,752.—REUBEN S. ZILAR, Cincinnati, Ohio.—*Ice Elevator.*—November 3, 1868.—An inclined plane is made in sections hinged together so as to permit either of the upper sections to be placed at different angles to discharge the ice at different elevations. The frame supporting the driving wheel of the endless chain has a spring bar which sets the hooks in a position to engage with the cakes of ice.

Claim.—1. An ice elevator, consisting of the frame A A′ *a*, B *b*, adjusting devices D F V W *w*, toothed wheels J *j*, T *t*, endless chain N, hooks R, notched bar U *u u′*, and inclined plane E G *g* H, having one or more flexible upper sections, E E′, for the purpose specified.

2. In combination with the wheels J T, inclined plane E, endless chain N, and hooks R, the spring bar X, for the purposes set forth.

83,753.—CHARLES ALDEN, Newburg, N. Y.—*Treating and Storing Grain.*—November 3, 1868.

Claim.—The chamber A, adapted to be closed, and provided with false bottom *a*, side walls *b*, columns *c*, and supply and exhaust pipes *e f*, when said bottom, side walls, and columns are perforated, and communicate with each other, whereby the contents of the chamber are not exposed to the ordinary action of the atmosphere, but adapted to be subjected to a forced current of hot or cold air, substantially as described.

83,754.—J. K. ALWOOD, near Delta, Ohio.—*Fleecing Cradle.*—November 3, 1868.—The cradle on which the sheep are placed is pivoted to the flanges of a plate which is pivoted to the top of the shaft and held by means of a lug. Arms, pivoted to the outer bars of the cradle, are provided with sliding clasps, to which the spring loops, by which the feet of the sheep are held, are secured.

Claim.—1. The arms H, lugs *h*, and springs *f*, constructed and operating substantially as and for the purposes described.

2. A table for sheep shearing purposes, having pedestal A, shaft B, cradle E, plate C, arms H, lugs C and *h*, nuts *d*, and springs *f*, constructed and arranged substantially as specified.

83,755.—STERLING BASS, M. D., Savannah, Ga. —*Medical Compound.*—November 3, 1868.—Composed of purified chinoidine, soluble citrate of iron, extract of taraxicum, fluid extract of columbo and alcohol.

Claim.—The specific for cure of chills, made up of the ingredients or medicines herein named, or their equivalents, in or about the proportions specified.

83,756.—EDWARD BRADY, Philadelphia, Pa.—*Skate Fastening.*—November 3, 1868.

Claim.—A heel piece of metal, or other hard substance, surrounded at one end by a similar thin plate, which may be enlarged to the size of and to be fastened by screws, &c., to the heel of a boot, having a hollow cylinder sunk into the heel, containing any common spring, operating against a cap covering a stud hole to prevent dirt, &c., from entering the cylinder, and thus to enable the stud of a skate to be adjusted to the heel of a boot without the stud hole in the cylinder being obstructed by dirt, &c., substantially as set forth.

83,757.—CHARLES B. BRISTOL, New Haven, Conn.—*Curry Comb.*—November 3, 1868.—The shank and teeth are cast in one piece and secured to the metal plate, which has its edges turned down, and cut, as in the ordinary curry comb.

Claim.—As an article of manufacture, a curry comb, in which the bar C, teeth *a*, and shank B, are formed in one and the same piece, and united to the plate D, the whole constructed substantially in the manner herein set forth.

83,758.—CHARLES BROWN, Albemarle County Va.—*Process of Preserving Timber from Decay.*—November 3, 1868.—Sandstone, reduced to a very fine powder and mixed with caustic lime or carbonate of iron, is fed into an exhausted receiver containing the wood.

Claim.—Preserving or "lapidifying" wood, in the manner and with the material or materials substantially as described.

83,759.—ALBERT G. BUZBY, Philadelphia, Pa —*Substitute for a Billiard Table.*—November 3, 1868.—The ends of the strips are rounded, and the side strips are placed at a short distance apart from the end strips and are connected together by angular corner pieces, the spaces within which serve as substitutes for pockets.

Claim.—1. A substitute for a billiard table, consisting of cushioned strips, connected together and to the floor, substantially as described, for the purpose specified.

2. The rounded ends of the strips, in combination with the plates *a*, for the purpose specified.

83,760.—JAMES H. CARKEET, Montgomery, Ala. *Butt Hinge.*—November 3, 1868.—Alternating plates, in conjunction with a hinge, allow the door, when closed or open, to assume a position parallel with the door frame.

Claim.—The double-acting butt hinge, constructed and arranged as described.

83,761.—SAMUEL K. CHRISTY, Noblesville, Ind. —*Car Coupler.*—November 3, 1868.—The hook is kept in position by a spring bearing against a shoulder, the end of which is pivoted to the draw head.

Claim.—The combination of the hollow-sided draw head B, with its hook D pivoted thereto, when said hook has a rounded end, *d*, and shoulder, and operates on a spring, E, connected to said shoulder, and in a recess in the side of the draw head, all substantially as shown and described.

83,762.—WALTER CLIFFORD, Holly Springs, Miss.—*Mode of Carrying Knapsacks.*—November 3, 1868.—The knapsack is secured by straps to padded shoulder-springs, which latter are held in position by a back brace and secured by thongs to slides on the waist belt.

Claim.—A device for carrying knapsacks, composed of the padded shoulder springs A, back brace *e*, belt B, slides *b b*, and thongs *d d*, when combined, constructed, and applied as herein shown and described.

83,763.—ANDREW JAMES CONNELL, New York, N. Y.—*Method of Manufacturing Show Cards, Labels, &c.*—November 3, 1868.—The paper, coated with a composition of glue solution, white lead, sulphate of zinc, and finished by calendering, is printed upon by aniline colors, ground with glue water, piping, Spanish whiting, and gum, said colors being secured thereon by a coating of spirit varnish.

Claim.—The method, substantially as herein described, of preparing cards and paper, and printing or otherwise impressing and fixing thereon prepared aniline colors, substantially as set forth.

83,764.—WILLIAM COOPER, Galesburg, Ill.—*Washing Machine.*—November 3, 1868.—Cleats are secured radially around the center of the bottom of the box. A circular board, with cleats corresponding to the bottom ones, is attached to a shaft which is rotated by a segmental rack receiving motion from a crank.

Claim.—The arrangement of the box A, its bottom ribs, *a*, the board C, with ribs *b*, shaft *c*, spring *d*, cog H, segment E, pitman I, plate F, and balance wheel G, all constructed and operated as herein set forth.

83,765.—C. O. CROSBY, New Haven, Conn.—*Tatting.*—November 3, 1868.—The filling thread is knotted around one or more warps or a different number of knots around different warps, and when the requisite number of knots has been made upon the thread they are beaten up, sliding on the warp thread, so as to bring the work into a regular figure.

Claim.—The herein-described tatting, fabricated substantially as set forth, as a new article of manufacture.

83,766.—DANIEL CURRIE, St. Charles, Mo.—*Rotary Steam Engine.*—November 3, 1868.—The steam chest, divided by a partition into two chambers, is placed on top of the two cylinders. The pistons, a portion of their peripheries between certain points being cut away to let them come in contact, in that interval, with the sides of the cylinders, have their heads, each, attached to a sliding rod, which rods are coupled by links with the working beam.

Claim.—1. The arrangement of the steam chest E with the chambers e^1 e^2 and the cylinders A A′, as herein set forth.

2. The arrangement of the cylinders A A′, piston wheels B B′, with their periphery curtailed on one side, as shown at *x x′*, together with the sliding heads D D^1, rods *d* d^1, links d^2 d^3, and beam D^2, all constructed as herein shown and described.

83,767.—WILLIAM B. DEUEL, Ithaca, N. Y.—*Mower and Reaper Knife Sharpener.*—November 3, 1868.—The device is for the purpose of holding at the proper angle or inclination the knives of a mower or reaper upon the plain ordinary face of a common grindstone of any size.

Claim.—1. The arrangement and application, to the sides of an ordinary grindstone, of the plate or plates C, made with holes or mortises to receive the pins or hooks E, for the purposes of holding and adjusting the described mower and reaper-knife holder to the face of an ordinary grindstone, substantially as set forth.

2. The arrangement of the arm or projecting piece F, with the pins or hooks E fitted to two or more of the holes in the plate C, and adjustable anywhere in the series of holes in the same, and sustaining the bolt G in its slot in the arm, and the cutter-bar holder, as set forth.

3. The cutter-bar holder I, when made with the deep and hollowed V-shaped bottom cavity, substantially as set forth.

4. The bolt G, when held in place in the arm F by the set screw H, and adjustable for the holder I by the set screw J, and the collar or collars N, bevel or obliquely, as described.

5. The clamps L, so arranged as to hold the cutter bar M in the cavity of the holder I, by the edges of the cutter bar, and on the rear of the knives, thereby leaving the face of the knives free, and open to the stone, as described.

6. The combination of the plates C, arm F, bolt G, and holder I with the frame of an ordinary grindstone, constructed and arranged to operate as set forth.

83,768.—JOHN H. ELWARD, Polo, Ill.—*Plow.*—November 3, 1868.—The coulter is attached to the beam by a rounded shank arranged nearly vertically between its edge and the beam. A roller is made to turn freely on the shank, and another is placed on the outer end of its extension.

Claim.—The combination of the coulter D, the rounded shank or rod D′, and rollers attached thereto, substantially as and for the purpose set forth.

83,769.—EDWARD FARON, New York, N. Y.—*Brick Machine.*—November 3, 1868.—A system of toggle bars operate plungers and press the brick against a head block with holes for the escape of water bubbles, and revolve the mold carrier. Connected with them are also a plate directly over the molds which can be removed for planing, and a pushing block.

Claim.—1. The combination and arrangement of the toggle bars *e e′* and *f f′*, pitman *j*, crank and plunger *k*, with the mold carriage H, operating substantially as and for the purposes herein specified.

2. The head block N provided with slots *q*, in combination with plate P, provided with perforations *r r*, substantially as and for the purposes herein specified.

3. The combination of the pusher block O, lever V, pin *x*, cam R, shaft D, and mold carriage H, arranged and operating substantially as and for the purpose herein specified.

4. The arm L′, in combination with the mold carriage H, and plungers J, substantially as and for the purposes herein specified.

83,770.—MAURICE FITZGIBBONS, New York, N. Y.—*Wooden Box.*—November 3, 1868.

Claim.—As an article of manufacture, a box, A, constructed of a material consisting of two sheets of wood, with one sheet of paper between them, the sheets of wood and paper being glued together, substantially as herein described.

83,771.—MORDECAI H. FLETCHER, Richmond, Ind.—*Compound Adjustable Garden Hoe.*—November 3, 1868.—To an arm forming an angle is attached one of the shovels, the other being fixed to a shank, which, at its upper end, has an eye into which the shorter arm is inserted and held by a thumb screw thus allowing the shovel to be moved back and forth.

Claim.—The combination of the arms *b* and *c*, shovels *b′* and *c′*, and shank *d*, when the latter is made adjustable on arm *b*, and the whole is constructed in the manner described, and for the purpose set forth.

83,772.—Otto Gsantner, East Orange, N. J. —*Elevated Railway.*—November 3, 1868.—Two transverse rails are secured to columns on each side of the street, and upon them are placed slides provided with hangers, on which at their lower parts are fixed rails which may be brought in line with either track by moving the slides.

Claim.—The carriage K, fitted to move on the transverse bars J, provided with hangers L and rails M, when adapted to be operated as shown, for shifting the suspended cars from one track to the other, as represented and described.

83,773.—Henry L. Hammond, Providence, R. I.—*Carriage Jack.*—November 3, 1868.—Flanged plates, supported in one of the holes in the standard, slide up and down in a slot, and between them lies a lever transversely extending on either side, on one end of which is a toggle joint formed by means of a stirrup which also forms a projection on the working lever.

Claim.—The flange plates C and C′ in combination with the levers E and F, and the standard A, substantially as described and for the purposes set forth.

83,774.—John Humphreys, Chicopee, Mass.—*Adjustable Gearing for Lathes.*—November 3, 1868.

Claim.—1. The combination of the shaft A, having the gear x x arranged upon it, the shaft E, with traveler G, and the rack L, the parts being arranged and constructed substantially in the manner shown and for the purpose set forth.

2. In combination with the rest of my device, as herein shown, the arrangement of the lever O, with gear P and Q, substantially as here described and for the purpose set forth.

3. In combination with the gear x x and traveler G, the dial plate or index W, with the different sizes of gear numbered upon it, substantially as herein described.

83,775.—William C. Kellum, San Francisco, Cal.—*Clock Escapement.*—November 3, 1868.—A detent with two arms, having locking screws in their ends, is raised by a beveled screw, and a set screw in a slide adjusts its fall. This lever is also connected with two pallets on a roller and two sets of escape teeth turning in parallel planes, and attached to the same axis, so as to allow the roller to turn between them, and receive alternate impulses from them.

Claim.—1. The detent lever D, with the locking screws e e', the adjusting screw i, and the screw m, combined and arranged substantially as and for the purpose described.

2. In combination with the pallets a a' and the locking screws or heads e e', the two parallel and symmetrical sets of escape teeth E E′, arranged and operating substantially as described.

83,776.—William C. Kellum, San Francisco, Cal.—*Clock Escapement.*—November 3, 1868.—Two sets of escape teeth move about the same axis, one of which gives impulse directly to the impulse roller, while the other is so constructed that as the teeth pass the impulse roller or pin, they cause it to move in an opposite direction from their own.

Claim.—1. The impulse wheel D′ on the same shaft with the escape wheel D, and having teeth arranged to give an impulse in a direction the reverse of that given by the wheel D, substantially as described.

2. In combination with the impulse and escape wheel D, and the reverse impulse wheel D′, the double-headed screw detent, substantially as described.

83,777.—Thomas H. Lindley, Taunton, Mass.—*Machine for Milking Cows.*—November 3, 1868.—As the lever is raised, the movable frames are drawn inward and the rollers on the frames, passing over the vessels, operate to squeeze the teats while the milk passes into the vessels, and thence by a tube into the pail.

Claim.—1. The stationary and movable frames I I, provided with rollers e e, and connected by means of cords, or their equivalent, to the lever N, for the purpose of milking cows, substantially as herein set forth.

2. The funnel-shaped vessels K K, or their equivalent, in combination with the tube L, for the purpose of receiving and conducting the milk to the milk-pail, substantially as herein set forth.

3. A cow-milker, constructed substantially as described, and adjusted and operating in the manner and by the means herein set forth.

83,778.—Henry W. Long, Council Bluffs, Iowa. —*Wagon Jack.*—November 3, 1868.

Claim.—The movable clasp A, with the hooked fulcra upon said clasp, in combination with the jack for raising weights, the whole arranged as described in the accompanying specification.

83,779.—David Lown, Poughkeepsie, N. Y.—*Churn.*—November 3, 1868.—A cup or air chamber is placed on the staff above the dasher, which is made of two bars laid across each other and perforated with holes, by which means the air is forced in through the milk.

Claim.—The combination of the cross-arms B B, perforated near their outer ends, with the cup D, secured under the shoulder on the shaft A, as and for the purposes set forth.

83,780.—George T. Marshall, Unadilla, Mich. —*Salting Trough for Stock.*—November 3, 1868.—A sloping board connected with the foot board, beam, and lever, which have a partial rotation, prevents the cattle from stepping beyond the foot board and thus causing the lid to fall, while they have their heads in the trough, which is uncovered as they step upon the foot board.

Claim.—The inclined board L, in combination with the trough A and foot board C, upon the lever h, whereby the cattle are prevented from stepping beyond the foot board, inside the fulcrum of the lever h, as as herein described, for the purpose specified.

83,781.—George McKenzie, Zanesville, Ohio. —*Wagon Brake.*—November 3, 1868.—The brake bar is provided with a rack operated by a pinion which receives motion from the hand lever.

Claim.—1. The adjustable connecting parts e e, in combination with the rack bar G and pinion J of a wagon brake, substantially as described.

2. The scrapers O, applied to the brake bar F, substantially as and for the purpose herein set forth and shown.

3. The plate E, provided with guides a, and secured to the reach, when used in connection with the parts set forth in the first clause of claim, substantially as shown and described, and forming a surface on which the brake bar F moves, as set forth.

4. The casing H, bolted to the reach, when inclosing the pinion J, and forming, at the same time, a bearing for the rock shaft I, and a space in which the rack bar G may be moved back and forth, as set forth.

83,782.—Gerry Morgan, Newport, N. H.—*Wind Elevators of Grain.*—November 3, 1868.—A current of air is forced through the tube and deflected by means of the adjustable wind guide, which creates a vacuum near a lateral opening in the tube through which the grain enters in the direction of the air current.

Claim.—The deflected lip C, and the wind guide I, with its regulating pin E, in combination with the aperture B in the elevating tube A, as and for the purposes herein described.

83,783.—Edmund L. Morse, St. Louis, Mo.—*Cotton Compress.*—November 3, 1868.—Designed as an improvement on his patent of April 16, 1868.

Claim.—The combination of the sector A with the vertical screw E, and its step upon the upper platen b, thereby counterbalancing in whole or in part, by the thrust of said screw, the upward pressure of the compressed bales, substantially as set forth.

83,784.—John W. Newton, Geneva, Wis.—*Bog Cutter and Drag.*—November 3, 1868.—The cutting blade rests on the ground and shears off the irregularities. The teeth drag the sod and loose bodies out of the way of the plow.

Claim.—1. The cutting blade A, removably secured to the L-shaped straps C, attached to the stock B, and adapted for use either with or without the drag teeth, substantially as and for the purpose herein set forth.

2. The plate E, provided with removable teeth, and detachably secured to the hangers depending from stock B, when used either with or without the cutter A, for which it can be substituted, substantially as herein described, for the purposes specified.

3. The L-shaped hangers C, secured to the stock B, and adapted for the attachment of the toothed bar E, and cutter A, either separately or combined, substantially as described.

4. The combined bog cutter and drag, consisting of the cutter A, toothed bar I, hangers C, and a stock, all operating substantially as herein described.

83,785.—John W. Newton, Geneva, Wis.—*Potato Digger and Vine Puller.*—November 3, 1868.—The frame to which the teeth are secured by means of an adjustable plate, is hinged to the draught pole so that the frame may be raised to allow the teeth to clear obstructions.

Claim.—1. The frame A, handles D, and draught pole B, in combination with the teeth G or H, substantially as and for the purpose described.

2. The series of curved tapering teeth G, arranged upon the adjustable plates F, as described, for the purposes of a potato digger, substantially as described.

83,786.—Joseph H. Osgood, Peabody, Mass.—*Process of Recovering the Materials of Wornout Printer's Rollers.*—November 3, 1868.—The discarded material is soaked in cold water and the sirup is recovered by evaporation and solidified by being placed in a tank with a false bottom through which the saccharine matter percolates while the glue remains and is solidified by evaporation.

Claim.—The process of utilizing the ingredients of discarded roller composition, substantially as described and specified.

83,787.—Charles B. Payne, Clinton, Ill.—*Gag Swivel.*—November 3, 1868.

Claim.—The gag swivel, formed of one piece of metal, and composed of two bars *a a*, and outwardly curved bar *b*, with a buckle at one end, and with a rivet plate at the other, all substantially as herein set forth.

83,788.—Eugene Paulus, Philadelphia, Pa.—*Watch-winding Click.*—November 3, 1868.—The crescent-shaped pawl of the winding shaft is pivoted centrally, and fitted within a recess so as to present its entire outer surface as a bearing to resist the strain of the main-spring.

Claim.—1. The improved watch-winding click, made in a round shape, cut so as to catch the teeth of the ratchet wheel, and adjusted in a recess of the top plate, to resist, by its full size, the power of the main-spring, in the manner substantially as described.

2. The combination of the winding click E, bridge L, spring M, and pin screw P, arranged and operating substantially as described.

83,789.—William Phelps, Jr., Salem, Mass.—*Blind Fastener.*—November 3, 1868.—The two plates are fastened to the under side of the blind, and the spring, which is fitted in a recess of the blind, acts to hold the latch plate in contact with the two projections on the confining plate.

Claim.—The combination and arrangement of the plates E and F with the spring *s*, all constructed and applied substantially in the manner and for the purpose specified.

83,790.—George H. Phillips, Troy, N. Y.—*Reservoir Cooking Stove.*—November 3, 1868.—The upper front part of the hot-water tank forms the rear wall of the heating chambers.

Claim.—1. Extending the rear-end vertical flues of a cooking stove upward above the horizontal plane of the boiler-hole top plate A and the top edge of the rear end plate C thereof, which is in the same horizontal plane, by curving or raising upward and backward, above its horizontal plane, the rear end part of the said top plate, thereby extending said flues upward, so as to form, at and above their upper ends, and above the horizontal plane of the stove top A, hot-air or heating chambers H H H, open at their rear side, in manner substantially as herein shown and described, for the purpose set forth.

2. The combination of the upward extension of the rear flues of a cooking stove, over the horizontal plane of the top plane, and the elevation of the rear part of the top plate, whereby hot-air chambers H are formed, with the shelf F and boiler E, substantially as and for the purposes described.

83,791.—William Potts, Handsworth, England.—*Molding Screw.*—November 3, 1868.

Claim.—The method of producing molds for casting screws, by first making a plain, cylindrical mold, and afterward molding the thread by screwing a pattern screw through the said cylindrical mold, substantially in the manner and by the means herein shown and set forth.

83,792.—John J. Reichard, Canton, Ill.—*Saw-Set.*—November 3, 1868.—The position of the set screws determines the degree to which the teeth shall be bent upon the bevel of the anvil by the action of the punch.

Claim.—A saw set, composed of jaws *a b*, anvil *h*, punch *f*, spring *g*, and set screws *c d*, constructed and arranged as described, and for the purposes set forth.

83,793.—John J. Reichard, Canton, Ill.—*Saw-Set.*—November 3, 1868.—Two hammers are respectively adapted for setting the oppositely-deflected teeth of the saw, one hammer being swung back out of the way while the other is in use. The gauge, against which the points of the teeth rest, graduates the position of the saw in accordance with the length of the teeth, and in relation to the hammer.

Claim.—As an improvement in a saw set, the adjustable gauge D, with its tenon E, set screw G, hammers B and C, when constructed and arranged as described.

83,794.—Elias Rhodes, Jr., Clyde, Ohio.—*Horse Hay Fork.*—November 3, 1868.—The shoulder on the lever engages a shoulder on the central shaft, and thus locks the latter when in position for lifting the load. The lever also enters a notch in the top of said shaft when the fork is ready to be thrust into the hay, thereby holding the tines against the sides of the shaft.

Claim.—The lever B, formed with the shoulder *b*, in combination with the central sliding shaft *c*, formed with the shoulder b^1, shank or body A, consisting of two bars, connected together at their upper ends, and supplied with prongs a' a', passing through shaft *c*, and cords b^2, *g*, and g', all constructed and operated substantially as and for the purpose set forth.

83,795.—Constant S. Rouse, Dowagiac, Mich.—*Step Ladder.*—November 3, 1868.—By means of holes in the hangers, together with the shifting pin, the blocks and the platform on the ladders may be supported at any desired elevation, and when one continuous ladder is formed, it is braced by passing the pin through the uppermost holes of the hangers.

Claim.—The guide blocks D D, the pin H, and rounds E E, when combined with the platform braces and ladders, as and for the purposes set forth.

83,796.—Hibbard Sabin, Philadelphia, Pa.—*Water Heater.*—November 3, 1868.—Both the inner and outer tubes are exposed to steam, and the water, in taking its course through the annular, intervening spaces, is in contact with two heating surfaces, against which the entire volume of steam impinges.

Claim.—The arrangement of chambers or pass ages B, B′, E, E′, F, and *i*, in respect to internal and external tubes *h* and *f*, so that the steam shall pass first within and then around the tubes, as described.

83,797.—Joseph Theodor Schmitt, Brooklyn, N. Y.—*Picture Frame.*—November 3, 1868.

Claim.—The hollow, continuous shell A, made of glass or other transparent material, and leaving a hollow space, *c*, for the reception of flowers or other ornaments, substantially as described.

83,798.—David Stuart and Lewis Bridge, Philadelphia, Pa., assignors to Stuart, Peterson and Co., same place.—*Cooking Stove.*—November 3, 1868.

Claim.—The arrangement of the ovens D E, fire-place A, plates *h* and *p*, flues *e f j k m*, and the damper *x*, as herein described.

83,799.—Nathan Thompson, Brooklyn, E. D., N. Y.—*Lantern.*—November 3, 1868.—The sectional wire guard permits the insertion of the glass from the side. The platform and its back facilitate the sliding in of the glass. A front check for the glass is on the bottom rim of the hinged side of the guard.

Claim.—1. The combination of the hinged portion G′ F′ with the fixed or stationary portion G, arranged to connect the middle rim B with the head piece F, substantially as shown and described.

2. The middle rim B, formed or provided with a raised interior upper surface or platform, H, and back I, substantially as and for the purposes herein set forth.

3. The sectional rim or flange K, to the lower end of the portion G′ of the guard, provided with a raised front rim or check, L, to the glass.

83,800.—George Topping, Chicago, Ill.—*Mittens.*—November 3, 1868.

Claim.—Cutting the whole of a mitten, back, front, and thumb out of one and the same piece of material, substantially as described and shown.

83,801.—A. N. Towne, Chicago, Ill.—*Music Stool and Rack.*—November 3, 1868.—A combined piano stool and receptacle for book or sheet music.

Claim.—The arrangement of the seat D, in combination with the base or music rack A, substantially as and for the purpose set forth.

83,802.—Michael Tromly, Mount Vernon, Ill.—*Clock Movement.*—November 3, 1868.—Instead of a winged fly wheel for regulating the striking movement, a balance wheel is used, which receives motion through a rack bar connecting with the pallet, which is operated by the scape wheel. Dogs on the hand spindle cause the balance wheel to move before the scape wheel does, and thus commence the movement of the scape-wheel pallet.

Claim.—1. The arrangement of the escapement wheel D, the pallet I, with its rollers *i i*, oscillating on the rod P, and connected by the link H with the pendulum rod, substantially as shown and described.

2. The combination of the balance wheel W, spring *v*, rack bar *u′*, rod *u*, pallet T, and scape-wheel C, when employed to regulate and control the action of a striking apparatus for clocks, substantially as described.

3. The arrangement of the dogs *x′ x′*, arms S″ T′, rock shafts X *t*, stop S′, and pallet T, substantially as set forth.

83,803.—William Tuttle, Boston, Mass.—*Street Railway Switch.*—November 3, 1868.—The shoe, suspended by rods which pass through a steadying tube, has both a lateral and vertical motion and can be lowered to bring it into contact with the switch, which is provided with suitable grooves and inclined planes to cause the car to pass from one track to another.

Claim.—1. The combination of the shoe with the car body, by means of the links or rods *a* and *h*, when these links are connected to the said shoe and body in such manner as to permit of the shoe oscillating or moving laterally as well as vertically, so as to accommodate itself to the surfaces over, on, or against which it may pass, substantially as described.

2. The combination of the steadying tube *m* with the car body, and the shoe applied thereto, substantially as described.

3. The arrangement and combination of the inclined planes or chutes *p* and *q*, with the rails S T T′, the flange groove *n*, and the deflector *r′*.

4. The combination and arrangement of the inclined plane *o*, the groove *n*, the inclined planes or chutes *p q*, the rails S T T′, and the deflector *r′*.

83,804.—P. Shelton Tyler, Boston, Mass.—*Paper Boat.*—November 3, 1868.—Longitudinal strips of paper or thin wood, of gradual decreasing length or width, are attached to those portions of the side and bottom of the boat most subjected to wear and strain. Transverse strips placed across the bottom and sides of the inner surface of the boat serve as braces to strengthen the same under and at the rower's seat.

Claim.—1. The combination, with a paper boat, of the sheets or strips c^1, c^2, &c., as and for the purpose specified.

2. In combination with the strips c^1, c^2, &c., the pieces d^1 d^2, as and for the purpose set forth.

83,805.—Richard W. Tyler, Wayne, Mich.—*Saw-Set.*—November 3, 1868.—An adjustable saw holder is provided with a rack, with which a pinion engages, which latter is actuated by an adjustable pawl on the lever actuating the die. The saw is fed along each time the die is raised by the lever.

Claim.—1. The pinion G, provided with concentric series of notches in its upper face, when arranged, as described, with relation to the toothed bar F, and operated simultaneously with the die, by means of the adjustable pawl H applied to lever D, substantially as herein set forth, for the purpose of feeding the saw along automatically, and with a regular, graduated motion.

2. The arrangement of the frame A, die B, lever D, adjustable pawl H, pinion G, and toothed bar F, substantially as herein shown and described.

3. The adjustable sliding clamps J, consisting of jaws *w w′*, and the hinged, slotted block *y*, arranged as described.

83,806.—William S. Van Hoesen, Saugerties, N. Y.—*Combined Mop Head and Scrubbing Brush.*—November 3, 1868.

Claim.—The combination of the scrubbing brush A, held by the clamping plate and set-screw handle C, mop head D, and clamp E, all constructed substantially as described, and operating as and for the purposes herein set forth.

83,807.—T. Van Kannel, Cincinnati, Ohio.—*Ticket Case.*—November 3, 1868.—A projection rises from the lower edge of the slot in the end of the case to within a sufficient distance from the top of the case to allow one card to be pushed out at a time.

Claim.—The card or ticket case A, provided with the projection *h* in the slot *g*, and constructed in the manner as and for the purposes described.

83,808.—Jacob Van Norman and William Young, Easton, Pa.—*Rain-water Cut-off.*—November 3, 1868.—One of the semicircular plates is painted a different color from the outside of the drum, and the same side of the drum is provided with two holes, so that the painted portion shall come opposite one of the said holes when the valve is opened to its full extent, the object being to ascertain at a glance the position of the cut-off.

Claim.—The drum A, provided with exit pipes B B′, and induction pipe C, in combination with the cut-off *e*, and semicircular plate *d*, the drum A being provided with holes *i i*, and one of the plates *d* being stained, on its outer surface, a different color from the drum, as and for the purpose set forth.

83,809.—Andrew West, Burlington, Iowa.—*Bed Bottom.*—November 3, 1868.—Each slat resting on the Z-shaped springs is hinged to the head part, which rests on two upright pieces attached to each side of the bed, and can be adjusted at any height by means of the braces.

Claim.—The Z-shaped springs D D, braces I I, uprights G G, and slats E E. all constructed and arranged substantially as herein set forth.

83,810.—William F. Whitney, Milton, N. Y. —*Carriage Spring.*—November 3, 1868.—The weight of the wagon body and load exerts a downward force against the outer ends of the extended arms which act upon the springs, causing a torsional resistance.

Claim.—The combination of the torsion springs B and their attached arms *g*, arranged for operation in connection with the body and running gear of a wagon or other vehicle, substantially as described, and for the purpose herein set forth.

83,811.—Charles Whittier, Boston, Mass., assignor to himself and Benjamin F. Campbell, same place.—*Steam Generator.*—November 3, 1868.—The generator is made of two shells so connected with each other. the water tubes, and with the bridge piece as to allow a free circulation of water and to give an increased heating surface.

Claim.—1. A bridge piece, having water and steam connections with a double shell, in combination with such double shell and water tubes, constructed and arranged substantially as herein described.

2. The arrangement of the flues with reference to the double shell and bridge piece, substantially as described.

3. The bridge piece *d*, when constructed substantially as described, and placed in the rear of the fire box, to increase the heating surface of the generator.

83,812.—John W. Wilcox, New York, N. Y. —*Box.*—November 3, 1868.—The parts are so cut and folded as to secure great strength and small amount in weight of stock. The box is intended for containing articles to be carried in the mail.

Claim.—1. The supplemental lappets *i*, in connection with the lappet D and strengthening folds *h*, substantially as described and set forth.

2. The above, in combination with the pocket E, as and for the purposes specified and set forth.

83,813.—James Wixted, Port Carbon, Pa.—*Railway Rail Splice.*—November 3, 1868.—A steel bar is inserted in the upper part of one of the fish pieces so as to be flush with the tread of the rails, and overlap the ends of the contiguous rails.

Claim.—The steel bar D, adapted to the rails and to the splicing bar B′, substantially in the manner and for the purpose herein set forth.

83,814.—James T. Walker, Albany, N. Y.—*Collar Machine.*—November 3, 1868.—The collars or cuffs are bent in the act of cutting them out, so as to fit the contour of the neck or wrist. The paper is fed through and guided by the tube to the cutting dies.

Claim.—1. A collar or cuff die, whose face is inclined downward from its longitudinal center, or point corresponding with the folding line, substantially as herein specified.

2. The female die, or its movable bed, constructed to conform to the face of the male die, by being inclined downward from the folding line, substantially as set forth.

3. The female or counter die B^2, constructed as described, and arranged upon the bed A, with one end elevated above the other, presenting an inclined face, substantially as described.

4. In combination with the slotted follower C^2, the knife Y, so arranged that it shall indent the collar upon its folding line at each descent of the male die, substantially as and for the purposes set forth.

5. The slotted folder Z, in combination with the vertically reciprocating knife Y, substantially as herein set forth.

6. Forming or bending the collar in the line of the fold, as it is cut, in contradistinction to creasing the same, substantially as and for the purposes herein set forth.

7. A flat guide tube, *u*, made adjustable to suit the width of the paper, and arranged with the feeding rollers *q* and *r*, for the purposes set forth.

8. The arrangement of the levers V and W, and cams R and Q, all constructed as shown, and operating to alternately cause the upward and downward motion of the knife Y, substantially as shown and described

9. A movable collar-shaped bed, C^2, in combination with the dies B^2 and A^2, substantially as and for the purposes set forth.

83,815.—Schuyler S. Case, Marion, N. Y.—*Churn.*—November 3, 1868.—A chamber, formed by a false bottom and real bottom of the churn, communicates with the pump, from which latter air is forced through a valve in the false bottom into the churn, to facilitate the separating of the butter.

Claim.—1. The false bottom B, constructed substantially as described, and provided with a valve, *f*, when used in connection with a plunger, F, also provided with a valve, *m*, all constructed and arranged to operate substantially as herein set forth and shown.

2. The removable stock C, to which the barrel E and false bottom B are attached, when constructed and arranged as herein shown and described, so as to form part of the sides of the churn A, as set forth, for the purpose specified.

83,816.—George U. Relyea, Watkins, N. Y.—*Machine for Spreading Plaster, Lime, &c.*—November 3, 1868.—The receptacle or sifter may be worked independently of the corresponding parts on the other side. The perforated sifters are provided with longitudinal bars and vertical division plates for thoroughly stirring the plaster, before it falls through the meshes.

Claim.—1. The combination, in the same machine, of two independent sets of mechanism for sifting plaster, &c., situated end to end, the said sets consisting of revolving sifters D D′, with the inner ends fixed, but the outer ones resting in slide boxes *g g′*, to throw out of gear, by means of connections *f f*, G G′, and the axle of the driving wheels, and the shaft of the sifters, made in halves, the whole arranged as described, and operating in the manner and for the purpose specified.

2. The combination, with the perforated sifters D D′, of the angular bars *i i* and division plates *h h*, the whole arranged as described, and operating in the manner and for the purpose specified.

83,817.—Samuel S. Allen, Richmond, Ind., assignor to himself and John B. Morris, same place. —*Oil Blacking for Leather.*—November 10, 1868.—Composed of neats-foot oil, tar, ivory-black, linseed oil, tallow, lampblack and turpentine.

Claim.—The within specified composition, as an oil blacking for leather, mixed in the proportions substantially as set forth.

83,818.—William W, Andrew, Grand Rapids, Mich.—*Field Roller.*—November 10, 1868.—The roller is divided in the center, and each half is provided with a shaft, the outer end of which is provided with a ball fitting in a socket, and the inner end slides up and down in grooves in the plates, thus allowing the rollers to operate on uneven ground.

Claim.—1. The dividing board B, provided with plates F F and grooves H H, and extended forward of the frame A, under the pole J, where it is perforated (*e e e*) to receive the clevis, all constructed to operate as specified.

2. The combination of the frame A, box D, rollers C C, rods G G, and grooved board B, when constructed and operating substantially as set forth.

83,819.—Lewis J. Atwood, Waterbury, Conn. —*Pin Cushion.*—November 10, 1868.

Claim.—A pin cushion, formed of a ring or disk of fibrous material, confined between two metallic plates that are connected together by rivets or other metallic connections, as set forth.

83,820.—E. J. Balcear, Martines, Cal.—*Hair Restorative.*—November 10, 1868; antedated November 7, 1868.—Composed of the juice of common soap root "*Saponis radix.*"

Claim.—The within-described ingredient or root, treated and prepared in about the manner herein specified, for the purposes set forth.

83,821.—Horace J. Beemer, Honesdale, Pa.—*Horse Hay Fork.*—November 10, 1868; antedated August 21, 1868.—The tripping lever is composed of two parts halved into each other, and so arranged that when the pivoted arm is extended the jointed parts lock the lever in place.

Claim.—The hay harpoon, constructed as described, and consisting of the shanks A B, pivoted arm *c*, lever L, made in two parts, *m m*, and jointed at *g*, pivots *x i*, cross bar E, and grooved pulleys P P′, all constructed, arranged, and operating as set forth, and for the purpose specified.

83,822.—ERASTUS S. BENNETT, New York, N. Y., assignor to himself and JUSTUS SMITH, same place.—*Stirrup.*—November 10, 1868; antedated October 24, 1868.—The end of the foot support at the open side is provided with a spring, which prevents the foot from slipping forward.

Claim.—A stirrup made with one side entirely open, with a device for preventing its slipping, substantially as and for the purpose set forth.

83,823.—EPHRAIM M. BERRY and LARKIN M. BERRY, Saltillo, Ind.—*Medical Compound.*—November 10, 1868.—Composed of persulphate ferri, stramonium, stillingia, valerian, oil of sassafras, and alcohol.

Claim.—The compound above described, substantially as and for the purposes herein set forth.

83,824.—JOHN VREELAND BOGERT, New York, N. Y., and MICHAEL R. PERKINS, Portsmouth, N. H., assignors to themselves and JOHN F. LOWELL, Boston, Mass.—*Sash Fastener.*—November 10, 1868.—When the window is closed, a spring operated by a projection on the sliding sash releases a spring bolt, which slides over the movable sash, and prevents its being raised.

Claim.—The sliding bolt and its spring, when arranged as shown, with the projecting catch spring, substantially as and for the purpose specified.

83,825.—W. E. BOORAEM, New York, N. Y.—*Apparatus for Pasting Labels.*—November 10, 1868.

Claim.—1. Preparing (or pasting) and presenting the labels, ready to be affixed to the bottles, in the manner described; that is to say, by applying the paste to a plane or board, adapted to transfer the paste to the back side of the label, over its entire surface, and pick it up and present it for transfer by hand to the bottle.

2. An apparatus, composed of a suitable supporting surface, and yielding retaining arms, for holding a supply of labels, and provided with a movable pasting board, for applying the paste to and picking up the labels, one at a time, as and for the purpose described.

3. The adjustable and yielding retaining arms, in combination with the label-supporting table, whereby the apparatus may be adapted to the use of labels of different sizes and proportions, as hereinbefore set forth.

83,826.—JAMES T. BOYD, M. D., Indianapolis, Ind.—*Uterine Supporter.*—November 10, 1868; antedated October 31, 1868.—By means of the curved wires the pad can be raised or lowered to adjust it to the person. The instrument can be enlarged by uncoiling the springs in the back pads to suit the size of the person.

Claim.—1. The curved wires M M and B, and their corresponding grooves in the pad A A, with their fastenings and attachments, in the manner and for the purpose substantially as set forth.

2. The coiled springs or wires on the back of the pads C C, arranged and attached in the manner and for the purpose substantially as set forth.

83,827.—HORATIO N. BROOKS, Bloomington, Ill.—*Combined Water Elevator and Dairy.*—November 10, 1868.—A cooling apartment is provided with a series of water tanks, and placed at the side of a structure over a well, which structure contains a water-elevating apparatus operated by springs or weights, by which means water is supplied to the several tanks in succession.

Claim.—The arrangement of a cooling apartment, C, constructed and furnished substantially as described, and an automatic water-elevating apparatus, substantially as set forth.

83,828.—DAVID BRUCE, Brooklyn, N. Y.—*Type Casting Machine.*—November 10, 1868.—The propelling shaft is connected with a face cam wheel of a form to operate by three successive movements upon a vertical cam lever, so as to throw the shaft out of connection with a loose driving pulley, which has on its side a spring pawl for locking automatically with the wheel. The cam lever has also a wedge-shaped tappet for operating the wheel, and with its frame is connected with a gutter, and a lever which has two type-registering plates on its end, with holes, so arranged that they are opened only when the lever is raised to its full height.

Claim.—1. The loose pulley G, having a pawl, F, attached thereto, in combination with the cam wheel D, having a notch, E, in its periphery, substantially as hereinbefore set forth.

2. In combination with the driving shaft C, the cam wheel D, having a cavity, J, in its face, and planes K and L, substantially as described, and for the purposes hereinbefore set forth.

3. The combination of the upright cam lever I, having the tappet H attached thereto, with the said cam wheel D, when formed as hereinbefore described.

4. The combination of the said upright cam lever I and frame B with the horizontal registering lever P, substantially as hereinbefore described, and for the purposes set forth.

5. In combination with the frame B, the inclined gutter N, made and arranged substantially as hereinbefore set forth.

6. In combination with the horizontal registering lever P, the registering plates R^1 and R^2, substantially as hereinbefore described, and for the purposes set forth.

7. In combination with the inclined gutter N and registering plate R^1, the type M, arranged and operating in the manner described and for the purposes set forth.

83,829.—ROBERT I. BURBANK, Boston, Mass.—*Vegetable Cutter for Animal Food.*—November 10, 1868.—A series of rotating carriers operate to bring the vegetables up to the circular saws, which run between them, their motion, on account of their larger gear, being slower than that of the saws, between which latter are clearers to let them spring laterally without injuring their teeth, annular grooves being also provided between the hubs of the carriers to secure the positive action of the saws.

Claim.—1. A series of rotating carriers, A or B, constructed as shown and described, and operating in connection with a series of rotating circular saws, in the manner and for the purpose specified.

2. A series of notched clearers, N, constructed, applied, and arranged for operation, as and for the purpose set forth.

3. The combination of all the operative parts specified, when arranged to operate substantially as and for the purpose set forth.

83,830.—C. R. BUSHNELL, St. Anthony's Falls, Minn.—*Head Block.*—November 10, 1868.—Two ratchet wheels are attached, one on the end and the other on the middle part of a shaft, their teeth resting on pawls, of which each succeeding one is shorter than its preceding one, the wheel fixed at the middle part being also attached to a lever. A semicircle, with its end fixed to the carriage frame, has two rows of square holes into which fits a pyramidal-headed pin, and a set screw passes through an eye attached to the semicircle. The pin and screw being adjusted the timber may be set by a single movement of the lever, and lumber may be sawed of any thickness.

Claim.—1. The graduated semicircle, I, resting upon the carriage, and provided with two rows of square holes; the set screw K, armed lever H, receding pawls G, ratchet wheels F D, and shaft C, all arranged to operate in the described manner, for the purpose specified.

2. The graduated semicircle I, when provided with two rows of square holes and the set screw K, as herein described, for the purpose specified.

83,831.—W. T. CLEMENT, Northampton, Mass.—*Cutlery.*—November 10, 1868; antedated October 28, 1868.

Claim.—The within-described method of the manufacture of cutlery, consisting in bending the wrought iron B, and beveling its ends, as represented, and afterward compressing it together upon the steel, and welding ahd drawing it, substantially in the manner and for the purposes herein set forth.

83,832.—D. Codd, Ottawa, Canada.—*Corn Sheller.*—November 10, 1868.—A toothed cylinder, connected with a corrugated belt, has its upper part inclosed in a casing, leaving an opening from one end to the other, and an apron is placed between bars for inserting the ears, which are caused by the belt to pass through the machine.

Claim.—1. The toothed cylinder B, and the corrugated or grooved endless belt F, in combination with each other, the toothed surface of said cylinder moving at right angles to the direction of said endless belt, substantially as herein shown and described and for the purpose set forth.

2. The combination of the fan blower S with the toothed cylinder B and endless belt F, substantially as herein shown and described, and for the purpose set forth.

3. Operating the endless belt F and fans S from the toothed cylinder B, substantially in the manner herein shown and described.

83,833.—Virgil P. Corbett, Alexandria Co., Va.—*Potato Digger.*—November 10, 1868; antedated October 31, 1868.

Claim.—The arrangement and combination of the revolving-toothed cylinder or bar C, scoop A, with pronged front spring bars s s s, and wings W W, constructed and operating substantially as and for the purpose set forth.

83,834.—Harry C. Cotter and George G. Greene, Fort Wayne, Ind.—*Safety Switch Lock.*—November 10, 1868.—A laterally-moving bar is provided with catches projecting through openings in a guard and actuated by means of eccentric levers pivoted to a bar. A reciprocating bar in the rear, in connection with recesses and rods, serves to lock the bar and catches in position.

Claim.—The stop bar A, carrying stops a a' a'' a''', and eccentric levers C C, in combination with the stop bar H, having recesses m n, the whole being constructed in the manner and for the purpose substantially as set forth and described.

83,835.—Gustav Cramer and Julius Gross, St. Louis, Mo.—*Posing Apparatus for Photographers.*—November 10, 1868.

Claim.—1. The body rest A, when provided with flexor joints, m, and extension torsion joints, n, constructed substantially as herein described and set forth.

2. The leg rests B, when constructed so as to be able to follow all the movements of the human leg, and be adjustable thereto, as and for the purpose set forth.

3. The arm rest C, when constructed so as to be able to follow all the movements of the human arm, substantially in the manner and for the purpose herein shown and described.

83,836.—William D. Cutler, Philadelphia, Pa.—*Article of Food Prepared from Fish and Potatoes.*—November 10, 1868.

Claim.—The within-described mixture of desiccated potato and fish, as a new commercial article.

83,837.—Charles B. Davies, Dayton, Ohio.—*Key-hole Guard.*—November 10, 1868.—A metal cap provided with an arm, to which is attached a spring, is inserted in the outside key-hole of a lock and held in position by a screw bolt from the inside.

Claim.—Cap A, provided with projecting arm B and spring C, when used in connection with bolt D, perforation as described, and thumb screw E, substantially as described, and for the purposes set forth.

83,838.—Samuel Day, Delavan, Ill.—*Cultivator.*—November 10, 1868.—An elbow lever or crank is pivoted to the frame and provided at one end with a slot through which passes a pin on a pivoted tongue. The other end of the said crank is connected to a lever by which the direction of the machine may be instantly changed.

Claim.—In a corn cultivator the mode of guiding the machine and shovels by means of the crank D and connections, with the lever o, as and for the purposes above described.

83,839.—James F. Earl, San Francisco, Cal.—*Harvester.*—November 10, 1868.—The cutter frame is so arranged that it can be raised or lowered without hindering the working of the gearing, and the rake and platform are so constructed that the gavel may be discharged at either end, the machine cutting back and forth on the same side of the field, while the guiding wheel, by various devices, is always maintained in a vertical position when used on a side hill

Claim.—1. The vertical adjustment of the cutter frame, relative to the main frame, upon a pivot or shaft, in advance of the main axle, by means and substantially in the manner described.

2. The arrangement of the driving gear, in combination with the vertically-adjustable cutter frame, substantially as described, whereby the height of said frame may be adjusted without disturbing the working relation of the gear shafts.

3. The rake head, constructed as described, in combination with teeth applied thereto, and operating substantially as described.

4. The manner of actuating the rakes by means of the straps or belts, and drums or rollers, and shifting clutches, operating as described.

5. Operating the shifting clutches, by means of the rake head acting alternately thereon through the clutch levers, as described.

6. The slotted plate, to which the middle fingers are attached, forming the box inclosing the springs, and permitting the withdrawal of the lever staple and the removal of the sickle, as described.

7. The arrangement of the fulcrum of the reel frame in rear of and above the pivot or axis around which the sickle frame is adjusted, in combination with means for simultaneously adjusting said frames, whereby the relation of reel and sickle is varied when the height of cut is varied, as described.

8. The hollow reel shaft, provided with the end hubs and with the central stiffening sleeve and central hub, as described.

9. The adjustment of the steering wheel upon a horizontal axis or pivot, for the purpose of maintaining the same in a vertical position, irrespective of the position of the main frame and cutters.

10. The attachment of the driver's stand or seat and the sickle-adjusting mechanism to the horizontal axis upon which the steering wheel is adjusted, substantially as and for the purpose set forth.

11. The combination, with the grain platform, of a reciprocating rake, adapted to deliver the grain at either end of the platform, as set forth.

83,840.—John Elliott and William Lee, Chippewa, Ohio.—*Sheep Rack.*—November 10, 1868.

Claim.—The hinged covers C D, so arranged and combined with the rack A as to form a roof when folded up, and grain trough when turned down, in the manner as described.

83,841.—Samuel S. Ferris, New York, N. Y., assignor to himself and William O. Robbins, same place.—*Machine for Making Sheet Glass.*—November 10, 1868.—The melted glass is poured on a table on which are side pieces to regulate the opening through which it passes, and, consequently, the thickness of the layer. The platform is made of hinged plates with slides, and is inclosed by a casing, which has openings with slides to regulate its temperature, and also an adjustable roller to press the glass upon it, and straighten any bend.

Claim.—1. A pair of rollers, formed hollow, and provided with means, substantially as specified, for regulating their temperature, in combination with the inclined table g and movable side pieces h, for regulating the width of the melted glass passing to said rollers, substantially as set forth.

2. The platform k, formed of a series of plates hinged together, in combination with the rollers b and c, and straightening roller s, for the purposes and substantially as set forth.

83,842.—Edward Ford, San Francisco, Cal.—*Quartz Crusher.*—November 10, 1868.—A series of dies are placed one above another, and also a series of stamps acting against the dies by means of springs operated by cams and tappets, so that, as the ore is fed to one stamp, it is reduced enough to pass through a screen to the second one, where it is made still finer.

Claim.—The horizontally acting batteries A and B, when placed one above the other, and acting against the vertical dies E E, with the screen M, and feeding the ore from one to the other, the whole constructed and operating substantially as and for the purpose herein described.

83,843.—Norman N. Gordon, Rochester, N. Y., assignor to himself and Robert Boyd, same place.—*Thill Coupling.*—November 10, 1868.—The jack is formed with two journals projecting inwardly, having a space between them, and connected with a thill iron which has an eye with a narrow neck entering the space to couple the parts, the eye being held forward by packing adjusted by screws in the rear.

Claim.—1. The combination of the closed eye *d*, provided with narrow neck *f*, with the jaws *a a*, provided with the separated bearings or journals *b b*, the whole arranged as described, and operating in the manner and for the purpose specified.

2. In combination with the above, the sliding pressure plate *h*, provided with lugs, *i i*, which rest upon the jaws, the said plate serving to apply the rubber block to the bearing, through media of screws *k k*, as herein described.

83,844.—H. B. Goucher, Pecatonica, Ill.—*Wine or Cider Mill.*—November 10, 1868.—An improvement on S. A. Hebard's patent of September 1, 1863. The apron is held distended to its fullest width by means of continuous ropes placed by its sides in connection with elastic bands fixed to its edges and the ropes.

Claim.—The apron C, ropes C′, and elastic bands D, when arranged and employed substantially as and for the purpose set forth and described.

83,845.—Andrew J. Gove, San Francisco, Cal.—*Dredging Machine.*—November 10, 1868.

Claim.—The beam E, turning about the axis *c*, and the governing chain G G′ moving about the drum H, together with the excavator B, and its lever D, pivoted to the beam E at the point F; also the regulating chain I; the whole constructed and arranged substantially as and for the purpose described.

2. The beam E, and the lever D, with its excavator B, working in the well or opening *a*, substantially as and for the purpose herein described.

83,846.—William C. Grimes, Philadelphia, Pa.—*Pressure Blower.*—November 10, 1868.—Upon the coupled ends of two shafts are fixed two disks, to which are attached bellows, the inflexible sides of which are secured to each disk, and, as they revolve, the opposite sides of the bellows approach and recede. The air passes into and from the bellows through apertures in the disk, then into a semicircular chamber, and thence through a tube to the place required.

Claim.—1. A series of rotative bellows, *c c c*, in combination with the angled shafts B B, arranged to operate substantially as hereinbefore described, and for the purpose set forth.

2. The arrangement of a series of valveless bellows between two rotative disks or obtuse cones that revolve in planes inclined, the one to the other, as hereinbefore described, and for the purpose set forth.

3. The semicircular air chamber E, in combination with the disks D D′ and the bellows C C, arranged to operate as hereinbefore described, and for the purposes set forth.

83,847.—Andrew M. Hall, Falmouth, Me.—*Potato Digger.*—November 10, 1868.—A screen is hung on swinging arms pivoted to the rear end of the carriage frame, a vibrating screener being set in motion by a diagonal arm. An adjustable plate connected with the arms and screener is raised and lowered by a lever. The forward end of the screener is held by bent rods, the bent parts passing through holes in the screener so as to vibrate it.

Claim.—1. The combination of arms *h*, pivoted at *i* and *y*, plate *j*, clamps *k*, hand or lever piece *l*, to adjust the screener E, when desired, support the rear end of it, and still to allow of its vibrating motion, as herein set forth.

2. The bent rods *o*, when used to sustain the screen E, allow of its vibrating motion on the parts *p*, and also to aid in supporting the rear end of the plow D, as herein set forth.

3. The adjustable wings of the rotating fans F, as herein set forth.

4. Moving the fan F, and imparting a vibratory motion to the screen E, simultaneously, by means of the revolving axle *b*, by the devices and as herein set forth.

83,848.—J. R. Hamilton, M. D., Dexter, Me.—*Valve at the Ends of Tubes.*—November 10, 1868.—The valve is composed of an India-rubber tube in which is made an incision a little below the inside of the closed end, leaving one-third of the inner surface uncut. The valve holder has a cylindrical end to receive the open end of the valve, and below is made larger, and has a screw cut on its outer surface.

Claim.—1. The valve C, formed by the partial excision of the closed end of a hollow cylinder, substantially as described, and for the purposes herein set forth.

2. The valve holder, combined and arranged with the foregoing, as and for the purposes specified.

83,849.—E. B. Hamlin, St. Louis, Mo.—*Paint Can.*—November 10, 1868.—The lip of the reinforcing band is to be hammered down upon the can when put on. The cover is secured by wires attached at their lower ends to ear pieces and bent over the top.

Claim.—1. The reinforcing band B, when constructed with a lip, *b*, at its top edge, and attached to the can A, in the manner and for the purpose herein described and set forth.

2. The locking pieces E, when constructed and employed as and for the purpose herein shown and described.

83,850.—George Hammer, Philadelphia, Pa., assignor to himself and Alfred Butz, same place.—*Cork-cutting Machine.*—November 10, 1868.—The live spindle for rotating the cork presented to the knife is driven by means of a chain passing over pulleys, one of which is the driver, and receives motion through bevel wheels and a belt from the main shaft, and has a clutch actuated by a lever and arm. A rocking arm, actuated by an inclined plane and a spiral spring on a spindle, gives the sliding movements to the spindle for alternately grasping or releasing the corks.

Claim.—1. The sliding spindle frame D, when its live spindle J is actuated by the clutched chain pulley f^2, and clutch lever *k*, substantially as and for the purpose specified.

2. Operating the sliding spindle J′, by means of the double lever K, spring i^2, and inclined plane i^1, substantially in the manner and for the purpose described.

3. In combination with the cutting disk C, the sliding saddle P, when its vibrating head piece Q is, respectively to the stops *q q* and gauge O′, arranged substantially in the manner and for the purpose set forth.

4. The described combination of the mechanism for slicing the cork, and for tapered and cylindrical cutting, when the same are so arranged as to be simultaneously operated from one driving shaft, A, substantially as specified.

83,851.—E. K. Harvey, Quincy, Ohio.—*Corn Harvester.*—November 10, 1868.—The stalks are pressed down upon and cut by a saw by means of a reel, and, when cut, they are carried to the rear platform in a standing position by means of belts and guides.

Claim.—The belt F, guides *n n*, belts E E, and saw D, combined, arranged, and operating as set forth.

83,852.—Henry Havell, Newark, N. J.—*Machine for Bending Carpet-bag Frames.*—November 10, 1868; antedated October 24, 1868.—Ductile metal is wrapped around a former by means of a roller worked by rack wheels rotating around the former, bending and shaping the metal correspondingly.

Claim.—An improved machine for making traveling-bag frames, consisting of its several parts, herein described, combined and arranged substantially as described, and for the purposes set forth.

83,853.—Silas Hewit Seneca Falls, N. Y.—*Churn.*—November 10, 1868; antedated October 31, 1868.—Fixed to the inside of the churn are four V-shaped breakers. The dasher, made in the form of a frustum of a pyramid, has wings on its sides set obliquely to the shaft.

Claim.—1. The dasher A A′, when constructed substantially in the manner and for the purpose set forth.

2. The dasher, when constructed as described, in combination with the breakers *a a a a*, as specified.

3. The combination of the body, the frame B, the dasher A A′, and the breakers *a a a a*, as and for the purposes set forth.

83,854.—Samuel Holmes, 180 High Holborn, England.—*Vapor Burner.*—November 10, 1868; patented in England March 23, 1868.—A tube is connected with the lower end of the wick tube, thus forming a casing, which insulates the wick tube from the fluid, while a gas-tight joint between the wick tube and the sliding tube around it prevents the escape of the vapor.

Claim.—1. The combination of the insulating casing, the packed, gas-tight joint, and the valve, constructed to operate substantially as before described.

2. The combination, with the insulating casing, the packed, gas-tight joint, and the valve, of the lever i^{x} and screw i^{4}, substantially as shown in Fig. 2.

83,855.—Edwin J. Horner, Wilmington, Del.—*Car Spring.*—November 10, 1868.

Claim.—In combination with a suitable box, A, provided with an overlapping lid D, with inner pins I, the arrangement of the concentric springs *a*, *b*, and *d*, the three being graduated, and extending one above the other, as shown, and held in position by the pins I, for the purpose of suiting the light, medium, and heavy weight of a railroad car, all as shown and described.

83,856.—Samuel Hunter, Andrew Co., Mo.—*Sawing Machine.*—November 10, 1868.—Semicircular notches are cut at different points along the bottom of the upper plate and top of the lower plate. The upper plate is hinged, so that the driving shaft of the horse power may be introduced between the two plates, which afford a bearing for said shaft, the notches serving to accommodate the shaft, from whatever direction it may be presented.

Claim.—The plates *a a′*, the lower rigid, the upper pivoted, provided with the orifices *c c′*, adapted to varying the direction of the driving shaft, substantially as described.

83,857.—William W. Jeffery, Greenview, and Cyrus Snyder, Middletown, Ill.—*Automatic Car Coupling.*—November 10, 1868.—Consists of two hooks, having backward projecting ends, and so arranged that both hooks may be uncoupled by one movement of a double cam.

Claim.—The links A′ B′, constructed and arranged as described, with the pins C C, and double cam D in the draw heads, as and for the purpose set forth.

83,858.—Jacob O. Joyce, Dayton, Ohio.—*Pump.*—November 10, 1868.—At one side of the connection between the valve chamber and the air and piston cylinders the water flows into the bottom of the piston cylinder, and at the other side into the upper end through an elongation of the passage. A third passage connects the valve chamber directly with the air chamber. It is a combined suction and force pump.

Claim.—1. The combination and arrangement of he valves N, N′, and M′ with the openings U, V, and R, substantially as and for the purposes specified.

2. The combination and arrangement of the piston chamber B, piston or plunger D, tube or cylinder E, and discharge pipe G, with the flues or passages R, U, and V, substantially as specified.

3. The combination and arrangement of the air chamber A, piston cylinder B, piston or plunger D, tube or passage E, and pipe G, with the passages R, U, and V, valves N, N′, and M, with their opening T, substantially as and for the purposes specified.

83,859.—Benjamin D. Kay and Henry E. Kay, Fall River, Mass.—*Adjustable Box for Arbor, &c.*—November 10, 1868.—When, by use, the axis of the arbor is made to deviate from the center of the casing, it can be readjusted by turning the side screws, and thus setting the brasses.

Claim.—The brasses B^1, B^2, &c., hinged in the casing A, and arranged relatively to the arbor M, the hinge screws C, and adjusting screws D^1 D^2, or their equivalents, substantially as and for the purposes herein set forth.

83,860.—Richard A. Kendall and Thomas Kendall, Mineral Point, Wis.—*Railway-track Cleaner.*—Consists of tilting boards, tipping to each side, and operated by cams and rods, together with a hinged scraper at one end of the car, and a head-board similarly hinged at the other, all being connected and operating together to load and unload.

Claim.—A railroad-track clearer, composed of the shovel A, attached to the check board E by levers C C and rods D D, in combination with the hinged and divided platform, operated by the rods L, substantially as described, as and for the purposes specified.

83,861.—Isaac King, Germantown, Ohio.—*Beehive.*—November 10, 1868.—The lower two chambers, as well as the interior case of the upper one, have comb frames. The case is used in summer for rearing queens, and in the winter the bees room therein, the middle chamber being in the latter case removed, and the upper chamber mounted directly upon the lower.

Claim.—The combination of chamber A with removable chamber B and the interior box D and chamber C, without the interposition of a diaphragm, when the parts are constructed, ventilated, and arranged in the manner and for the purpose substantially as described.

83,862.—Richard Knott, Suisun, Cal.—*Horse-power Fastener.*—November 10, 1868.

Claim.—The arrangement of the frame A, with arms E E, attached to the timbers C C, the hooks G G, and adjusting screws I I for fastening the horse-power to the ground, retaining it in position, and leveling it, substantially as herein described.

83,863.—William H. Laubach, Philadelphia, Pa.—*Steam Generator.*—November 10, 1868.—Each series of vertical heating tubes constitutes one of the sections of which a boiler is made up. A single transverse pipe supplies the upper, horizontal feed tubes of all the sections, and each of said tubes supplies feed water to a series of vertical feed tubes inclosed within the tubes which are exposed to the fire. By this arrangement the water may be conveyed from the source of supply to the point where it is heated without being brought in contact with the steam.

Claim.—1. The combination of the transverse pipe *a*, the horizontal pipes *b*, and the inner vertical feed pipes *b c*, constructed substantially as described.

2. The feed pipes *b c*, in combination with the steam pipes *d*, and the outer tubes *e*, as set forth.

3. The construction of the horizontal water pipes *b*, and the horizontal steam pipes *d*, combined as herein described.

83,864.—Jacob Laux, Cleveland, Ohio.—*Sleigh Runner.*—November 10, 1868.—Designed for ready attachment to the body of a carriage. The plates, which join together the rail and standards of the runner, form seats or bearings for the axles of the carriage body, the axles being clamped thereto by a cap.

Claim.—1. The semi-disks or plates F, radial arms H H′, in combination with the sleigh runner, in the manner as and for the purpose specified.

2. The cap J′, provided with a groove, K′, as arranged, in combination with the plates J, for the purpose and in the manner set forth.

3. The center E, when constructed in two sections, in the manner substantially as set forth.

83,865.—David H. Lowe, Boston, Mass.—*Vapor Burner.*—November 10, 1868.—A tube conveys naphtha from the reservoir to the burner, and a non-conducting substance is applied to the tube near the base of the burner, in order that the heat shall not be communicated to the naphtha until it arrives at the mouth of the burner. The cap may be applied to the ordinary burner for the purpose of varying the form and number of jets.

Claim.—The reservoir A, burner C, perforated cap G, and non-conducting material D, when all are constructed and arranged to operate as shown and described.

83,866.—Alfred E. Lyman, Northampton, Mass.—*Weeding Hoe.*—November 10, 1868.—The blades are held by a bolt passing through the standard, and are prevented from moving by a pin on the lower flange fitting in one of the series of holes in the blades and holding them when properly adjusted. By means of an eccentric collar on the bolt the cutting point of the blade can be raised or lowered to cut deeper or shallower.

Claim.—The graduating expansive weeding hoe, (or weed cutter,) as substantially described and herein set forth.

83,867.—Peter McCollum, Fayette, Mo.—*Gate.*—November 10, 1868.—The gate is counterpoised, and raised or opened in a vertical plane. The lower part is hinged to the upper, so that it may be opened upward, to permit small stock to pass under the gate.

Claim.—The gate A A′, when arranged in two parts, hinged together, so as to allow the bottom part to be folded up or thrown open, as described.

83,868.—James T. McDougall, San Francisco, Cal.—*Apparatus for Collecting Precious Metals.*—November 10, 1868.—Improvement on his patent of January 7, 1868. The invention relates to the construction of the sluices for quartz mills, placer mining, &c.

Claim.—1. Vertical or inclining iron standards C C, with stems or bars D D, resting on a plate or plates of copper, B, or plates of some other metal having affinity for mercury, when used for collecting the precious metals, substantially as described.

2. Iron standards, with a supporting horizontal base, on the edge of which there are projections, E E, so that, when placed side by side, open spaces, F F, will be formed between the said standards, having one or more stems or bars projecting upward, all of which serve as riffles when placed in running water, substantially as and for the purpose specified.

3. Iron stands, with hollow projecting stems, H, containing bars, slips, or tubes of copper, H′, or other metal having affinity for mercury, communicating with the water outside through slits or openings, I I, substantially as described.

4. Copper resting on iron, the iron resting on copper, the copper having amalgamated, silvered, or mercurialized surfaces when placed in sluice boxes, or other apparatus, or equivalent device, designed to intercept and collect the precious metals moving with the water, in the manner and for the purposes herein specified.

5. The metallic obstructing and collecting surfaces, or equivalent device, separately or in combination, whether placed in sluice boxes, concentrators, or other apparatus for collecting the precious metals moving in running water, substantially as described.

83,869.—William McKee and Charles H. Jordan, Washington, D. C.—*Blind Hinge.*—November 10, 1868.—The latch is pivoted at one end to the window frame, and its other end carries a forked or notched head, which, by engagement with the shutter leaf of the hinge, renders the two parts of the hinge rigid in relation to each other, and thus holds the shutter firmly.

Claim.—The arrangement and combination of the latch D with its forked head H, when operated as herein described, and for the purpose set forth.

83,870.—W. A. McLaughlin, New York, N. Y.—*Machine for Cutting out Garments.*—November 10, 1868.—A feeding clamp is combined with a reciprocating cutter and with rollers, for presenting several thicknesses of material to the action of the cutter, so that pieces of cloth or muslin to be used in the manufacture of shirts, &c., may be cut accurately from the smoothly presented fabric.

Claim.—The slider *u* and clamping lever *t*, constructed as set forth, and actuated by the arms and rock shaft *q*, in combination with the follower *e′* and toggles *f*, actuated as specified, to operate the cutters when the feeding device is not acting upon the cloth, as set forth.

83,871.—E. G. McMillan, Norwalk, Ohio.—*Farm Fence.*—November 10, 1868.—The fence is sustained by the stakes and band, the former affording the requisite lateral support, and the latter binding the fence down. The ends of the band are secured to the stakes.

Claim.—The band C, cap I, and stakes D, as arranged in combination with the posts G and rails A, for the purpose and in the manner substantially as set forth.

83,872.—S. I. Merrill, Falmouth, Me., assignor to D. U. Young and M. C. Merrill, same place.—*Medical Plaster.*—November 10, 1868.—Resin, mutton tallow, beeswax, fir balsam, alcohol, and fir oil.

Claim.—The above-described compound of ingredients, in the named proportion, for the purposes set forth.

83,873.—Alexander Moncrieff, Woolwich, England.—*Gun Carriage.*—November 10, 1868; patented in England, June 4, 1866.—By the shifting of the fulcrum the statical momentum of the balance weight is made to preponderate so greatly over that of the gun that it will, when allowed free action, after the loading of the gun, raise the same into its original position.

Claim.—The before-described system of mounting and working ordnance, whereby the gun is supported upon a moving fulcrum, which, on the firing of the gun, is caused to shift nearer to the gun, and farther from a counter weight, spring, or other force, while at the same time the gun is brought into a lowered position for reloading, and is then automatically raised into position for firing.

83,874.—Samuel C. Moore, Boston, Mass.—*Lamp.*—November 10, 1868.—By traversing the upper section of the wick tube, the cap or cone may be set at a greater or less elevation, to adapt the cap to the size of the blaze and prevent smoking.

Claim.—1. The combination and arrangement of the cap H, cup G, hangers I, slide F, and tube B, all constructed and operating in the manner described.

2. So arranging the chimney supporters that the lower edge of the chimney shall extend below the level of the rim of the base plate, substantially as described and shown.

3. The hangers or supporters I, whether depending from the base plate or rising from the screw cap, when so arranged as to support the lower edge of the chimney below the rim of the base plate, as and for the purpose set forth.

83,875.—L. H. Morrill, West Cumberland, Me.—*Horse Rake.*—November 10, 1868.—The spring has a tendency to hold the clutch away from the pin on the axle, but by means of the lever the clutch may be forced into engagement with the pin, so that the clutch shall be rotated by the axle, and operate through the medium of the chain, &c., to elevate the rake teeth. An automatic device is employed to release the clutch and drop the teeth as soon as the windrow has been passed.

Claim.—The sliding clutch *c* on the axle *b*, together with its spring *f*, chain *i*, lever *g*, and pin *d*, set in the axle *b*, all as and for the purposes set forth, the clutch being attached to the axle at the center, to make the draught upon the cattle even when the rake head is being lifted.

83,876.—Henry B. Myer, Philadelphia, Pa.—*Gas Burner.*—November 10, 1868.—The lower tip has a side aperture through which the gas is allowed to flow when the tip is slightly raised or loosened in its socket; in this way an increased supply may be allowed to flow upward when desired. The internal valves are designed to prevent "blowing" under a strong head of gas.

Claim.—The combination of the upper tip J, metallic crown C, glass body A, valve K or K′, a lower tip with side aperture or apertures E″, therein, and base B, all constructed substantially as shown and described.

83,877.—Benjamin Nott, Albany, N. Y.—*Illuminator for Stoves, Grates, &c.*—November 10, 1868.—The metallic frame or case, constituting the door, is closed at front by a glass plate, behind which the glass cylinders are arranged. The case is opened to the fire, but may be closed, at its rear, by doors or dampers. The cylinders are designed to reflect the light and diffuse it throughout the room.

Claim. — 1. The within-described illuminator, hinged to a stove or other heater in the manner and answering the purpose of a door, as set forth.

2. The hollow glass cylinders F, having currents of air circulating through them, substantially as and for the purpose as set forth.

3. Using glass cylinders to transmit the light from a stove or heater, when protected by adjustable doors or dampers in rear thereof, as set forth.

4. The cylinders F, in combination with the plates D and E, or either of them, substantially as and for the purpose set forth.

5. The cylinders F, in combination with the doors C and C′, or either of them, substantially as set forth.

6. The combination of the cylinders F, plates D and E, or either of them, with the doors C and C′, or either of them, substantially as set forth.

7. The combination of the cylinders F, plates D and E, or either of them, doors C and C′ or either of them, with a stove, or door of a stove, substantially as set forth.

83,878.—William F. Osborn, Mount Pleasant, Pa.—*Harrow.*—November 10, 1868.—When the harrow is raised bodily, the lever handles interlock and hold the harrow teeth slightly above the ground. In turning up the sections of the harrow so as to make them rest upon the frame, for transportation, the lifting is done partly by the hands of the driver and partly by the levers. The tongue may be freed from a catch and allowed to swing round so that it shall act directly, and not by side strain, upon the harrow in turning it around.

Claim.—1. The combination substantially as set forth, with a harrow, of a supporting carriage, inclosed within the harrow, and carrying devices for lifting the harrow at the will of the driver.

2. The combination, substantially as set forth, with a supporting carriage and hinged harrow frame, of the interlocking lifting levers, for the purpose specified.

3. The combination, as set forth, with the supporting wheeled carriage carrying a seat for the driver, of the centrally hinged sectional harrow frame, arranged to fold upon the carriage for transportation, without interfering with the driver.

4. The combination, substantially as set forth, with the supporting carriage, of the pivoted tongue and locking catch, for the purpose specified.

83,879.—Joseph J. Pierce, Maquoketa, Iowa.—*Wagon Brake.*—November 10, 1868.—The brakes are applied by the partial rotation of a rock shaft which is mounted, parallel with the axle, upon the hounds, and connected to the brake bar by arms and rods. Springs retract the brakes and collars serve as stops.

Claim.—The combination of the lever K, arm F, slot and bolt H, and rack L, the rock shaft D, arms M M, rods N N, collars O O, springs R R, and bar P, the whole combined, arranged and operating as described.

83,880.—James Potter, Portland, Me.—*Railway Rail.*—November 10, 1868; antedated October 28, 1868.

Claim.—1. The chairs *d*, when secured to the sleepers *c*, as described, by bolts *f* and braces *i i′*, as and for the purposes set forth.

2. The base *e*, in combination with brases *i i′*, part *m*, and screw bolt *n*, as and for the purposes set forth.

3. The construction of the brace *i i′*, with projection *m* and slotted base *j j′*, operating as described, on the rail and chair.

4. The method of attaching the whole rail *a* to the chair, by means of base *e*, braces *i i′*, and clamps *s r t*, constructed and combined as herein set forth.

5. The combination of the divided rail *b* with the base *e*, chair *d*, clamps *v w*, and braces *i i′*, as and for the purposes set forth.

83,881.—Fitch Raymond and August Miller, Cleveland, Ohio.—*Gate.*—November 10, 1868.—The spring is so applied that in opening the gate it rises and thus passes over objects that might otherwise create obstruction.

Claim.—The spring F and hinges C, as constructed and arranged, in combination with the gate, for the purpose and in the manner specified.

83,882.—Robert Reilly, Baltimore, Md.—*Hydrant.*—November 10, 1868; antedated October 27, 1868.—The valve is unseated by depressing the plunger, bearing down upon the discharge nozzle. The cylinder steadies the plunger during its vertical movements, and the packing excludes water from the upper part of the main chamber. The entire hydrant, save the bottom section and pipe, may be readily unscrewed and withdrawn from its casing.

Claim.—1. The combination of the parts C D E, the two former capable of being firmly attached together, by the screw N, with the tubular plunger I, having the discharge pipe J, when so arranged as to enable the operator to detach and remove the hydrant from the pipe, by simply turning the handle of the plunger, substantially as described.

2. The combination of the packing L, and cylinder K, with the plunger I, walls C C, valve F, spring G, and stem H, substantially as and for the purpose described.

83,883.—Nathan P. Ryder, Boston, Mass.—*Hasp for Trunk Locks.*—November 10, 1868.—The eye, through which the lock bolt passes, is connected to the hasp in such a manner as to admit of its turning in the same, so that the cover of the trunk may be moved or shifted without danger of breaking the eye.

Claim.—The eye E, so attached to the hasp D as to allow a motion of the latter independently of the eye, as and for the purpose specified.

83,884.—Mrs. Mary Ann H. Saurman, Philadelphia, Pa.—*Bath-room Rack.*—November 10, 1868.—The receptacles are designed to hold articles for the toilet used in a bath-room.

Claim.—A series of receptacles, for the purpose described, arranged and applied, so that the water dripping from them will be conducted to a place of discharge, substantially as set forth.

83,885.—Frederick W. Schultz and John A. Wilson, Baltimore, Md.—*Steam Heater.*—November 19, 1868.—Heated water passes from the water back of a kitchen range into a boiler, and thence into the coils, from which it flows, when cooled, back to the boiler, to be again delivered to the range and heated. Air, supplied from a draught flue, is warmed by contact with the coils.

Claim.—1. In combination with the elevated water back, the boiler and steam-coils, made and arranged to operate substantially as and for the purpose set forth.

2. The screw-thread form of the coil pipes, when so arranged in series that the threads of the adjacent

pipes shall nearly or quite touch each other, and leave openings between them for the air to pass through and become heated, by impinging upon the extended surface, substantially as described.

3. In combination with a hot-water heater, the introduction of the cold air from the top or upper part of the house, by means of a turn cap, air flue, and valve, substantially as described.

4. The supplemental air flue and valve to furnish air momentarily, while the turn cap may be veering, substantially as described.

83,886.—Frederick Shaller, Hudson, N. Y.—*Gas Burner Attachment.*—November 10, 1868.—The flame being ramified in passing through the wire cone, is increased in volume, and thus made to answer the requirements of jewelers, dentists, and others who employ the blow-pipe for soldering.

Claim.—The wire cone or cap, A, in combination with the support *b* and spring *c*, constructed and employed substantially as and for the purpose set forth.

83,887.—James B. Stevenson, Bloomington, Ill.—*Return Drips for Pumps.*—November 10, 1868.—The return pipe, placed alongside of the pump stock, has hinged to it a funnel, which latter is held in position to catch the waste water by means of a spring, and is easily forced back by the bucket when water is wanted from the well.

Claim.—The combination of the funnel, conductor, pipe, hinge, guide, and spring, all arranged as described, and for the use specified.

83,888.—John Taggart, Boston, Mass.—*Machine for Spliting Leather.*—November 10, 1868.

Claim.—1. The combination of a set of feeding rollers, (provided with mechanism for operating them,) a series of rotary cutters, B, carrying frame, D, therefor, and mechanism for revolving such cutters, and imparting to the carrying frame a reciprocating rectilinear movement in order to cause such cutters to cut a sheet of leather into separate pieces or sheets, when it is forced against them by the action of the feeding rollers.

2. In such a combination, the employment or combination of a mechanism with the cutters, such as will cause those of them on one side of the medial vertical line of their sustaining frame to revolve in directions opposite to those in which the remainder of such cutters are made to revolve, the same being for the purpose of stretching the leather in opposite ways while the cutters may be in action on it to cut it.

3. The combination and arrangement of sharpening devices, *s s t*, or mechanism, with the feed rollers, and the series of rotary knives or cutters, their supporting carriage or frame, and mechanism for operating it and them, so as to cause them to revolve, and at the same time to move together back and forth in a manner to separate, when presented to them, a sheet of leather into two sheets, as described, the said sharpening devices or mechanism being made to effect the sharpening of the cutters while they may be in action, as stated.

4. In combination with the feed rollers, a series of rotary cutters, and their carrying frame or carriage, as explained, devices for moving such frame toward the feed rollers, from time to time, as the wear of the cutters may require.

5. In combination with the feed rollers, a series of rotary cutters and their carrying frame or carriage, as explained, the series of tapering deflectors, *i*, arranged with the cutters and their shafts, as set forth.

6. The arrangement and combination of the steadying and guide plate F, with the feed rollers, and series of rotary cutters, provided with mechanism for operating them, as described.

83,889.—O. H. Taylor, Brooklyn, N. Y., assignor to himself, John A. Parks, and Darius Allen, same place.—*Apparatus and Process for Roasting Coffee.*—November 10, 1868.—The coffee rests over a steam chamber, in which is placed a coiled pipe through which air is forced and escapes at the center into and through the coffee. A safety valve allows superabundant vapors to escape into a condenser, from whence they are carried to a receiver, whence the air passes off, and the condensed vapor is sprinkled over the mass of burnt coffee.

Claim.—1. The hot air pipe B, located in the steam chamber D, in connection with the coffee chamber A, substantially as shown and described, and for the purpose set forth.

2. The coffee chamber A, provided with a discharge or escape pipe, W, in which is a safety valve, H, the condensing pipe I, and condenser O, in connection with the receiver P, for the purpose herein set forth, and substantially as described.

3. Roasting coffee, in the manner substantially as herein described, and for the purposes set forth.

83,890.—John S. Thompson and Kelly Girvin, Brooklyn, N.Y.—*Machine for Sizing Yarn.*—November 10, 1868; antedated October 22, 1868.—The machine is moved over the yarn when stretched in the hand spinner's walk, the lower roller being forced against the upper one by a spring. A brush at the end of the box removes the surplus size from the yarn.

Claim.—The combination of rollers B and C, wedges *c*, spring D, brush E, and box A, provided with handles F, or their equivalents, when constructed arranged and operating substantially as and for the purpose set forth.

83,891.—Robert F. Tompkins and Hugh T. Williams, New York, N. Y.—*Mitering Machine.*—November 10, 1868.—Designed as an improvement on Robert F. Tompkins's patent of October 1, 1867.

Claim—1. The knives or cutters N, arranged in pairs, each pair fitted on a vertical shaft, D, in such manner that they may turn, rise, and fall thereon, as described, and for the purposes herein set forth.

2. The guides M, attached to the arm K and knives N, so as to move in connection with the knives, as described, and for the purpose desired.

83,892.—Charles N. Tyler and Augusta C. Tyler, Buffalo, N. Y.—*Crimping Pin.*—November 10, 1868.—The double tongue is secured in the object in which it is inserted by a slide.

Claim.—1. In combination with a hair pin, H, formed with a loop at its head, the double tongue *b*, substantially as described, and for purposes set forth.

2. In combination therewith, the clasp or slide '*a*', substantially as described, and for the purposes set forth.

3. The double tongue *b*, formed with the clasp or slide '*a*', substantially as described, and for the purposes set forth.

83,893.—S. W. H. Ward, New York, N. Y.—*Coating and Water-proofing Collars, Cuffs, and other Articles of Wearing Apparel.*—November 10, 1868.—The articles are coated with a composition of glue dissolved in milk and mixed with any pure white pigment.

Claim.—The described means of rendering collars, bosoms, cuffs, and other articles of wearing apparel composed of paper, or compounded of cloth and paper, water-proof.

83,894.—Frederick Willig, Joliet, Ill.—*Tenter Bar for Cloth.*—November 10, 1868.—The cloth is secured by hooks to a stationary strip on the end of the frame and to a movable strip on the other end, which latter connects with a pawl and ratchet attachment, by which the cloth is stretched longitudinally. It is then fastened to hooks on the side bar, and stretched in the same manner.

Claim.—The combination of the movable horizontal bars *a*, pawls *n*, ratchets *m*, pulleys *e*, and weights *d*, with cords attached, as described, perpendicular bars *f* and *g*, and windlass *i*, as described, constructed and arranged as and for the purposes set forth.

83,895.—John B. Wood, Jersey City, N. J., and John T. Chapman, Brooklyn, N.Y.—*Mode of Filling Marshes.*—November 10, 1868.—A flexible track supported by adjustable caps on the top of the piles, allows the track to be shifted for convenience in filling up the marsh.

Claim.—The removable and adjustable caps B, secured to piles A, in combination with the adjustable flexible track C, all constructed and arranged to operate in the manner substantially as and for the purpose herein set forth.

83,896.—William S. Wooton, Richmond, Ind.—*School Desk.*—November 10, 1868.

Claim.—1. A combined school desk and seat, when the seat and desk are made to turn on separate pivots, and are so connected together that, by raising the seat, the upper angle of the desk is made to fold into the angle of the seat, in the manner and for the purposes substantially as herein shown and described.

2. The combination of desk B, seat C, and the devices connecting them together, with the standards A and brace D, when said parts are constructed and arranged to operate in the manner substantially as herein set forth and shown.

83,897.—William Zimmerman, Quincy, Ill.—*Hammer.*—November 10, 1868.—Holes are made in the front and side of the hammer to insert the heads of nails, when they are to be driven in places higher than can be reached by hand. The various tools fit in a slit in the end of the handle and are held by a ring fitting over the tapering end of said handle.

Claim.—The above-described hammer or instrument, when adapted to the different uses and purposes described, and constructed to operate in the manner substantially as set forth.

83,898.—T. W. Akin, Patterson, N. Y.—*Milk Can.*—November 10, 1868.

Claim.—The bottom B, having a downward-projecting flange, when secured upon the inside of the milk can, above its lower edge, by the rivets *a*, the portion below said flange being strengthened by the interior ring riveted to the body of the can, as herein described, for the purpose specified.

83,899.—James Allison, Cincinnati, Ohio.—*Hydrant.*—November 10, 1868.—The lower portion of the discharge pipe carries a flexible valve on its end and has lateral openings to permit the ascent of water. Two packing rings have a waste opening between them which is coincident with an opening in the external pipe when the inlet valve is closed.

Claim.—The hollow perforated pipe H, provided with the elastic disk I, waste passage *d*, and elastic packing rings *e e'*, arranged to operate in connection with the cylinder F, having the waste passage *d*, as herein described, for the purpose specified.

83,900.—Joseph F. Applegate, New Albany, Ind.—*Wagon.*—November 10, 1868.—When the spring bolts are withdrawn from the perch pole, and the back wheels moved forward until the rollers supporting the bed are beneath the yoke on the coupling rod, the bed can be tilted and the load discharged.

Claim.—1. The arrangement of the coupling rod F, made in two pieces, connected by a screw swivel, *h*, and attached at the front end, either to the sand board or to the king bolt, and at the rear end provided with a yoke, *g*, which moves freely around the roller or shaft *f*, in boxes *i i*, on the inner sides of the two middle rails of the frame A, as and for the purposes herein set forth.

2. The tail gate G, provided with a strap, *k*, across its upper end, and with slides H H, extending below the wagon, which work on pieces I I, on the inner side of the frame A, substantially as and for the purposes herein set forth.

3. The arrangement of the spring bolts *e e'*, in combination with the perch pole C, sheath D, and hounds E E, all constructed and operating substantially as and for the purposes herein set forth.

83,901.—John S. Armstrong, Delaware, Ohio.—*Drive Well.*—November 10, 1868.—The well tube does not rotate while being forced down.

Claim.—The point C, having helical threads or feathers *b*, and fitted to rotate independently on the perforated end of the tube A, substantially as described, and for the purpose set forth.

83,902.—E. H. Ashcroft, Boston, Mass.—*Globe Valve for Steam and other Enginery.*—November 10, 1868.—The end of the valve in which tubing is inserted is bushed with composition to prevent said end from being split by the fitter in connecting the pipes.

Claim.—The construction of the bodies of globe, angle, check, and other valves, with bushing made of the ordinary composition of tin and copper, in their ends, substantially as herein described.

83,903.—Leonard Atwood, Norwich, Conn.—*Valve for Steam Engine.*—November 10, 1868.—The under side of the steam valve is cut away between its two parts, so that the steam in the steam chest will act upon the under side of said valve to counterbalance the downward pressure on its upper surface.

Claim.—1. Intermediate valves, between the steam chest and cylinder, to reverse the action of the engine, by changing the course of the steam after it has passed the main or induction and eduction valve, substantially as described.

2. The tumblers C and C', in combination with the steam passages *e*, *e'*, *f*, and *f'*, substantially as and for the purpose described.

3. The steam counterbalanced valve V, constructed as described, when arranged and operating in relation to plate D, substantially as described.

83,904.—Gustav Bernard Bachmann, Brooklyn, E. D., N. Y.—*Bottle-filling Apparatus.*—November 10, 1868.—The bottle is supported by its neck engaging with a bracket on the side of the receptacle, and its body resting on the long leg of a siphon which is hinged to the side of the receptacle and weighted to cause its short arm to come in contact with a seat, and prevent the flow of liquid when the bottle is removed.

Claim.—1. The arrangement of one or more hinged siphons, B, loaded by weight C, in combination with the brackets E and reservoir A, substantially as and for the purpose described.

2. The seats D, in combination with the hinged siphons B B, and reservoir A, substantially as and for the purpose set forth.

83,905.—Elias Barto, Tiffin, Ohio.—*Machine for Marking and Covering Corn.*—November 10, 1868.—Arms, provided with adjustable spades on one side and shovels on the other side, are placed on the outer ends of the axle and can be taken off and reversed.

Claim.—The reversible and adjustable arms C C, provided on one side with blocks D and shovel E, and on the other with cross bar L, on which are the adjustable blocks M M and spades N N, all constructed and operating substantially as and for the purposes herein set forth.

83,906.—William Bisbee and Fleming G. Hearn, Yreka, Cal.—*Self-adjusting Hook.*—November 10, 1868.—Improvement on his patent of December 31, 1867. A notch on the inner side of the head of the hook receives the staple in which the hook engages, and by moving the hook forward the staple is released from the notch.

Claim.—Forming a notch *b'*, upon the inner side of the head or heads of the hook B, substantially as herein shown and described, and for the purpose set forth.

83,907.—Timothy B. Blackstone, Chicago, Ill.—*Car Coupling.*—November 10, 1868.—The hollow buffers are provided with right and left hand screws for adjusting the distance between the cars. Beams applied to the end of the platforms to hold the latter on the same level and strengthen them.

Claim.—1. The hollow buffer E, constructed as described, in combination with the draw head F and heel G, connected by the right and left screw J, or other suitable device for drawing the head F back, substantially as specified.

2. The combination and arrangement of the hollow buffer E, the movably-connected draw head F, and heel G, with the springs H and H', substantially as specified.

3. The combination and arrangement of the beams D, applied to the platform or end of a car, with any suitable close-drawn coupling, substantially as and for the purposes specified.

83,908.—C. W. Bond, Biddeford, Me., assignor to himself and John A. Gould, same place.—*Bill File.*—November 10 1868.—The cards are numbered and lettered for indexes, and are designed to hold bills alphabetically arranged between the cards.

Claim.—The arrangement of the separate cards A, covers B, and elastic straps *a*, in the manner described, substantially as and for the purpose specified.

83,909.—Antoine Bonnaz, Paris, France, assignor to Emile Cornely, same place.—*Sewing Machine for Embroidering.*—November 10, 1868.—Designed to obviate the necessity of constantly turning the entire cloth in embroidering rounds or other intricate designs, by means of a universal feed motion which causes the cloth to move in any direction desired, the hooks or needles moving with the said feed motion so as not to change their relative position.

Claim.—1. The combination of a hook or needle with an oscillating looper B, and the universal-jointed feed bar *e*, when said three elements are connected to each other by a mechanism, substantially such as described, which permits of turning one or the other of said devices, without changing the relative positions of said parts to each other, for the purposes described.

2. The universal-jointed feed bar O^2, in combination with the collar *n*, sleeve R, and the operating parts which constitute the universal feed motion above described, constructed and arranged substantially as and for the purposes set forth.

3. The combination and arrangement of parts, by which the needle-bar carrier G is connected with the feed bar O^2, the looper B, and the crank S, for imparting the movements to the several parts of the machine.

4. The coupling and uncoupling device, substantially as herein described, for the purpose of disconnecting the parts and suddenly changing the feed, when used in combination with an embroidery machine, as described.

83,910.—Antoine Bonnaz, Paris, France, assignor to Emile Cornely, same place.—*Sewing Machine for Embroidering.*—November 10, 1868.—A universal feed motion causes the cloth to move in any direction desired, and connected with this motion, the hooks or needles, which make the stitch, move, so as not to change their relative positions, and thus the most intricate embroidery can be made at any speed desired without turning the cloth.

Claim.—1. The needle-bar carrier G, the universal-jointed feed bar O^2, as herein shown and described, and the horizontal looper shaft B, connected by means of the gearings Z Y, shaft W, gearing V U, shaft *z*, gearings *y x*, shaft N, and endless screws *l k*, substantially in the manner and for the purposes described.

2. The mechanism herein described, for connecting the shafts E D, consisting substantially of disk F, cam-grooved disk K′, lever G′, spring pawl F, rod D′, and lever B′, substantially as and for the purposes described.

83,911.—Louis W. Bosart, St. Marie, Ill.—*Portable Fence.*—November 10, 1868.—Wedges are driven through mortises in the post, and with the spaces between the rails of the panels between battens on their ends.

Claim.—The combination of the post B′, panels A, and wedges or keys F, substantially as shown and described.

83,912.—James Henry Bradford, Westborough, Mass.—*Stencil Plate for Numbering Barrels, &c.*—November 10. 1868.—A series of sectoral plates are pivoted to a common center pin, the upper one being provided with holes and the others with the nine digits at the curved outer end.

Claim.—The combination of two or more concentric curves of the nine digits, for marking numbers in horizontal or other right lines, substantially as described.

83,913.—B. H. Bradley, Waterbury, Conn.—*Picture Nail.*—November 10, 1868.—The outer end of the nail is bent at right angles to form a hook on which the socket of the head slips.

Claim.—A picture nail, having formed upon its end the hook C, and combined with the head D, constructed so as to be attached to the end, B, of the hook, substantially in the manner herein set forth.

83,914.—Charles C. Bradley, Brodhead, Wis.—*Draught Equalizer for Wagons.*—November 10, 1868.—Designed for three animals harnessed abreast.

Claim.—The combination and arrangement of the power equalizer, consisting of the duplicate poles, and the two whiffletrees, and two neck yokes, each with a long and a short arm, and the pulleys attached to the whiffletrees and poles, for the purposes herein set forth, or substantially the same.

83,915.—James Bramble and Albert H. Nirdlinger, Fort Wayne, Ind.—*Ticket Holder.*—November 10, 1868.—A metallic plate is formed with its edges turned over on three sides for holding a ticket, and having at the back a pointed spiral spring for fastening it to the dress.

Claim.—The ticket holder as constructed of a single metallic plate, provided with a fastening device, C, the edges of the said plate being bent over on three sides to form grooves *a*, adapted to receive the ticket, and the upper edge of the plate being cut out at *d d*, leaving a central tongue, *e*, which is bent over, substantially as herein shown and described, for the purpose specified.

83,916.—H. G. Brooks, New York, N. Y.—*Steam Generator.*—November 10, 1868.

Claim.—1. A boiler, in which the ends of the inner sheets of the laps or seams are prolonged beyond the fastening rivets, and chamfered or beveled, in the manner and for the purposes set forth.

2. The offset, flanged outwardly, in the manner described, on the end of the forward course of the cylinder portion of the boiler, in combination with the smoke arch or box, substantially as and for the purposes set forth.

83,917.—Charles Brown, Adrian, Mich., assignor to himself and Aaron G. Salmon, same place.—*Carriage.*—November 10, 1868.—Two side straps are connected near their upper ends with the corner irons of the stake and bolster by horizontal portions of metal cast in one piece.

Claim.—The use and manufacture of the side straps A and C, combined with the corner iron B by means of the portions *a* and *b*, substantially as set forth and described.

83,918.—C. D. Brown, Bainbridge, N. Y.—*Machine for Dressing Hop Poles.*—November 10, 1868.—The first tapering or sharpening cutter wheel has two ordinary and two beveled arms; the middle one has four cutter-bearing arms, the bevel of each being in an opposite direction from the adjacent ones, and the third has two beveled and two plain arms.

Claim.—The construction of the three wheels A, B, and C, and their combination with and arrangement on the shaft E, substantially as herein shown and described.

83,919.—Walter Buchanan, Jr., Main Prairie, Cal.—*Fastening Horse Powers to the Ground.*—November 10, 1868—Iron straps, on the under side of the beams, on each side of the machine, are bent at their ends to hook into the turned-up ends of an iron strap fixed on the bottom of the frame, which is cut away at the other side to rest on a beam, from the center of which rises a link keyed to the cross beam.

Claim.—The straps C and *b b*, and the beams D D and G, together with the links *g g* and *m*, with their keys, the whole constructed and operating substantially as and for the purpose herein described.

83,920.—William S. Bullock and Hugh Hanigan, Wilmington, Del.—*Dumping Wagon.*—November 10, 1868.—A heavy spring attached to the frame supporting the body curves outward toward the rear of she cart, and is fastened to the hind axle over which the load is dumped when the body tilts.

Claim.—The combination of the curved springs *s*, bed frame *a*, applied and operating in connection with the hind axle *d*, and body *m*, as herein shown and described, for the purposes specified.

83,921.—E. S. Burns, La Crosse, Wis.—*Tatting Shuttle Winder.*—November 10, 1868.—The driving wheel is connected with a pulley to which is attached a disk, on the opposite side of which latter is a light wire staple and a wire hook placed at the opposite ends of a diagonal line, so made as to project only far enough from its face to receive and hold the ends of one side of a shuttle.

Claim.—A machine for filling tatting shuttles, consisting of the rotating disk F, operated by the wheel C, and having the stationary loop *c*, and the pivoted loop or hook *d*, arranged thereon, all substantially as shown and described.

83,922.—Edward E. Burrough, Baltimore, Md.—*Apparatus for Making Extracts and Essences.*—November 10, 1868.—The apparatus consists of a stove, coiled water pipe, reservoir, heater, retort, and condenser, provided with supply and exhaust cocks, so that by means of plates and flanges the hot water may be applied to the bottom and walls of the vessel containing the materials for the extracts.

Claim.—1. The vessel D, constructed with the concave bottom *d*, plug *d'*, flanges *c c' e*, and cocks J K, all arranged to operate in the manner and for the purpose set forth.

2. The arrangement of said vessel with the vessels I and B, substantially as described.

3. The arrangement of said vessels D I B with the casing G, substantially as described.

4. The arrangement of the vessels D I B with the pipe E, substantially as described.

5. The arrangement of said vessels D I B and pipe E with the reservoir F and pipe *f*, substantially as described.

The arrangement of stove A, pipe E, vessels F G B I D, cocks J K L, plug *d'*, and flanges *c' e*, substantially as described and for the purposes specified.

83,923.—W. W. Burson, Rockford, Ill.—*Automatic Gate.*—November 10, 1868; antedated October 31, 1868.—So constructed as to enable the gate to be opened and closed by a person on horseback or in a carriage, without dismounting.

Claim.—1. The combination and arrangement of levers F F', pendants H H', connecting pieces I I', arm K, and ways D D', when the whole are constructed and operated substantially as and for the purpose set forth.

2. Constructing the way D or D' with suitable curve to overcome the gravity of swinging arm K, substantially as specified.

3. The combination and arrangement of the pendants H H', wire *m*, and posts E E', operating substantially as and for the purpose set forth.

83,924.—S. G. Cabell, Quincy, Ill., assignor to Flora B. Cabell, same place.—*Fluting Machine.*—November 10, 1868.—Relates to an arrangement of devices for supporting and adjusting the fluted hollow cylinders, the mode of covering their front ends, and providing flutes of a peculiar shape.

Claim.—1. The cap plate F, when constructed and arranged substantially as herein described, for the purpose of furnishing a support and bearing for the cylinders I, as set forth.

2. The combination of the lever C, bolt D, cross bar E, frame G, and cap plate F, when constructed and arranged to operate substantially as described and for the purpose set forth.

3. The cap L and bolt *g* when constructed and arranged to operate substantially as herein described and for the purpose set forth.

4. In combination with the cylinder H the cap M, on the end of the crank N, constructed substantially as herein described and for the purpose set forth.

5. In combination with the cylinders I the covers O and thimbles P, when constructed and arranged substantially as described and for the purpose set forth.

6. The fluting rolls for fluting machines, constructed with ogee fluting, of the form herein described, and shown in Figs. 4 and 5.

83,925.—M. S. Cahill, Boston, Mass.—*Bronze Dressing for Leather.*—November 10, 1868.

Claim.—A bronze dressing for leather, composed of spirit varnish and aniline fuschine, substantially as herein set forth, either with or or without the addition of aniline blue or bronzed powder, all as described, as a new article of manufacture.

83,926.—Stephen Q. Carey, Waxahatchie, Texas.—*Hay and Cotton Press.*—November 10, 1868.—The ends of the cord are fastened to tapering spirally-grooved pulleys on the ends of a shaft having at its middle a large pulley connected by a cord to a capstan.

Claim.—The arrangement, herein described, of the shaft J, pulleys I I', cord G, pulleys H H', platen P, press box B, capstan L, cord or chain N, and large flanged pulley K, all constructed and operating substantially as set forth.

83,927.—H. F. Cary, Boston, Mass.—*Machine for Applying Reinforcing Patches to Button-holes of Collars.*—November 10, 1868.

Claim.—1. The process herein described, of applying to paper, before or after its conversion into collars, reinforcing button-hole patches, automatically cut from gummed strips, continuously moistened in their passage through the machine, substantially as described.

2. In a machine for applying strengthening patches to button-holes of collars, a trough and guides, for moistening the cement-applied surface of the ribbon.

83,928.—Chandler P. Chapman, Madison, Wis.—*Wind Wheel.*—November 10, 1868.—Two steering vanes present surfaces of different area, turning loosely on axles arranged at right angles with each other, and so joined that when one is vertical, the other is horizontal, and connected and operated by a governor, by which the feathering of either, throwing the wheel to or from the wind, will regulate its power.

Claim.—The combination of the pivoted main vane F, connected to the governor by the rod *a*, with the pivoted auxiliary vane G, connected by rod *d* to the vane F, for the purpose of changing the position of the wheel to the wind, substantially as described.

83,929.—E. M. Chumard, Pittston, Pa.—*Brake for Vehicles.*—November 10, 1868.—The brake bar is secured to the hounds of the vehicle, and the brake blocks are operated by a lever attached to a crank shaft connected to the blocks at each end by short rods and arms. The brake blocks are retracted by means of a coiled spring on the crank shaft.

Claim.—The arrangement of the crank shaft D, rods *g g*, arms *x x*, slotted guides *m*, loops *h h*, and brake blocks I, with the brake bar C, and operated by the lever K and spring *l*, all constructed substantially as set forth.

83,930.—Gilbert H. Clemens, New York, N. Y.—*Elastic Calk for Boots and Shoes.*—November 10, 1868.

Claim.—1. A rubber heel calk, molded or made to fit on to a boot or shoe heel, in combination with the metallic disks C in the bottom of the same, all as and for the purpose specified.

2. A rubber heel calk, molded or made to fit on to a boot or shoe heel, in combination with a band or bands, strap or straps, to pass around the instep of the boot or shoe, for the purpose of holding the heel calk on the heel of the same, all as shown and described, and for the purpose set forth.

3. A rubber heel calk, molded or made to fit on to a boot or shoe heel, the bottom of which is made with a series of corrugations, constructed substantially as shown and described, and for the purpose specified.

4. The combination of a rubber heel calk, made to fit on the heel of a boot or shoe, with the strap or straps to hold it thereon, the metallic disk C, and the corrugations on the bottom of the calk, all substantially as shown and described, and for the purpose specified.

83,931.—Leander Clifton, Barry, Ill.—*Cultivator.*—November 10, 1868.—A safety spring clevis, which acts automatically, is formed on the forward part of the body. The handles may be adjusted to suit persons of different height and size.

Claim.—1. The safety detaching device for a cultivator plow, consisting of the curved piece B and spring piece H, substantially as and for the purposes described.

2. The cultivator, constructed of the iron bow A A′, curved piece B, spring piece H, ring I, pieces F F′, standards C C′, having bent and slotted ends *a a′*, rod D, nuts *b c*, brace K, and plows G G′, all combined, arranged, and operating as and for the purposes described.

83,932.—A. E. Colman, New York, N. Y.—*Scrubbing Brush.*—November 10, 1868.—The brush is made of rows of bristles and strips of India-rubber or gutta percha, alternating with each other, the strips being attached by glue to strips of wood in the bottom slab of the brush.

Claim.—As a new article of manufacture, the brush, made up of bristles and rubber, substantially as herein recited, and for the purposes set forth.

83,933.—Edward Coogan and Howard Miller, Washington, D. C.—*Tip for Chair Leg.*—November 10, 1868.—A tip of glass or polished steel is secured in a concavity in the leg, and fastened thereto by a shank passing through the eye of a bolt, and also entering a recess made in the leg. The shank also passes through a piece of rubber or other elastic material between the lower concave surface of the leg and upper convex surface of the tip.

Claim.—1. A tip for chairs and other articles of furniture, constructed substantially as shown and described.

2. The combination of the tips B, the elastic dividing plate F, and the leg or post A, substantially as and for the purpose shown and described.

3. The within-described method of securing the tips to the legs or posts of furniture, it being by means of the shank D, and recess or chamber E, and a suitable cement.

83,934.—Warren Cook, Arsenal, Pa.—*Rolling Pin.*—November 10, 1868.—The hollow part of the roller may be filled with flour and covered with a perforated cap and without the handle at that end it becomes a dredging box, and by removal of the handle at the other end a potato masher.

Claim.—The kitchen utensil, consisting of the cylinder A, having a cavity, B, the removable perforated cap *a*, and the detachable handles C D, provided respectively with bands *b d*, substantially as herein set forth and shown, for the purposes specified.

83,935.—Ph. Courvoisier, Paris, France.—*Fastener for Gloves.*—November 10, 1868.—A cap provided with a series of points has inside a bolt which catches in the neck of a button, also having points. The button moves in a slot, and is subjected to the action of a spring so as to fasten or release the cap.

Claim.—The cap A, provided with points *a*, and containing the spring bolt *b*, in combination with the button B, provided with points *e*, and with a neck *f*, substantially as and for the purpose described.

83,936.—Mark Crosby, Boston, Mass.—*Parlor Bedstead.*—November 10, 1868.—The sides and ends of the bedstead when closed form the ends and top of a case resembling a commode.

Claim.—1. In combination with the side pieces A and B, the hinged pieces F F′, when attached to the front part K, in such a manner as, when closed, to form a finish around the corner and across the side piece A, and underneath the projecting end of the top D, substantially in the manner shown and described, as and for the purposes set forth.

2. The combination with the base G, the end pieces A and B, having their ends rounded off so as to allow them to turn down into the base G, when closed, and when open to form a continuous side piece at the bottom, without the addition of intermediate pieces, substantially in the manner described, as and for the purposes set forth.

83,937.—Samuel L. Denney, Christiana, and John N. Chalfant, Chester County, Pa.—*Horse Rake.*—November 10, 1868.—A rod, connecting with a lever pivoted to the axle, slides in an arm which is also secured to the axle and is made to engage with serrations on a circular rim which is secured to the rake wheel, thus causing the rake teeth to be raised and discharge the hay. A curved stand causes the rod to be disengaged from the wheel when the said arm has been carried forward far enough to discharge the hay.

Claim.—1. The lever D, rod E, arm F, spring G, and curved stand H, when arranged to operate in the manner and for the purpose described.

2. The combination of the serrated rim I, rod E, lever D, arm F, spring G, and curved stand H, when operating in the manner and for the purpose set forth.

3. The combined tooth guard, guide, and pressure bearer, when constructed as here shown and described.

83,938.—J. B. Drake and William H. Hutson, Montoursville, Pa., assignors to themselves and J. Sill, same place.—*Derrick.*—November 10, 1868.—A supplemental rope secured to the main rope and to the inner end of the arm causes said arm to be raised, and is rotated by means of a spiral rod on the part over which it passes.

Claim.—1. The guide E, in combination with the arm D and the hoisting device, when operating substantially as set forth.

2. The combination of the rope J, having the two parts *j j′*, with the crane D, when operating substantially as described.

3. The arrangement of the sled-shaped base A with the above-described derrick, substantially as and for the purpose set forth.

4. The combination and arrangement of the sled A, mast C, crane D, rope J, *j j′*, guide F, pulleys G H I, and braces *c c c*, substantially as shown and described.

83,939.—Thomas R. Drummond, Hartford, Conn.—*Machine for Cutting Slate.*—November 10, 1868.—A cushion within the box knife, pressed downward by springs below the knife, first comes in contact with the slate on the cushioned bed and rises as the knife descends, allowing the slate to be adjusted between the beds so as not to be broken.

Claim.—1. A box knife, or a box with any number of knives attached, whereby a slate may be cut at one blow or descent of such knife or knives, substantially as herein described.

2. The elastic cushion K, pressed upon by either a weight or by springs, arranged substantially as and for the purposes set forth.

3. The elastic cushioned bed C, in combination with the shell *a*, arranged and operating substantially as and for the purpose specified.

4. The arrangement of the cutter box with two or more knives combined, so that a piece of slate may be cut at one blow, and either with or without punches at the corners.

83,940.—Frederick B. Dunton, Center Lincolnville, Me.—*Reefing and Furling Sails.*—November 10, 1868.—The sail may be furled or reefed from the deck.

Claim.—The arrangement of the setting ropes *i*, the center reefing brails, having reefing loops *l*, and passing through the eyelets *m n o*, the swiveled brailing rod, and the outer furling brails passing through the eyelets *j*, with reference to the sail A, yards B C, and jack stays *d e*, the hauling parts of each gear being united in sets, and arranged upon different sides of the mast, whereby the sail may be spread, furled, or reefed by hauling on any one set, as herein shown and described.

83,941.—Alfred Duvall, Baltimore, Md.—*Rotary Steam Engine.*—November 10, 1868.—Oil chambers are formed within the material composing the outer walls of the piston at its greatest diameter, rendering said walls elastic, so as to be forced in contact with the cylinder by means of set screws and springs. The end packing is adjusted by means of a spring and set screws bearing against the packing rings.

Claim.—1. An elliptical piston, constructed with elastic or yielding surfaces upon its points of greatest diameter, substantially as shown and described.

2. The chambers D D, formed within the piston, substantially as shown and described.

3. The combination of the elliptical piston B, the chambers D D, and the set screw H, bars G, and springs F, substantially as shown and described.

4. The arrangement of the packing rings K and I, rubber or elastic packing J, spring L, and set screw M, substantially as shown and described.

83,942.—JAMES B. EADS, St. Louis, Mo.—*Bridge.*—November 10, 1868.

Claim.—The levers D, forming a compensating expansion joint, with the horizontal members C, for the purpose of preventing the horizontal movement of the arch under the effect of a moving load on the bridge, when constructed and arranged as herein described.

83,943.—ALFRED EDMISTER, Westfield, Ohio.—*Corn Planter and Cultivator.*—November 10, 1868.—The plows are held in any position by means of one of the bars, from which the plows are suspended, resting in notches on a plate, which is pivoted to the frame.

Claim.—1. The combination and arrangement of the plows P and T, draught rods R V, and rods or bars Q U W S, with each other and with the frame A, to enable the machine to be conveniently adjusted for use as a planter or cultivator, substantially as herein shown and described, and for the purpose set forth.

2. The combination and arrangement of the seed box N, guard plate O, gauge wheel L, tube and valve plate *k*, disk J, vertical shaft H, operated from the axle B by means of the bevel-gear wheels F and G, and the conductor or spout M, with each other, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the pivoted notched bars Y, connecting rod Z and lever or handle X, with the bars or rods U Q W, from which the plows P and T are suspended, substantially as herein shown and described, and for the purpose set forth.

83,944.—WILLIAM H. EDWARDS, Moline, Ill.—*Joint and Coupling for Cultivators.*—November 10, 1868.—The shovel beams are provided with a coupling and joint, which permit them to move horizontally or vertically, so as to cultivate rows either shallow or deep, and of different widths.

Claim.—1. The joint and coupling for cultivators, consisting of the side plates G, the clasping plates *g*, and vertical rod H, all constructed and arranged substantially as herein described, and for the purpose set forth.

2. The method of connecting the vertical rod H to the frame of the cultivator by means of the eye bolt I and plate J, or their equivalents, substantially as herein described, for vertically and laterally adjusting the shovel beams, as set forth.

83,945.—JOHN ELBERTSON, Kirksville, Mo., assignor to himself and JESSE L. CONNOR, same place.—*Car Coupling.*—November 10, 1868.—Sliding bars are made to disconnect the cars, in case the latter run off the track, by pressing against each other, so as to crowd the levers backward, and thereby release the hook from the link. The cars are coupled by adjusting the respective bumpers to each other by means of a lever, which raises a hook that drops into the connecting link.

Claim.—1. The sliding bars P, with their springs *r* and pins *s*, in combination with the spring G, lever K and its attachments, herein described and shown, substantially as and for the purposes specified.

2. In combination with a bumper, having springs E attached thereto, as described, the plate D, lever F, guide *c*, bar H, springs *h*, and link *n*, constructed and arranged substantially as specified.

3. The lever L, with its ratchet and pawl, as described, bar *m*, and link *n*, when constructed, arranged and operating substantially as and for the purposes herein set forth.

83,946.—STEPHEN A. EMERY, Boston, Mass.—*Arithmetical Game.*—November 10, 1868.—Each player commences with a capital of 12. The balls are shot by means of a cue, and on striking the index of a subtraction, multiplication, or division circle it is thrown around to a number which is to be subtracted from, multiplied, or divided by a previous number remaining.

Claim.—The arrangement and construction, and mode of operation, as above described, by which instruction in the science of arithmetic is secured, in combination with an entertaining amusement.

83,947.—DANIEL FASIG, Rowsburg, Ohio.—*Lifting Jack and Cant Hook.*—November 10, 1868.—A hook, formed at the base of the front of the standard, is used for canting timber.

Claim.—The combination of the hook G, on the lower part of the forward edge or side of the standard B, with the slotted, adjustable lever C, substantially as herein shown and described, and for the purpose set forth.

83,948.—MICHAEL FLURSCHEIM, New York, N. Y., assignor to HENRY WHITTEMORE, Passaic, N. J.—*Fabric for Floor Covering, Wainscoting, &c.*—November 10, 1868.—Narrow strips of different kinds of wood are glued upon cloth. After the glue is dry the surface of the wood is planed down and finished.

Claim.—As a new article of manufacture, the herein-described portable wainscoting or floor covering, composed of narrow strips of wood, secured upon cloth or its equivalent, as described.

83,949.—DUNCAN FORBES, Chicago, Ill.—*Folding Lounge.*—November 10, 1868.—A two-part bolster is attached at the foot of a folding lounge and arranged to be folded between the mattresses when the lounge is closed.

Claim.—The combination of the two-part bolster D D, body H, and folding part A, the whole being arranged substantially as and for the purpose set forth.

83,950.—H. W. FULLER, Brooklyn, N. Y.—*Tuck Creaser for Sewing Machines.*—November 10, 1868; antedated May 11, 1868.—As a modification of the lever and base plate, formed of one piece, the lever is formed of wire, and at its point of attachment with the base plate is formed into a horizontal scroll spring, which is supported by a bolster on the base plate, to the front end of which latter a tongue plate is secured, on which the nipper points play. A scale is marked on the base plate to expedite the measurement for the width of the tuck.

Claim.—1. The lever which carries the nipping points, the spring, and the base plate, all formed of or from the same piece of metal, substantially as described.

2. The adjustable tongue plate and tongue, combined with its supporting plate, as specified.

3. The combination, with the base plate and supporting bolster, of the scroll spring, constructed as described, and for the purpose set forth.

4. The combination, with the adjustable tongue plate and tongue, of the graduated scale, whether on the cloth smoother or the base plate.

5. The combination, with the adjustable tongue plate and tongue and the graduated scale, of the nipping points D D′.

6. The gauge G, in combination with the clamping block and the tucker proper, constructed substantially as described, and all separately adjustable with respect to the needle of the sewing machine, and for the purposes set forth.

83,951.—JOHN GARSED and CLAYTON DENN, Frankford, Pa., assignors to JOHN GARSED.—*Machine for Packing Tea, Coffee, &c.*—November 10, 1868.—The substance to be packed is weighed and put into a box, to which a paper bag is attached, and which is placed in another box, and the treadle being forced down causes the plunger to turn directly over the box, and to descend and pack the article. The fork then forces up the inner box, feed from the bag, and contents, which are left in the outer box, after which the plunger is raised and swung round, and the inner box removed, and then, after further packing, folding, and sealing, the package is left on the fixed bottom, ready for removal.

Claim.—1. The plunger N, attached to or connected with a rising and falling shaft, I, placed within a tube, J, connected with a treadle, G, and arranged substantially as shown, so that the plunger will have a rising-and-falling and also a turning movement communicated to it, for the purpose herein set forth.

2. The rising and falling box B, with the fixed bottom plate F, in combination with the plunger N, all arranged to operate substantially in the manner as and for the purpose specified.

3. The box P, in combination with the fork Q, rising-and-falling box B, and plunger N, all arranged substantially in the manner as and for the purpose set forth.

83,952.—J. C. Gaston, Cincinnati, Ohio.—*Beehive.*—November 10, 1868.—A vertical passage surrounded by a water receptacle has, at right angles at its lower end, a wire-gauze passage, extending out from the body of the hive.

Claim.—In combination with a beehive, the angular passage way *a d*, and receptacle *c*, arranged and used in the manner described.

83,953.—Joseph Gecmen, Chicago, Ill., assignor to himself and Leopold J. Kadish, same place.—*Beer Cooler.*—November 10, 1868.—A trough, extending across one end of the apparatus, is divided lengthwise by a strainer, through which the beer, flowing in the shallow channels of corrugated plates passes and goes out at holes below, while a current of cold air, entering at an opening in the inclosure, passes in an opposite direction through the plate and cools it.

Claim.—1. A series of corrugated pans, constructed and arranged substantially in the manner and for the purpose shown and described.

2. In combination with a series of pans, arranged as specified, a trough, B, provided with a strainer, *b*, and outlets *a*, arranged substantially in the manner and for the purposes described and set forth.

3. The opening L in the inclosure A, below the series of cooling pans, for the purposes specified.

83,954.—Jason C. Gillett, Holly, Mich.—*Sawing Machine.*—November 10, 1868.—As the disk revolves to the right it carries the crank, which, pressing on the side of the slot, impels the crosshead to the right, and after a half revolution, also in the opposite direction, gives a rapid motion to the slide and the saw, which is lifted from the cut by bearing on the hand lever, by which means the tilting lever is operated.

Claim.—1. The arrangement of the driving pulley A with reference to the platform upon which the operator stands, and to the levers H H^1 and connecting link H^2, substantially as shown and described.

2. The arrangement of the driving pulley A, crank shaft, with its disk C, crank D, and crosshead E, for giving motion to the saw, substantially as shown and described.

83,955.—Edward L. Gilman and Theophilus S. Smith, Somerville, Mass.—*Tobacco Cutter.*—November 10, 1868.—The cutter is held up by springs and worked up and down in grooves in the box, by rods passing through the cover and united at top by a bar or cap.

Claim.—A tobacco cutter, constructed and operating substantially as shown and described, that is to say, with the knife D, the rods *e*, springs *g*, cap F, and tray C, in combination with the box A, and either with or without the match box J.

83,956.—Henry H. Gridley, Auburn, N. Y.—*Swage for Saws.*—November 10, 1868.—A triangular piece is cut out where the two lips meet, so that the cutting edge of the saw tooth, when upset, shall be a very little higher relatively to the periphery line of the tooth than it was before it was worn, and, when upset and filed to a sharp edge, shall be as high as that line.

Claim.—1. The raising of the cutting edge of the saw tooth by means of the swage *c*, herein described, and for the purpose set forth.

2. The swage for up-setting saw teeth, having the triangle *c* formed thereon, as described, and for the purpose set forth.

83,957.—Benjamin Handforth, Chicago, Ill.—*Curtain Fixture.*—November 10, 1868.

Claim.—Providing one end of a curtain roller with an angular spindle, to operate in connection with an angular bearing, or with pins, to operate in connection with stops, upon the support for the roller, so that said roller can be locked or unlocked by a longitudinal movement thereof, substantially as herein described.

83,958.—Cyrus H. Hardy, Bath, Me., assignor to himself and B. L. White, same place.—*Saw Horse.*—November 10, 1868.—A curved clamp or jaw is pivoted and slides on the upper round and between the frames of a saw horse, its lower bifurcated end fitting over the upper round or brace of a frame or lever, which is pivoted on the brace as its center, and has at its lower end a round for the foot to operate the clamp.

Claim.—The clamp C, herein described, sliding longitudinally between the frames A B of a saw horse, in combination with the frame or lever D, by which it is operated.

83,959.—Charles Hayden, Collinsville, Conn.—*Nut Cracker.*—November 10, 1868.—One of the jaws is provided with a clamp to attach the device to a table, and between the jaws are two different points of application for nuts of different sizes.

Claim.—The nut cracker, consisting of the stationary jaw A and pivoted lever B, when the former is made with extensions *a b* D, and provided with the clamping screw C, substantially as herein shown and described.

83,960.—Julius S. Heator, Ovid, Mich.—*Revolving Table.*—November 10, 1868.—A circular table top is fixed on a table and arranged with a metal box having a conical recess, tube, screw thread, and adjustable cone nut, so that it can be raised or lowered to allow dishes to be placed under it, while a caster is placed in the center with similar devices, and can be raised, lowered, or turned independently of the table.

Claim.—The arrangement of the metal box socket B, the tube C, cone nut *c*, and rotating table D, in combination with the caster E, as constructed, operating substantially as and for the purposes herein set forth.

83,961.—George H. Henfield, San Francisco, Cal.—*Journal Box.*—November 10, 1868.—To prevent endwise and lateral movement of the frame, and keep it firmly in place, the ends are dovetailed in recesses in the shell, the outer projecting end of which is strengthened by corner pieces connecting the sides and top, to prevent its breaking from excessive pressure.

Claim.—1. The frame C, having a center bar, *b*, secured to the shell A by pins *d d*, and dovetailed ends in the recesses *h h*, in combination with the soft metal bearings B B, separated by the single longitudinal bar b', substantially as described.

2. The frame C, surrounding and separating longitudinally the soft metal bearings B B, the latter secured to the shell A by pins *e*, and the former by pins *d*, and dovetail recesses *h h*, protected and strengthened by the corner pieces *k k*, cast upon the shell, as herein shown and described.

83,962.—H. M. Hickman and B. G. Devoe, Vandalia, Ill.—*Harrow.*—November 10, 1868.—The beams that hold the teeth are attached at their inner ends to a hexagonal central hub of iron, provided with mortises in each of the six sides. A curved metallic rod attached to the teeth bars is covered with rubber to prevent injury to the young trees.

Claim.—1. The central hub A, constructed substantially as described and set forth.

2. The combination of the hub A, and the beams B, substantially as illustrated.

3. The hub A, the standard C, the draw bar D, the brace F, and the spring brace E, all arranged substantially as described and set forth.

4. The covering I, of rubber or other suitable substance, upon the rod G, as and for the purposes set forth.

83,963.—W. O. Hickok and George W. Reisinger, Harrisburg, Pa.—*Tool Holder for Lathes.*—November 10, 1868.

Claim.—The employment, in combination with the improved tool holder, herein described, and a screw cutting tool, narrowing from the top downward, of a tapered wedge, *c*, for adjusting the tool to cut threads of a right or left pitch, substantially as and for the purpose described.

83,964.—Francis H. Hill, Chicago, Ill.—*Coffin.*—November 10, 1868.—A separate movable frame for the glass, in the opening in the top of the coffin, can be depressed and moved back in a groove in the lid, or the frame may be opened upward on a hinge, the object being to gain access to the face of the corpse without removing the glass.

Claim.—1. So connecting and arranging a movable glass frame, B, in a coffin lid that the same may be depressed and moved down beneath the lid, and restored to place again, substantially as herein described.

2. So hinging or connecting said movable frame B with and in the coffin lid, that the same may be opened upward and closed again, substantially as specified and set forth.

3. So connecting and arranging the movable frame B with and in the coffin lid, that it may be moved back beneath the lid, or opened upward, substantially as and for the purposes shown and described.

83,965.—Timothy Holland, New York, N. Y.—*Lubricator.*—November 10, 1868.—A projecting glass rib on the neck of the oil holder prevents the metallic collar fitting over it from turning when screwed into the oiler cup.

Claim.—The combination of the rib *j* on the neck of the oil holder D and the collar *g*, formed and applied as described, substantially as and for the purposes set forth.

83,966.— D. D. Howe, Beaver Dam, Wis.—*Railway Car Coupling.*—November 10, 1868.—The upper part of the buffer head, together with a plunger to push up the hook when the cars are to be uncoupled, receive a vertical motion from a lever suspended from the framing and a spring, which latter causes the movable part of the buffer head to descend after admitting or releasing the coupling hooks.

Claim.—The buffer B, constructed, as described, of the fixed part C and the movable part D, operated by the spring bolt H, yoke E, and lever F, whereby the mouth of said buffer is expanded or contracted, substantially as described, for the purpose specified.

83,967.—Levi T. Howell, Camden, N. J., assignor to himself, William Sharp, and Smith Fisher, same place.—*Retaining Device for Doors, &c.*—November 10, 1868.—The ends of the bent plate bear upon the plates of the hinge, while the leg on the projection rests against the inner side of the hinge and retains the fastening.

Claim.—A retaining device, consisting of a curved plate, A, its projection *a* and lug *b* extending from the projection parallel to the plate, all substantially as and for the purpose described.

83,968.—Charles Jarecki, Erie, Pa., assignor to H. Jarecki & Co., same place.—*Piston for Deep Well Pump.*—November 10, 1868.

Claim.—The steel valve seat D, provided with the concentric collar, *e*, adapted to be clamped between the shoulder *f* of the detachable crown A, and the top of the section B, whereby the valve is held rigidly in place, as herein shown and described, for the purpose specified.

83,969.—Godfrey Jepson, Chelsea, Mass., assignor to himself and Thomas F. Bryan, same place.—*Double-walled Pitcher.*—November 10, 1868.—A hollow screw at the spout is suitably packed and secures the sides of the walls together.

Claim.—The arrangement of the hollow flanged screw E, hollow flanged nut F, and washer W, with the outer and inner walls of a double-walled pitcher, substantially as and for the purpose specified.

83,970.—James L. Johnson and J. Wilson Foust, Evansburg, Pa.—*Hand Spinning Machine.*—November 10, 1868.—The tension pulley is supported in a vibrating frame, which is secured to a shaft provided with a ratchet wheel and pawl for regulating the tension.

Claim.—The combination of pulley C, having a vibrating support, the ratchet *a*, pawl *b*, and the pulley D, having an adjustable support, all constructed, arranged, and operating substantially as and for the purpose described.

83,971.—Edgar A. Jones and Julius A. Bidwell, Sturgis, Mich.—*Valve for Melodeons.*—November 10, 1868.—The valve is pressed against the seat by a spring provided with a wedge-shaped bearer which is slotted to fit over a staple on the valve which prevents lateral movement. The rear end of this spring is secured, and can be adjusted to give greater pressure, by means of a screw.

Claim.—1. The bearer C, constructed as described, with its lower edge slotted to fit over and play upon the staple *h* in the under side of the valve, whereby the lateral movement of the bearer is prevented, as herein described, for the purpose specified.

2. The spring D, when formed as described, together with the regulating screw E, when employed for the purposes and uses set forth.

83,972.—Gilbert D. Jones, Brooklyn, E. D., N. Y.—*Machine for Cutting Sugar into Blocks.*—November 10, 1868.—After the sheet has been pierced by the projections on the two plates, the lower plate is released from the wiper operating it, and drops, thus allowing the sugar to fall. A hammer descends and, stripping the upper plate, disengages what remains on that plate.

Claim.—1. The combination of the dividers or pins *b* and *e*, arranged to project at suitable distances apart from surfaces or tables, in lines corresponding to the desired profile of the blocks to be produced, and made to approach and recede from each other at intervals, to effect splitting of the slab into blocks of uniform size, substantially as herein set forth.

2. The table D, provided with dividers or cutters on its face, and hinged or arranged to swing relatively to a table, E, also provided with dividers or cutters for operation in concert therewith, essentially as specified.

3. The combination, with the table E, provided with dividers or cutters, and arranged to have up and down play or motion, of a hammer, I, operating at intervals to strike and depress said table, essentially as specified.

4. The combination, with the hammer I, of a spring, N, arranged to give impetus to the hammer at starting, for action in concert with or on the table E, substantially as described.

83,973.—Simon Kaufman, Fairburg, Ill.—*Stay for Collars.*—November 10, 1868.—A flexible, detachable stay and fastening band supports the collar and prevents it from being injured by perspiration.

Claim.—The detachable inner stay or lining B, and the narrow detachable band C, applied to the collar A as described and shown, for the purposes specified.

83,974.—Walter Knaggs, Clarendon, Jamaica.—*Manufacture of Sugar.*—November 10, 1868; antedated November 7, 1868.—The cane juice is treated with sulphurous acid as it leaves the mill; it is then boiled, and has carbonate of lime and manganic acid added to it. After the boiling has ceased the cane juice is drawn into a subsiding vessel, and milk of lime is added. The clear liquid is then evaporated. The double cover and its appendages enable the evaporation to be conducted without subjecting the juice to contact with the air.

Claim.—1. The combined processes for manufacturing sugar herein shown and described.

2. The application of a combination of manganese and oxygen, (combined or uncombined with a base.)

3. The double cover to the evaporating tray, composed of the curved outer case J and the inner inclined plates B, constructed and arranged as described, for the purpose specified.

83,975.—JACOB M. KNEPLEY, Jersey Shore, Pa. —*Harvester.*—November 10, 1868.—This contrivance keeps taut the chain that drives the reel, but permits the reel to rise and fall with the movements of the platform without breaking the chain.

Claim.—The independent spring arms *l* and *l′*, having the pulleys *e* attached thereto, and arranged to operate in connection with the chain that drives the reel of a harvester, substantially as described.

83,976.—H. T. LA ROY, Richmond, Ill.—*Machine for Bundling Wool.*—November 10, 1868.—The operator, by applying his foot to the lever, can fold the movable sections into a position to compress the wool into a compact bundle. Then, by means of the yoke, which is provided with a hasp, he can secure the sections in that position until the binding cord is tied.

Claim.—The arrangement, herein described, of the hinged sections *c d*, the fixed sections *a b*, connecting rods E, four-armed frame B, guide rods D, the belt F, lever G, and yoke H, all operating as shown, for the purpose specified.

83,977.—JACOB LATTA and LEWIS SNYDER, Bethlehem Center, N. Y.—*Sled Brake.*—November 10, 1868.—The draught tongue is fixed to the center of a bar which has at its ends loops whereby the tongue is attached to the sled. Hence the tongue and its cross bar have a limited forward and backward movement independently of the sled, and this movement is made available in applying the brakes in descending a slope, said movable cross bar being connected to the brakes by rods.

Claim.—The curved levers I^x I^x, in combination with the sliding bar F and fixed rod D, whereby, as the longer lever is raised, the curved ends of both levers are forced between the bars F D to hold them in a fixed position, and under the levers H H, inoperative, as herein shown and described.

83,978.—JOSEPH LAUBEREAU, Paris, France, assignor to JOSEPH DE SUSINI, same place.—*Toy Watch.*—November 10, 1868.—A toy watch, moved by the tension of an elastic string, governed by a self-acting brake.

Claim.—The combination of the pulleys *f g*, elastic string *d*, and friction lever *a e*, with each other and with the watch case, substantially as described, for the purpose specified.

83,979.—E. B. LAWRENCE and C. QUICK, Lakeville, Ohio.—*Corn Planter.*—November 10, 1868.—The seed slide is actuated by one of the wheels, but sometimes, after turning the machine, the wheel is not in position to give an impulse to the slide when the proper moment for dropping has arrived; hence levers and a connecting rod are employed to enable the slide to be operated by hand when desired.

Claim.—1. The seed slide G, provided with the arm *g*, arranged to be operated by the cams *b* upon the wheels C, substantially as described.

2. The stops or lugs *d*, secured to the wheel C, in combination with the lock bar K, arranged to operate as described.

3. The combination of the slide G and the levers H and I, arranged as shown and described.

83,980.—JAMES S. LEVER, Philadelphia, Pa., assignor to ROSS C. BROWNING, Orange, N. J.—*Bookbinding.*—November 10, 1868.—The pressure is applied by India-rubber rollers instead of the usual hand smooth surface tool.

Claim.—The within-described means or method for cementing the muslin or other surface material upon the boards of book covers.

83,981.—WARREN LYON, New York, N. Y.—*Punching Machine.*—November 10, 1868.—Designed as a more advantageous instrumentality, for operating the sliding punch, than the usual cam or eccentric, "it being possible, for a given stroke, to work much closer to the working center," (*i e*, the pivotal center of the sector,) and secure a more powerful action.

Claim.—The construction and arrangement, hereinbefore described, of the lever J and pinion I, slotted toothed sector H, pitman G, punch stock E, guide F, and frame A, for the purpose set forth.

83,982.—ALEXANDER C. MARTIN and WILLIAM RITCHIE, Hamilton, Ohio.—*Head Block.*—November 10, 1868.—The beveled rings on the rotary shaft actuate the block in which the pawls are jointed, and the pawls (being released from the shifting mechanism) act in regular succession against the teeth of racks, and thus give motion to the knee of the feeding mechanism.

Claim.—1. The arrangement of the block L, loosely on the shaft G, between the beveled rings N O, to produce a traversing or feeding movement, substantially as and for the purpose described.

2. The combination of the four segmental portions *m* and the portion *l* of block L with the shaft G, substantially as and for the purpose specified.

3. One or more pawls, with an oscillating block, in combination with the rotary shaft G, substantially as and for the purpose described.

4. The pawl-shifting mechanism, consisting of the ferrule *e* and plate *g*, in combination with the pawls *z*, operating in the manner and for the purpose described.

5. The ring or ferrule *e*, springs *x*, and plate *g*, in combination with pawls *z*, in the manner and for the purpose described.

83,983.—WALTER K. MARVIN, New York, N. Y.—*Sash Fastener.*—November 10, 1868.—The two plates are let into the jamb and are adapted to slide one upon the other. The plates may be simultaneously actuated by the cams so as to cause their jaws to bind the respective sashes against the dividing strip at the meeting rails. One sash only may be thus held, in which case one of the jaws is dispensed with.

Claim.—1. A sash fastener, composed of one or more sliding jaws, or equivalent compressing and holding devices, in combination with a double cam or eccentric, shaft, and handle for actuating said jaw or jaws, substantially as and for the purposes set forth.

2. The herein-described construction and arrangement of the two jawed sash-fastening plates, placed together and recessed to receive the double cam or eccentric, in the manner specified, the under or lower plate being slotted to receive the end of the cam shaft, and to admit of the movement of the same in the direction of the length of the said plate, as and for the purposes set forth.

83,984.—NORMAN MCLEOD, Clio, S. C.—*Feed Cutter.*—November 10, 1868.—The straw, as it falls from the cutters, is caught in the circular screen, and, being swept around by the arms, is delivered in a compact heap through the spout, thus preventing the grain from being wasted.

Claim.—1. The knives L L, when made in the shape described, and attached to the arms M M, in the manner set forth.

2. The circular screen B, composed of two parts, the upper one of which is provided with a spout P, and hinged to the lower portion, which is rigidly secured to the frame A, all constructed in the manner and for the purpose set forth.

3. The combination of the arm I with the ratchet wheel J, pawl K, feed roll E, and knives L L, whereby the said parts are made to operate together, substantially as and for the purpose set forth.

4. The arrangement and combination of the shafts C C, cutters M L, screen B, feed table F, rolls E G, ratchet J, pawl K, and arm I, substantially as described and shown.

83,985.—WILLIAM MERRELL, Kent, Ohio.—*Iron Fence Post.*—November 10, 1868.—A flat metallic fence post, with groups of studs to receive and support the rails.

Claim.—The fence post A, formed with groups of studs *a a a a a*, holes *c*, and wings C, all substantially as and for the purpose set forth.

83,986.—Isaac T. Meyer and James F. J. Gunning, New York, N. Y.—*Hoop Skirt.*—November 10, 1868.

Claim.—1. The combination, with the hoop skirt, of an adjustable bustle, made up of springs so hinged, pivoted, or connected at their ends to the skirt, and provided with straps uniting them to the waistband at points or in lines intermediate of the ends of the springs, as that said bustle, by letting out or taking in said straps, may be readily raised or lowered, substantially as and for the purpose herein set forth.

2. The trail C, made up of springs hinged, pivoted, or otherwise connected, at their ends, to the skirt, in such manner as that said trail may, at pleasure, be let down, or thrown up and back out of the way, essentially as shown and described.

83,987.—Charles Morgan, Waumandee, Wis. —*Hames Fastening.*—November 10, 1868.—The hames are locked by inserting the metal bar within he socket and the recess, thus setting the slide.

Claim.—The hames fastener, constructed as described of the bar A, provided with a socket, C, to receive the end of the bar F, carrying the hook B, which bar is held in place by the slide D, all operating as described, whereby, when the bar F is released by the slide, the hooks are detached from each other, as herein shown and described.

83,988.—Issacher Morris, Clinton, Ill.—*Fire Kindler.*—November 10, 1868.—A small quantity of benzole, or other inflammable liquid, is poured into the cup, which spreads through the pumice stone, and a match being applied to the top of the burner, it is held close to the grate bars or draught bar of a stove.

Claim.—The burner B, made conical, or tapering toward its orifice, for the purpose described, in combination with the cup C, sack *c*, containing pumice stone, or other porous substances, and handle A, substantially as described.

83,989.—Louis Muller and Cornelius Hood, Hartford, Conn.—*Shutter Worker.*—November 10, 1868.—Parts of the hinge of the window blind are so arranged as to enable the blind to be opened and closed by a handle on the inside, and also secured in either position. The slats may also be operated from the inside.

Claim.—1. The combination of the box or casing *f* with the wheels *d* and *e* and the pivot *g*, all arranged as described.

2. The combination and arrangement of the button or arm *l*, having the connecting rod and handle *k*, with the lever *m*, for the purpose of securing the blind or shutter when closed, and for operating the slats, substantially as described.

83,990.—Henry B. Meyer, Philadelphia, Pa. —*Regulating Gas Burner.*—November 10, 1868.

Claim.—1. The glass body B, Fig. 2, having a small aperture in its bottom, in the manner and for the purposes set forth.

2. The glass body B, with its small aperture at the bottom, for gauging the gas, in combination with the metallic base A, and lava or other non-metallic tip C, all constructed and arranged as and for the purpose specified.

3. In combination with the above-described burner, the wire gauze or other fibrous valve, resting upon the small aperture, at the base of the glass body B, as and for the purpose set forth.

83,991.—J. K. Nelson, Green Point, N. Y.—*Divided Car Axle.*—November 10, 1868.—The axle divided crosswise has its inner ends supported in a lubricating box which clasps firmly one of the ends and revolves with it; the other end turns loosely in the box, arranged within which are removable collars, and fitted in a groove cut within it is a collar of yielding material.

Claim.—The divided car axle A, constructed as described, with the revolving self-lubricating box C, removable collars *e*, and flexible collar *f*, substantially as and for the purpose herein set forth.

83,992.—Charles F. Noftz, Toledo, Ohio.—*Potato and Corn Plow.*—November 10, 1868.

Claim.—1. The combination of the screw K, nut *b*, and jointed levers J J, for adjusting the position of the wings I I, substantially as and for the purpose herein shown and described.

2. A plow, consisting of the combination of the beam A, handle D, standard F, arrow-head share H, adjustable wings I I, adjustable coulter B, and adjustable draught chain C, that works in the up-and-down adjustable notched plate L, all made, arranged, and operating substantially as and for the purpose herein shown and described.

83,993.—James K. P. Nourse, West Medway, Mass.—*Boiler Feed-water Regulator.*—November 10, 1868.

Claim.—1. The combination, with the vessel C and float F, of the pump P, the bent pipe *d* and its gate *g*, contained within the said vessel, and connected to the said float, the whole being arranged substantially as herein shown and specified.

2. In combination with the arrangement of parts claimed in the preceding clause, the steam whistle H, pipe *a*, and lever *h*, connected with the float F, as specified, the whole being arranged substantially as herein shown and set forth.

83,994.—Frank Odenbaugh, Middletown, Pa. —*Scaffold.*—November 10, 1868.—The platform is formed with side rails pivoted to side pieces and resting on cross bars. At the lower ends of the side pieces are wheels, above which are a crank and shaft, to which are attached a ratchet and pawl.

Claim.—A portable platform or scaffold, having end pieces A, platform B, ladder rounds *a*, pin *b*, axle and wheels *c*, crank and shaft *d*, ratchet and pawl *f*, cross bars *g* and *h*, ropes *i p r* and *u*, and staples, as described and shown, constructed and arranged substantially as herein specified.

83,995.—T. G. Palmer, Shultzville, N. Y.—*Horse Power.*—November 10, 1868.—The brake arm rests its weight on a support, and if the belt slips from the pulley the trigger is released and brings the rubber into contact with the periphery of the wheel and stops the motion of the power.

Claim.—The herein-described brake combination, consisting of the levers C, rubber D, support E, and trigger F, or their equivalents, all constructed and arranged as and for the purpose specified.

83,996.—Henry A. Pease, Hartford, Conn.—*Manufacture of Soap.*—November 10, 1868.—The ingredients used are flour of wheat, rye, or other grain, caustic soda, stearine, tallow, or other stock, which are subjected to various processes of boiling, stirring, and mixing.

Claim.—The manufacture by cold and hot process, and the combination of these two processes, above described, together, thereby obtaining a soap which will harden in two hours, when, by the old process, it requires about five days.

83,997.—William K. Rairigh, Rural Valley, Pa.—*Implement.*—November 10, 1868.—Within the central portion of a hatchet is placed a lock, and hatchet blades, a cold chisel, plane tongues, vise or wrench are fitted and secured by means of tongues.

Claim.—The implement herein described, constructed and arranged in the manner and for the purpose set forth.

83,998.—Adrian Rais, Waterbury, Conn.—*Machine for Spinning Sheet Metal.*—November 10, 1868.

Claim.—1. The combination, with the metal-holding clamp or dies, the one being fixed upon a stationary arbor, and the other upon an arbor capable of sliding longitudinally, of a plunger or sliding bolt, to force the movable clamp against the stationary one, and a toggle-jointed lever for operating said plunger, substantially as shown and set forth.

2. Dividing the bearing or journal box of the sliding arbor longitudinally, and hinging the two parts together, substantially in the manner and for the purposes set forth.

3. The combination of the sliding carriage F, the spinning rollers, their transverse slide rests, and the screws for regulating the position of said rests, so as to adjust the spinning rollers with relation both to

each other and to the metal to be operated on, substantially as herein shown and set forth.

4. The arrangement of the plates upon which the spinning rollers are mounted, the same being pivoted to and adjustable upon the transverse slide rests of the carriage F, as and for the purposes specified.

5. The method of automatically spinning to a pattern, by the employment, in connection with the spinning rollers, their sliding carriage, and the hinged or vibratory frame, on which said carriage moves, of a pattern plate, a guide pin for following said pattern, and a weight, or its equivalent, operating upon the free end of the vibratory frame, so as to hold at all times the guide pin against the pattern, under the arrangement herein set forth.

6. The combination with the sliding carriage, its actuating screw shaft, and the vibratory frame on which it moves, of an adjustable plate, H, to which the frame is hinged, as described, the said plate carrying a pulley and shaft, connected with the driving shaft of the machine, and communicating motion to the screw shaft, substantially in the manner and by the means herein shown and set forth.

7. The movable half nut, in combination with the sliding carriage, and its actuating screw shaft, under the arrangement and for operation as set forth.

83,999.—SAMUEL J. REED, Middletown. Ohio.—*Plow Fender*—November 10, 1868.—Designed to form a receptacle for the earth and clods thrown up by the share, and is slotted to allow the pulverized earth to pass through.

Claim.—The curved fender *e g*, in combination with lever *f*, constructed, arranged, and connected with a plow, in the manner and for the purpose substantially as described.

84,000.—OTIS ROOT, Wendell, Mass.—*Mop Head.*—November 10, 1868.—A cast-iron collar has a screw thread inside and a frame of wire attached to it which incloses a cast-iron cross bar with a socket in which the small end of the handle turns.

Claim.—A mop head, consisting of the frame A B, with the sleeve C, secured to the handle I, by means of the spurs *e*, and having the end of the handle protruding through the sleeve, and turning in a socket in the cross head D, as herein shown and described.

84,001.—F. WILLIAM RUST, Umatilla, Oregon, assignor to himself, A. E. ROGERS, and A. C. GIBBS.—*Machine for Scouring, Blacking, and Finishing Leather.*—November 10, 1868.—The rubbing blocks are provided with brushes for removing light obstructions and for spreading the blacking, and also with a scouring stone or glass.

Claim.—1. The scouring blocks H, hinged to the pendulum rod, and held in place by rods, G, working through the cross heads F, and provided with springs, substantially as described.

2. The hinged levers I, attached to the swinging frame, and arranged to operate or adjust the scouring block H, substantially as set forth.

3. Suspending the scouring apparatus upon a yielding support, and providing it with a lever and weight, arranged substantially as described, for the purpose of adjusting the scourers to the thickness of the leather operated upon, and also to regulate the pressure of scouring devices, as described.

4. The hollow pendulum, or its equivalent, for holding the blacking, and feeding it upon the leather while in operation, substantially as set forth.

5. The perforated cross pipe T, or its equivalent, when arranged to move with the scouring or smoothing devices, for distributing the blacking evenly over the surface of the leather, as described.

6. The platform B, provided with a series of balls, C, secured loosely in its under side, substantially as set forth, for the purpose of enabling it to be moved in any desired direction while the machine is in operation.

84,002.—BENJAMIN L. RYDER, Chambersburg, Pa.—*Potting and Packing Plants.*—November 10, 1868.—The plants, surrounded by earth, are placed in thin boxes, which latter are packed side by side in the large box. The thin boxes can easily be removed when the plant is to be set in the ground.

Claim.—1. The above-described mode of potting and planting plants with rectangular masses of earth about the roots, such masses fitting closely against each other and against the sides of the crate or large box in packing, substantially in the manner and for the purposes set forth.

2. The above-described, close-jointed, sectional box, or its equivalent, for the purpose of forming the rectangular masses of earth, and for potting and packing plants, substantially in the manner above described.

84,003.—CARL SCHAEFFER, Elizabeth, N. J.—*Manufacture of Artificial Stone.*—November 10, 1868.—Composed of cement, sand, and sulphuric acid molded into blocks, subjected to a heavy pressure, and are then dried and introduced into a bath of sulphuric acid.

Claim.—Artificial stone, formed of the ingredients herein specified, and treated repeatedly with sulphuric acid, substantially in the manner set forth.

84,004.—WILHELM SCHARRATH, Bielefeld, Prussia.—*Railroad Car Ventilator.*—November 10, 1868.

Claim.—Forming the walls, ceilings, or partitions of permanent or temporary habitations wholly or in part of porous material, covered wholly or in part with fibrous or textile fabric, leaving a space between said walls and the fibrous material, as herein set forth, for the purpose of ventilation.

84,005.—OSCAR SCHIMMEL, Chemnitz, Saxony.—*Washing Machine.*—November 10, 1868.—Flexible aprons are so arranged on the beaters as to prevent the clothes, while being washed, from lodging on the beaters. The wrists of a double crank work in sliding boxes on the beaters, and cause the latter to oscillate.

Claim.—1. The aprons *d*, in combination with the beaters B and tub A, substantially as and for the purpose described.

2. The double crank E and sliding boxes *a*, in combination with the suspended beaters B, substantially as and for the purpose described.

84,006.—JACOB SEIBEL, Manlius, Ill.—*Harvester.*—November 10, 1868.

Claim.—1. In the construction of harvesters, connecting or coupling the frame supporting the binding platform to the main frame A by means of hinges or joints P, arranged at or near the center of said main frame, so that it may oscillate upon said hinges to admit of the raising and lowering of the cutter bar without tipping the binding platform, substantially in the manner and for the purposes specified and shown.

2. In combination with said binding platform and main frame A, hinged as described, the lever L, so connected and arranged that the driver, from his seat on the main frame, can operate the machine, in the manner and for the purposes set forth.

3. In combination with a harvesting machine having a raking platform with a rear delivery, a binding platform, arranged close behind the raking platform, and hinged to the main frame at or near its center, substantially as described, so that the grain can be raked directly from the raking to the binding platform, and otherwise operating substantially as specified.

84,007.—J. A. SHANNER, Plainview, Ill.—*Mechanical Movement.*—November 10, 1868.—The pump is operated by means of segmental racks on the gear wheels engaging alternately with a rack on the pump rod.

Claim.—The combination, with the wheels F and G, of the segments H and I, and the rack E, arranged to operate substantially as and for the purpose described.

84,008.—HENRY F. SHEPHERD, Framingham, Mass.—*Veneer.*—November 10, 1868; antedated October 31, 1868.—Can be used as a veneer or as a substitute for paper hangings.

Claim.—A compressed and burnished veneer, applicable as wood hangings, and for other purposes, substantially as specified.

84,009.—Silas Shirley, Rockford, Ill.—*Wagon Wheel.*—November 10, 1868.—Beveled blocks, provided with circular flanges fitting over the box, extend upward between the spokes, and are arranged to be forced between said spokes to cause them to expand and tighten the tire when it is loose.

Claim.—The wheel described, consisting of the box A, beveling blocks B, with curving flanges *b b*, friction plates D, rods *c*, and caps E, the whole being combined and operated in connection with the spokes of an ordinary wheel, substantially in the manner and for the purpose described.

84,010.—Simon Shrock, New Philadelphia, Ohio.—*Beehive.*—November 10, 1868.—The exterior case is provided with a slanting bottom for the ingress of the bees to the central tube leading to the central hive; above and on each side of the latter are honey boxes which are ventilated by boxes with openings covered with wire gauze.

Claim.—1. The combination and arrangement of the central hive C, provided with comb frames H H, sliding face G, feed box D, slant board S, and central tube *b*, all constructed and operated in the manner and for the purpose set forth.

2. The combination of the central hive C, slant board S, central tube *b*, openings K, honey boxes I I, provided with corresponding openings, and ventilating boxes L L, all constructed, arranged, and operated substantially as described.

3. The combination of the drawers *a′ a′*, tubes *a a*, and slant board S, all constructed, arranged, and operated as set forth.

4. The arrangement of the central hive C, slant board S, central tube *b*, honey boxes I I, ventilating boxes L L, feed box D, drawers *a′ a′*, and tubes *a a*, all constructed and operated as set forth.

84,011.—J. H. Smith and George O. Smith, Chicago, Ill.—*Paint for Buildings, Roofs, &c.*—November 10, 1868.—Composed of leached ashes, coal tar, hydraulic cement, and benzine.

Claim.—A paint, composed of the ingredients herein named, and compounded substantially as herein set forth.

84,012.—Ezra Springer, Davis, Ill.—*Railway Car Mover.*—November 10, 1868.—The driving wheel, provided with teeth to gripe the rail, is actuated by an arrangement of gearing communicating with the power, and [illegible] connected as to increase or diminish the speed of the car.

Claim.—1. The driving wheel D, in combination with the driving gears, arranged and operating conjointly, as and for the purpose substantially as specified.

2. The lever Q, rod R, and stay P, in combination with the arm N, feather keys, and shifting gears, applied to the purpose set forth.

3. The racks A′, sliding dog C′, in combination, arranged in the manner and for the purpose set forth.

84,013.—William A. Stack, Hillsborough, Md.—*Animal Trap.*—November 10, 1868.—The animal steps upon one of the arms to reach the bait, which is placed on a wire connecting with a spring bolt supporting the arm. When the bait is pulled the bolt is drawn back and the arm swings down, precipitating the animal into a water receptacle placed beneath.

Claim.—The arrangement of the box B, the rotating wheel, having the trap-door arms c c^1 c^2 c^3, the stop *m*, pivoted bait-holder *h*, spring *o*, wall D, and metallic bait-box E, when the said parts are constructed and arranged to operate in the manner described.

84,014.—William Stamp, Susquehanna Depot, Pa.—*Steam-engine Steam Chest.*—November 10, 1868.—The copper wire is hammered into grooves in the cover of the steam chest, and then faced off to produce a tight joint.

Claim.—The construction of the wire packing, inserted in both surfaces of the joint to be made, substantially as herein described.

84,015.—Charles H. Stockbridge, Northampton, Mass., assignor to himself and Osmore O. Roberts, same place.—*Bit Holder.*—November 10, 1868.—Improvement on his patent of February 19, 1867. A spring is applied to the rear end of the clamping jaws to open them as the sleeve is screwed forward to release the outer ends from the bit.

Claim.—The bit stock, formed of the clamping jaws *e*, set in grooves having curved bottoms, in combination with the contractile spring *i* and sleeve *d*, substantially as set forth.

84,016.—Alfred F. Stoner, West Unity, Ohio.—*Cultivator.*—November 10, 1868.—A toothed bar, under the spiked roller, is provided with a spring which allows the teeth to yield to such strain as would break the cultivator. A hiller is placed nearly under the roller, and a share in the middle of the machine in front of the roller.

Claim.—1. The spiked roller B, in combination with the spring, concave, or toothed bar M, arranged and operated substantially as set forth.

2. The arrangement of the hiller E, in combination with the share C in the front part of the frame, and the pulverizing roller and concave, substantially as described.

84,017.—Ole O. Storle, Norway, assignor to himself and J. B. Smith, Milwaukee, Wis.—*Horse Hay Fork.*—November 10, 1868.—The lock fits and revolves on a screw on the center shaft. A trigger secured to the slide catches in notches on the lock and holds it in any position.

Claim.—The parts B, F, and G, in combination with the screw on shaft A, substantially as described.

84,018.—R. Strickland, Albany, N. Y.—*Coffee and Tea Pot.*—November 10, 1868.

Claim.—1. A coffee or tea pot, having a strainer hinged to it inside, and applied over the orifice at the base of the spout, substantially as described.

2. The hinged strainer C, provided with a weight, *b*, operating substantially as described.

84,019.—John E. Tencate, Pittsburg, Pa.—*Machine for Welding Tubing.*—November 10, 1868.—Two sets of grooved rollers are arranged, the one set in a horizontal, and the other in a perpendicular position. Two levers are each provided with a notch fitted to grooves in the mandrel, to hold the latter in a fixed position. Enlargements on the mandrel serve to obtain and retain the desired bore of the pipe in welding.

Claim.—1. The arrangement of the rolls A and B, guides *e*, levers C and D, and mandrel F, provided with enlargements x and x^1, the whole being constructed, arranged, and operating as herein described, and for the purpose set forth.

2. The scrapers *y*, in combination with the rock shaft P, provided with oblique slots, 4, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

84,020.—Hermann Thal and Gustav Schlottmann, New Haven, Conn.—*Coffee-pot.*—November 10, 1868.—The upper edge of the vessel has around it a gutter, the overflowing water in which runs into the vessel, while the inner edge of the gutter fits into the flange of a bell-shaped mouth piece fixed to a tubular neck, to the bottom of which is geared a strainer, and its upper edge extends beyond the bottom of the mouth piece, forming a seat for a safety cap, from the center of which is suspended a perforated disk.

Claim.—The arrangement and combination of the strainer C, tubular neck *g*, flanged mouth piece *f*, gutter *d*, cap *h*, perforated disk *i*, and vessel A, all constructed and operating substantially as and for the purpose shown and described.

84,021.—William Thompson, Cleveland, Ohio, assignor to H. B. Myer, same place.—*Gas Machine.*—November 10, 1868.—A double bellows is arranged with a flexible air holder, an upper and lower carbureter, and a purifier.

Claim.—1. The bellows B B, for forcing air into the receiving bag, as described, in combination with the carbureters and purifiers.

2. The combination of receiving bag C and bellows

B B, substantially as set forth, with the upper and lower carbureters.

3. The arrangement of the bellows B B, the large air bag C, the passage pipe D, and the perforated coil pipe D', substantially as set forth.

4. The coil partitions G G G, filled with sponge or other equivalent material, forming a lower carbureting chamber, substantially as set forth, in combination with the purifier.

5. The combination of the purifying chamber S and the upper carbureting chamber, substantially as described.

6. The pipe T and cock T', for conveying residue or surplus oil from the carbureting cylinders, substantially as described.

7. The combination of the bellows B B, the receiving bag C, the passage pipe D, the coil partitions G G G, the chamber S, the pipe T, and cock T', when the said parts are arranged, combined, and operating as and for the purpose herein set forth.

84,022. — WILLIAM J. TOWNE, Newtonville, Mass., assignor to SILVER LAKE MANUFACTURING COMPANY, same place.—*Packing for Joints of Steam Engines.*—November 10, 1868.—To the exterior surface of a braided or twisted packing of cotton or other fibrous material is applied a glazing of a glutinous substance, with which may be mixed asbestos, soapstone, or other mineral powders.

Claim.—The application of a glazing or coating to the exterior surface of a packing, substantially as and for the purpose described.

84,023.—AARON VAN GUYSLING, West Albany, N. Y.—*Railway Chair and Support.*—November 10, 1868.—A fixed and a movable lip are secured to the chair by a key bolt, held in place by a wooden key, having a rubber cushion, and a device for connecting the chairs to each other, the hollow supports being connected by a tube.

Claim.—1. The railroad chair support, consisting of the hollow supports A, connected by the tube B, the chairs C having the fixed lip c^1 and the detachable lip c^2, the key bolt D, the rubber block G, the wooden block F, and the connecting bar E, said chairs being slotted to receive the bent ends of the connecting bar, and for the passage of the wooden blocks, all arranged as described, for the purpose specified.

2. The chair C, fitting over the hollow supports A, and constructed as described, having the fixed lip c^1 detachable lip c^2, and the key bolt D, and provided with an opening in its side for the introduction of the rubber block G, which is kept in place by the sliding door H, as herein set forth, for the purpose specified.

3. The combination of the horizontal metallic bar or tie, B, with the vertical hollow supports A, substantially as herein shown and described, and for the purpose set forth.

84,024.—JASPER VAN WORMER and MICHAEL MCGARVEY, Albany, N. Y. — *Magazine in Base-burning Stoves.*—November 10, 1868.—The lower portion of the reservoir consists of a flaring mouth piece, attached to which and forming the lower part of the feeder is a neck, enlarged at its lower end to give free discharge to the coal and prevent clogging.

Claim.—1. Attaching to the ordinary contracted reservoir a neck, having its lower end enlarged, substantially as and for the purpose described.

2. The method of attaching the neck to the reservoir, substantially as set forth.

84,025.—FRANCIS J. VITTUM, Newburyport, Mass., assignor to WILLIAM N. ELY.—*Hand Pegging Machine.*—November 10, 1868.—An improvement on E. M. Stevens's patent, August 6, 1861.

Claim.—1. A hand pegging machine, so constructed, arranged, and adapted as to its several parts, that, while the machine is held to the work, as it passes over it, with one hand, the movements of the awl and peg driver, and of the feeding devices, shall be actuated or managed with or by means of the other, substantially as described.

2. So constructing, arranging, and adapting the parts of a hand pegging machine, as to operate the same by means of a crank, turned by the hand of the operator, substantially as described.

3. Arranging and adapting a crank handle, cam, and spring in a hand pegging machine, in combination with the awl and peg-driver bars, or either of them, substantially as and for the purposes described.

4. Arranging and adapting a crank handle and cam, in a hand pegging machine, in combination with an awl or piercing or pointed instrument, as a feeding device, substantially as described.

5. The ratchet bar and pinion, in combination with the awl or peg driver bar in a hand pegging machine, substantially as and for the purposes described.

6. Constructing the bar C in connection with the dog G, so that the latter may operate without the aid of a spring, substantially as described.

7. The combination of the portable frame with crank handle, cam, spring, and piston, all constructed to operate substantially as described.

84,026.—FRANZ VOEGTLI, Montgomery City, Mo., assignor to ANTONIO VOEGTLI, same place.—*Reel for Yarn, &c.*—November 10, 1868.—On the shaft which carries the reel is a single finger which gears into the cogged counter wheel, on the axle of which is another finger gearing into a cogged wheel placed on the index shaft, so that the reel is adjustable to the size of the skeins, and the number of strands in a skein may be automatically indicated.

Claim.—The reel C and its shaft B, to operate the finger d, pinion D, finger d^1, pinion D', and indicators d^2 d^3, substantially as set forth.

84,027.—WILLIAM VOGEL, Norwich, Conn., assignor to EZRA DURAND.—*Musical Instrument.*—November 10, 1868.—The iron bridges on which the strings rest are connected by cross bars passing under and below the sound board, stiffening and strengthening them to resist the strain of the strings, while the brace bars on the under side of the board leave an open communication for the escape of sound.

Claim. — 1. The arrangement of the diagonal dampers L with relation to the bridges F, sound board *c*, and strings G, of the dulcimer, as herein shown and described.

2. The construction of the bridges F, stiffening end bars and central frame E, and the curved braces H beneath the sound board *c*, all arranged as described, for the purpose specified.

84,028.—J. E. VOILES, Madison, Ind., assignor to himself and JOHN W. HUTCHINS, same place.—*Horse Rake.*—November 10, 1868.—One end of a coiled spring is fastened to a roller, the other end being secured to the vibrating cross head which rests on the points of the two center teeth of the rake.

Claim.—A releasing device for the teeth of revolving horse rakes, composed of the coil spring A, roller C, and vibrating cross head D, when arranged and operated substantially as shown and described.

84,029.—JOSEPH VOWLES, Milford, Mich.—*Cultivator.*—November 10, 1868.—The mold boards are bolted to the hangers, which are supported by braces, the side hangers being furnished with reversible mold boards, while the rear hangers are attached to a cross beam from which extends a sub-tongue, between which latter and the tongue is a wedge piece for raising its outward end. The teeth or plows are held in any desired position by a sector.

Claim.—1. The mold board L, constructed substantially as shown and described.

2. The combination of the mold board L with a cultivator.

3. The construction of the wedge N, and its arrangement with reference to the tongue of a cultivator, or for any equivalent purpose, substantially as shown and described.

4. The arrangement of the hangers H H with their teeth M M, with reference to the wheels of the machine, substantially as shown and described.

5. The arrangement of the sub-tongue F, frame E, sector D, lever C, hangers H and K, and braces I, substantially as shown and described.

84,030.—C. W. WAILEY, New Orleans, La., assignor to NEW ORLEANS PNEUMATIC PROPELLING COMPANY.—*Pump for Compressing Air.*—November 10, 1868.—An improvement on J. H. Johnson's English patent, No. 890, of April 1860. The induction valves, in the concave heads, are held up to their seats by spiral springs, the vertical sections of a pump, connected with the heads, being alternately filled with water.

Claim.—The combination of the concave heads G and G', with the vertical sections, A A', of a pump, through which flows a continuous stream of water, when the valves of the induction ports are placed in said heads, and are operated by the springs *d* and *d'*, substantially as set forth.

84,031.—Felix Walker, New Orleans, La.—*Sash Stop and Holder.*—November 10, 1868.—The plate, with two flanges, fixed to the side of the window frame, has two notches in which engages one arm of a pivoted catch, the other arm being weighted, thus holding the sash down, or at any desired point.

Claim.—The combination of the double flanged plate A. with notches *n n*, and secured to the inner side of the window frame, with the pivoted catch C. having two arms, one being weighted, as shown, all operating as set forth.

84,032.—Benjamin D. Washburn, Boston, Mass.—*Shutter Fastener.*—November 10, 1868.—An elongated tooth or projection is formed centrally between the jaws of a fastening, so that when one of the jaws passes over into the catch, the tooth will prevent the fastening from slipping over the catch.

Claim.—The construction and arrangement of the piece A with the projections *a a* and *b*, the latter extending below the former, when formed in one piece, as and for the purposes herein set forth.

84,033.—George Wellhouse, Akron, Ohio.—*Dropping Platform for Harvesters.*—November 10, 1868.—This platform is pivoted at its rear end. Across its front lies a roller, whose bearings are in the sides of the platform, and on one end of which is keyed a pinion, working in a curved rack. The cut-off is an apron, one end of which is fastened to the rear of the finger beam, and the other to the roller, so that, by elevating the platform, the apron is unwound, and by depressing the platform the apron is rolled up.

Claim.—The arrangement and combination of the roller H, pinion I, segment J, and platform D, in the manner substantially as set forth.

84,034.—George Wells and S. A. Haynes, Island Pond, Vt.—*Mop Wringer.*—November 10, 1868.—By raising the bail the rollers are made to recede from each other to admit of the insertion of the mop. One of the rollers has a crank handle.

Claim.—The bail B, arranged with relation to the pail A, uprights D, plates E, G, H, I, J, and rollers C C, as herein described, and operating in the manner and for the purpose specified.

84,035.—George W. Wesley, Troy, Pa.—*Water Wheel.*—November 10, 1868.

Claim.—A water wheel having buckets of a concave or depressed outer surface, and with a corresponding convex or raised inner surface, in combination with the side issues or escapes, for the purpose and in the manner set forth and described.

84,036.—Albert Wetherbee, Waltham, Mass.—*Composition Tip for Billiard Cues.*—November 10, 1868.

Claim.—A tip of a billiard cue, made of vulcanized rubber, one part, and pulverized chalk, more than one part, intimately mixed, and baked in combination, all substantially as and for the purpose described.

84,037.—Charles Whittier, Boston, Mass., assignor to himself and Benjamin F. Campbell, same place.—*Steam Radiator.*—November 10, 1868.—The openings in each section are so cast that the steam may pass from one to the other in as rapid a manner as it goes through the body itself, thus preserving the effectiveness of the steam within a larger extent of radiating surface.

Claim.—1. Constructing each section on opposite sides, near the ends, with an aperture, *a*, of same shape as aperture *d* of body of radiator, substantially as and for the purposes described.

2. Connecting the alternate ends of the radiator, by means of lugs, *b b b b*, &c., and bolts, *e*, &c., constructed substantially as described.

84,038.—Wilhelm Wiesmann, Bonn, Prussia.—*Preserving Meat.*—November 10, 1868.

Claim.—1. The within-described process of preserving meat, by first coating the pieces of meat with powdered saltpeter and olive oil, and then storing them away in a hermetically closed vessel, with intermediate layers of charcoal filled in bags, as herein set forth.

2. The vessel A, provided with perforated movable shelves *a*, and closed by a disk, *e*, and lid, *c*, leaving an oil space, which is filled through stop-cocks *h i*, all as shown and described.

84,039.—George C. Wilder, Lawrence, Kas.—*Punch.*—November 10, 1868.—The follower is forced upward against the washer or nut, after the same has been punched, by the face of the spring, which frees the nut from the punch.

Claim.—Combining with said combination the spring E, as and for the purpose described.

84,040.—S. R. Wilmot, Bridgeport, Conn.—*Apparatus for Sizing Glass Cylinders.*—November 10, 1868.—The fingers expand or contract the base of the hot chimney to the size required.

Claim.—The arrangement of the several fingers *a*, operated so as to size the cylinders, by opening the said fingers upon the inside, or closing them upon the outside of the said cylinder, substantially as set forth.

84,041.—Henry M. Woodward, St. Louis, Mo.—*Treating Cast Iron for the Manufacture of Car Wheels.*—November 10, 1868.—The iron is melted in a reverberatory furnace and is free from contact with the fuel during the process. It is maintained in a molten condition, subject to the oxidizing or decarbonizing action of the atmosphere which passes over the surface of the molten mass, until the iron is found, by test samples, to be in that condition which will produce the desired thickness of drill on the face and flange of the wheel.

Claim.—1. The herein-described improved process for producing cast metal car wheels, substantially as and for the purpose described.

2. Car wheels produced by the herein-described improved process, as a new article of manufacture, substantially as and for the purpose specified.

84,042.—Wendell Wright, Bloomfield, N. J.—*Suspender Fastening.*—November 10, 1868.—It is designed to let the clamps remain on the pants or drawers, and slip them off from the snap hooks when the wearer wishes to take off the garment.

Claim.—The double clamps B, having teeth on their inner faces, and provided with slides *h*, said clamps being hinged together by the collar *f*, and removably attached to the buckle A by means of a snap hook, *a C b*, formed on the latter, all constructed and arranged substantially as herein shown and described.

84,043.—Jacob Zepp, Troy, assignor to James T. Walker, Albany, N. Y.—*Machine for Making Horseshoes.*—November 10, 1868.—The movements of the several parts of this machine are so timed that the following operations occur consecutively, namely: A heated bar is fed forward a limited distance by feeding wheels; a plunger, with its cutter, then descends to sever a blank from the bar; a forked bender is then advanced, bending the blank around a male die, and the shoe is completed by the action of dies and creasers.

Claim.—1. The arrangement of the sliding arm *e* and its corrugated wheel *d*, with the vertical shaft *a*, and wheels *c* and *b*, operated by the shaft E and shaft K, with its cam Z, all substantially as shown and described.

2. The horizontal notched clutch V and sliding dies U U, in combination with the vertically recip-

rocating male die and former *i*, substantially as herein specified.

3. The vertically reciprocating male die *i*, provided with a pressing and creasing shoulder, and with a projecting guide, all as herein shown, in combination with the dies U U, substantially as herein specified.

84,044.—William Augustus Berkey, Grand Rapids, Mich.—*Construction of Fire-proof Houses.*—November 17, 1868.—Consists in such a construction of the floors or partitions that there shall always be between the inner and outer wood-work of the floor or partition an interposed stratum of plaster or cement. It also consists of a certain peculiar arrangement of metallic strips for holding together the double floor or wall.

Claim.—1. The combination of the iron straps C and furring D with the joists B and lath E, for the purpose substantially as described.

2. The floor strips L, when attached to the deafening partition K, in the manner described, for allowing the mortar M to be interposed, in the manner and for the purpose substantially as described.

3. The combination of the construction for suspending the ceiling and the construction for sustaining the floor, as described, with the interposed mortar, for preventing the burning of the timbers in such construction, and the passing of water or sound, as set forth.

84,045.—Joseph Bell Alexander, Washington, D. C.—*Device for Raising and Adjusting Wicks in Lamps.*—November 17, 1868.—The wick is held by a metal clasp that slides easily in the wick tube, which clasp is raised and lowered by a pinion working in a rack attached to the clasp.

Claim.—1. The making of the rack, with the guides H and H′ and the stops L and L′, by striking it up of one piece of sheet metal, substantially as described and for the purpose set forth.

2. The combination, with any lamp, of the imperforate wick tube A, the sliding wick holder B, the rack C, the pinion D, and the bow spring S, when arranged together substantially as described and for the purpose set forth.

84,046.—Levi Black and Milton Gaffney, Logan, Ohio.—*Device for Saw Carriages.*—November 17, 1868.—Combined with a clamp and gauge are adjustable holders, for squaring and sizing the unturned part of bed posts, table legs, &c., the holders at one end being two sliding plates provided with flanges flaring in opposite directions.

Claim.—Adjustable plates *a* and *b*, holders F and H, sliding stop or clamp E, and plate D, herein described, constructed, combined, and arranged to operate in the manner and for the purpose set forth.

84,047.—J. H. Bodine and T. A. Hill, Mount Morris, N. Y.—*Water Wheel.*—November 17, 1868.—The curb is provided with an elongated rim or flange around its lower edge, which encircles the upper part of the vertical discharge wheel, so as to prevent the escape of water as the wheel drops from the wear of the step. Openings in the gate are made to open or close the chutes to any required degree.

Claim.—1. The arrangement of the top feed vertical discharge wheel B, in connection with the flanges *a a*, upon the lower edge of a curb, which has the gate at its top, its side walls being water-tight, substantially as and for the purpose herein set forth.

2. The gate I, when cast with recesses or concaves, *e e*, on its under surface, substantially as specified.

3. The arrangement of wheel B, gate I, arm *v*, screw shaft T, block R, working upon the screw shaft, and spindle S, operating the screw shaft by means of cog gearing W, when said parts are constructed to operate in connection with each other in the manner and for the purposes above described.

84,048.—John B. Bolinger, Detroit, Mich., assignor to himself and L. R. Fitch, same place.—*Portable Forge.*—November 17, 1868.—The pulley on the face shaft and an intermediate pulley are formed of rubber, so as to render them elastic, and are provided with metal rims. A double lever has a slotted arm in which the wrist of the driving pulley crank shaft works.

Claim.—1. The pulleys *o* and *q*, formed of rubber, with metallic faces or peripheries, substantially as described, in combination with the pulleys C and *p*.

2. In combination with a portable fan blast forge, the air chambers S, the double lever D, and the slotted arm F, operating in the crank G, all constructed and arranged substantially as and for the purposes described.

84,049.—John H. Chadwick, Bristol, assignor to himself and George B. Peck, Warren, R. I.—*Car Coupling.*—November 17, 1868.—A pivoted weighted lever is provided with two arms arranged so as to lock the hook when the cars are coupled, and release it when the end of the lever is raised.

Claim.—The arrangement and combination of the arms *b c*, and part or abutment, *m*, with the lever D, the draw bar chamber B, and its mouth C, substantially as described, the whole being to operate in manner and for the purpose specified, with a connection bar, E, made as set forth.

84,050.—Wesley Cornell and Thomas L. Blakley, Buchanan, Mich.—*Washing Machine.*—November 17, 1868.—The pivoted guide ways of the rubber board are adjusted by means of a cam having a number of square faces.

Claim.—1. The eccentric cams K, adjustable ways G, and guide blocks M, when constructed substantially as set forth.

2. In combination with all the above named parts, the box A, slide bars C, rollers E, and rubber board L, all operating substantially as specified.

84,051.—Alexander G. Donnelly, Breesport, N. Y.—*Harvester.*—November 17, 1868.—When the speed of the cutters is to be increased, the spur wheel shaft is removed from its bearings and placed in another pair of journal boxes, so that the flanged, toothed disk, which is screwed upon the spur wheel, will mesh with the pinion driving the cutter bar.

Claim.—The wheel D, constructed and operating as herein described, and for the purposes set forth.

84,052.—Benjamin Douthett, Pittsburg, Pa.—*Beehive.*—November 17, 1868.

Claim.—A hive for bees, having all of the herein-described characteristics; that is to say, a box divided on a vertical line, so as to form two equal and distinct parts, A A, and with an India-rubber packing, T, between the two, each part or half of the hive being provided with a horizontal partition E, inclined bottom, and perforated plate, F, and a wire gauze, *m*, extending from the partition to the bottom, and a narrow horizontal box, P, beneath the hive, open at both ends, and provided at each end with a metallic curtain, N, as a passage way, common to each half of the hive; the whole being constructed, arranged, combined and operating substantially as and for the purposes hereinbefore set forth.

84,053.—Francis Ellershausen, Ellershause, and Augustus E. Stayner, Halifax, Nova Scotia, and Adolph Guzman, New York, N. Y.—*Manufacture of Iron and Steel.*—November 17, 1868.

Claim.—1. As a new article of manufacture, pig-bloom, or pig-scrap, being a conglomerate of cast iron, oxides, wrought iron, and particles of matter more or less nearly approaching one or other of those substances, produced by admixing, and bringing in contact with fluid cast iron oxidizing substances in a solid state, in such a manner and in such quantity as to produce a solid condition of the mass.

2. The mixing of cast iron with an oxidizing agent, one or other of which is rendered fluid by heat applied previously to such mixing.

3. The production of wrought iron from cast iron, by mixing with the latter, while fluid, a sufficient amount of oxidizing material to produce a solid condition of the mass.

4. The production of wrought iron from oxides of iron, by mixing the latter with molten cast iron to such an extent as to produce a solid conglomerate of the two.

5. The employment of detersive agents and useful

alloys, by mingling them, or either of them, with the oxides used in the process hereinbefore described, so that they shall become part of the conglomerate, and have such intimate contact and connection with the mass as to produce their proper chemical effects when it is afterward subjected to the action of heat.

84,054.—John S. Everitt and Ossian Cook, Oshkosh, Wis. — *Steam-engine Slide Valve.*—November 17, 1868.—A hollow slide valve is constructed with holes on opposite sides, so that the pressure on either side balances the pressure on the other. They are adjustably connected with arms on the valve stem, which latter is provided with cams, by which the valves are adjusted to fit the valve chest when worn. A four-way cock or throttle valve reverses the flow and exhaust of the steam, thereby reversing the engines.

Claim.—1. The valve boles S S, of the valve H, with lugs *r r*, constructed and arranged relatively to the cams *n n*, arms *m m*, provided with slots *x x*, and the valve stem C, as a means of adjustment in compensating for wear of valves and valve seats.

2. The valve case A A, when constructed substantially as described, and arranged relatively to the slide balance valve H, as herein set forth.

3. The arrangement of the hollow balance slide valve H, throttle valve F, with the valve case A A, injection and ejection pipes I I′, supply pipe K, and exhaust pipe K′, substantially as herein set forth.

84,055. — Dan P. Foster, Waltham, assignor to himself and N. M. Lowe, Boston, Mass.—*Suspending Clamp.*—November 17, 1868.—The cams are united by a link, so that they may be moved together.

Claim.—A suspending clamp, formed of two segment cams, B B′, pivoted to the supporting frame A, and connected by a link, C, substantially as described, and for the purpose set forth.

84,056.—Hamilton France, Hinmansville, N. Y.—*Potato Digger.*—November 17, 1868.—The bar to which the scoop is secured is operated by a lever pivoted to the front of the machine. The grate is raised or lowered by a lever pivoted to the operator's seat.

Claim.—1. The geared wheel E, shaft F, pinion G, and arms H, in connection with the axle A, frames C and I, connecting rods J, for the purpose of giving a vertical vibratory motion to the grate K, substantially as herein described.

2. The frames C and I, hinged together at their front ends, in connection with the axle A and lever Z, when constructed and operating substantially as herein specified.

3. The bar N, arms R and U, lever Q, fulcrum S, and pin T, in connection with guides and standards O, axle P, and tongue V, when combined, arranged, and operating substantially as and for the purposes herein described.

4. The combination of the above-named parts with the wheels B and X, bails M, and seat Y, when constructed, arranged, and operating substantially as herein set forth and shown.

84,057.—Charles F. Hadley, Chicopee, Mass., assignor to Clifford Arrick, Belmont County, Ohio.—*Chuck.*—November 17, 1868.—The bevel gear is fitted on the adjustable nut by means of the annular groove, dividing ring, and securing pins, so that it may revolve freely, and still allow the nut to turn independently on its axis, to allow the bevel gear to be thrown in or out of gear with the bevel pinions, the object being to allow a concentric or eccentric adjustment of the jaws for circular or irregular-shaped work.

Claim.—1. The arrangement of the adjustable nut E, bevel gear F, divided ring G, and securing pins *h h*, or their equivalents, constructed substantially as described, and for the purpose set forth.

2. The arrangement of the adjustable nut E, bevel gear F, divided ring G, annular groove *d*, and securing pins *h h*, or their equivalents, in combination with the bevel pinions D, constructed and operated substantially as and for the purpose set forth.

84,058.—Mortimer S. Harsha, Batavia, Ill., assignor to himself and Edwin Meredeth, same place.—*Washing Machine.*—November 17, 1868.

Claim.—The combination of the bars F F, pivoted at their centers to the frame B, the two rollers D D, having bearings in opposite ends of said oscillating bars F F, the roller C, arranged beneath and between said rollers D D, and the cam wheels A A, all arranged and operating so as to give the rollers D D a rotating, a longitudinal, and an oscillating motion with respect to the roller C, substantially as herein shown and set forth.

84,059.—Adam Herbig, Corry, Pa., assignor to himself and Thomas Blackburn, same place.—*Tuyere.*—November 17, 1868.—The fire pot has a denticulated vertical margin which fits over a similarly denticulated flange projecting downward from the inner edge of the annular cap piece; by rotating the fire pot the spaces between the teeth may be made to coincide and give a full blast or be partially or wholly closed, giving little or no blast.

Claim.—The circular duck's nest A, provided with the inlet pipe *d* and the outlet pipe *d′*, placed opposite each other, and with the damper *c′*, all arranged and operating substantially as described.

84,060.—Julius Hietel, John Wenzel Hietel, and John Loomis Geissler, Philadelphia, Pa.—*Watch Escapement.*—November 17, 1868.—A spring branch on the detached lever embracing the pallet staff, permits the balance wheel to turn freely under irregular movements or disturbances without injury to the impulse pin of the said balance.

Claim.—1. The described construction of the self-regulating lever C, for watch escapements, consisting of the arm *b*, fitting around the staff D, and provided with a shoulder, *e*, against which rests the end of the shorter arm *d*, said arms being connected by the spring *f*, as herein set forth.

2. The combination and arrangement, in a watch escapement, of the balance wheel A, spring lever C, partly flattened or grooved staff D, pallets F, banking pin *h*, and ruby pin *a*, all made and operating substantially as herein shown and described.

84,061.—Isaac Hull, Stamford, Conn., assignor to himself and J. Ferguson Morsell.—*Rein Holder.*—November 17, 1868.—One of the jaws of the clamp embracing the dash board is provided with a spring, between which latter and the jaw to which it is fastened, the reins are held.

Claim.—The device for holding driving reins, composed of the clamp A and spring B, constructed and operating substantially as herein specified.

84,062.—Michael Kelly, New York, N. Y., assignor to himself, William Lalor, and James Slammon, same place.—*Metallic Fence.*—November 17, 1868.—Designed as an improvement on his patent of February 11, 1868.

Claim.—The construction of thorny fence by fixing the thorns B in holes in the wire A, in the manner and for the purposes herein set forth.

84,063.—Henry Kinsey, F. W. Kissell, J. E. Smith, and J. M. Smith, Ligonier, Pa.—*Hay Cutter.*—November 17, 1868.—The knives are pivoted at their outer ends to the front end of the feed box and their inner ends are slotted to receive an arm on a vertical rod, which latter is operated by a double crank and bent pitman. The vertical rod is connected to a rock shaft which actuates a pawl operating the feed rollers.

Claim.—1. The knives H, constructed and operating substantially as herein shown and described, and for the purpose set forth.

2. The combination and arrangement of the double crank *f′* of the shaft F, bent pitman J, and vertical sliding rod or bar I, having arms i^1 i^2 formed upon it, with each other and with the slotted knives H, substantially as herein shown and described, and for the purpose set forth.

3. The combination and arrangement of the ratchet wheels L, sliding pawls P, short arms Q, rock shaft R, long arm S, and pitman T, with each other and with the feed rollers K L, and sliding rod or bar I, for the purpose of operating the said feed roller from the said sliding bar I, substantially as herein shown and described.

84,064.—RALPH R. LEE and GEORGE H. WREN, Mahanoy City, Pa., assignors to themselves and JOHN C. NORTHALL, same place.—*Valve for Steam Engine.*—November 17, 1868.—The action of the piston upon tappets gives motion to the induction and eduction valves. The valve is cylindrical, has a central vertical partition, and moves upon fixed heads within the chest. The steam ports pass through the fixed heads, and discharge steam against the valve partition, thereby giving the valve its reciprocating motion, and opening and closing the ports of the main cylinder.

Claim.—1. The main valve C, constructed substantially as herein shown and described.

2. The combination of the valve C with the stationary heads F G of the steam chest, substantially as herein shown and described.

3. The arrangement of the valve C and heads F G with relation to the steam ports *p*, substantially as herein shown and described.

84,065.—SYLVANUS D. LOCKE, Janesville, Wis.—*Reel for Grain Binders.*—November 17, 1868.—The friction of the brake is the measure of the tension with which the binding material is paid out; and when the binding material slackens, the spring, driving the reel backward, causes it to take up the slack material.

Claim.—The combination of the reel A, spring D, and brake E, either with or without the pins I, or with or without the cylinder B, substantially as and for the purpose set forth.

84,066.—JAMES OSMAN and JOHN F. POTTER, Linden Hall, Pa.—*Car Coupling.*—November 17, 1868.—The circular heads of the coupling bolt are turned horizontally when they have entered the vertical slots of the draw head, and are turned up vertically before they can be withdrawn.

Claim.—The pivoted plate I, having the guides *e e*, or their equivalent, when employed in connection with a draw head, substantially in the manner and for the purposes described.

84,067.—U. H. READ, JEREMY LAKE, and LUTHER SISSON, North Easton, Mass.—*Anti-Friction Washer.*—November 17, 1868.—When the washer is under the action of a nut which is being screwed down on a bolt or on a vise screw, between the bearing and the shoulder of the screw, the pressure will be taken by the balls between the two parts, and one of said parts allowed to turn with the nut or screw, thereby reducing friction.

Claim.—The combination of the parts A, B, and D, and the spherical balls, substantially as and for the purpose described.

84,068.—FRANK A. REIHER, Cincinnati, Ohio, assignor to FRANK A. REIHER AND COMPANY.—*Window Shutter.*—November 17, 1868.—An upper and a lower set of metallic slats meet at the center of the window when closed. The lower slat of the upper set and the upper slat of the lower set are attached to sliding racks at the sides of the window frame, and the respective racks are geared together by fixed pinions. Hence by raising or lowering the upper slat of the lower set a corresponding movement may be given to all or any desired number of the other slats in that set, as well as a simultaneous, but opposite, movement to the slats of the upper set.

Claim.—The arrangement of the two series of lipped or flanged slats I II III IV, I′ II′ III′ IV′, racks D D′, pinions E, and guiding grooves 1, 2, 3, 4, 1′, 2′, 3′, 4′, substantially as set forth.

84,069.—GUSTAVUS RENEKY and SAMUEL KEISS, Edgarton, Ohio.—*Spring Bed Bottom.*—November 17, 1868.

Claim.—The arrangement, herein described, of the longitudinal slats A, blocks C, transverse slats B D G, double looped springs E, grooved and slotted blocks F, metallic loops I, and straps H, as and for the purpose specified.

84,070.—GELSTON SANFORD, Bergen, N. J., assignor to the MALLORY AND SANFORD FLAX AND HEMP MACHINE DRESSING COMPANY, New York, N. Y.—*Machine for Separating the Pulp from Fibrous Substances.*—November 17, 1868.—The rotary wheel has radial combs and scrapers upon its sides that operate between vertically-suspended planks, for holding the material to be operated upon and pressing it against the combs or scrapers as the thickness of the mass varies. The position of the opening in the holding planks enables a favorable disposition of the fibrous leaves to be made in submitting them to the action of the wheel.

Claim.—1. The holding planks F, suspended vertically upon each side of the rotary scraper disk, when the feed openings therein are arranged above the horizontal plane of the axis of said disk, as herein described, for the purpose specified.

2. The vertical holding planks F, suspended above the disk A, free from contact with the combs E, and adapted to be operated by the cam levers G, to press the material to be operated upon against the radial combs from opposite sides, as herein shown and described.

3. The described arrangement of the rotating disk A, the radial combs E, upon opposite sides of said disk, the suspended planks F, having the feed openings and the spouts I, the side rails H, and cam levers G, all operating as described, for the purpose specified.

84,071.—WILLIAM A. SHARP and JOHN A. SHANNON, Tama City, Iowa.—*Harness-tree Pad.*—November 17, 1868.

Claim.—The pad F, made heart-shaped, or triangular, to increase its bearing surface parallel with the animal's back, and having formed upon its outer and small end the loop G, for the passage of the tug-buckle strap, whose upper end is secured by a rivet passing through the hole H, and also provided with the two lugs C, between which the tenon of the terret D is secured by the bolt E, all arranged and operating as described, for the purpose specified.

84,072.—AMOS SHEPARD, New Britain, Conn., assignor to "UNION MANUFACTURING COMPANY," same place.—*Venting Metallic Cores.*—November 17, 1868.—The metal to be inclosed by the molten metal is provided with creases, flutes, or acute angles, so fine that the molten metal will not close solidly over them, small apertures being thus left, through which the air or gas may escape to the pores in the sand.

Claim.—Venting the interior surface of the molten metal which comes in contact with the solid metal, by means of grooves *d*, formed in the solid metal, substantially as described, and for the purpose herein specified.

84,073.—H. P. WETMORE, Elizabeth, N. J., and J. G. HITCHCOCK, New York, N. Y.—*Cloth Drawers.*—November 18, 1868.

Claim.—As a new article of manufacture, cloth drawers, formed in pieces A and B, having the joining seam extended across the back of the leg at or near the knee joint, substantially as and for the purposes herein set forth.

84,074.—JOHN W. WHEELER, Cleveland, Ohio, assignor to H. H. WHEELER, New York, N. Y.—*Machine for Spreading Paint or Mastic.*—November 17, 1868.—The paint or mastic is thrown upon the paper or cloth when the latter is adjusted upon the apron. The paper is fed beneath the spreading roller by the apron, the roller and apron turning in opposite directions. The spring guards prevent the cement from being spread upon the margin of the fabric.

Claim.—1. The spreader or roller B, in combination with the apron E and rollers F F′, when operating conjointly and reversely in relation to each other, for the purpose specified.

2. The guards J, springs K, as arranged, in combination with the apron E, and in relation to the frame A and spreader B, in the manner as and for the purpose set forth.

84,075.—LORENZO D. WYATT, Castleton, Ind., assignor to himself, SAMUEL FARLEY and EDWARD MCMANAMA.—*Corn Planter.*—November 17, 1868.—By depressing the lever, pivoted upon one of the handles, a weight is raised and a jointed-rod connection actuated, so as to turn the seeding wheel and discharge the contents of its pocket; the weight, gravitating, turns the wheel back to its first position. The agitator is attached to the wheel.

Claim.—The arrangement A, B, C, D, E, F, and G, and the agitator N, all arranged and operating substantially as described, for that purpose.

84,076.—CHRISTOPHER AMAZEEN, New York, N. Y.—*Paper-Bag Machine.*—November 17, 1868.—The paper in passing into the machine from a mounted roll has paste applied to its margin at one side, and is fed forward to toothed knives, which cut off a piece large enough to form a bag. The pasted and detached piece is then made to pass on beneath a plate or former, around which it is deflected, into tubular form, by bent guide plates. The paper, being delivered from this forming device, has its pasted side pressed down upon the adjoining edge. One side of the paper tube is now longer than the other, (a result due to the shape of the knives,) and the mechanism, which finally comes into play, applies paste to the projecting end, folds it over to finish the bag, and discharges the latter from the machine.

Claim.—1. The arrangement of the knives G and H with the collars I I and the spring forwarders J J, substantially as and for the purposes herein set forth.

2. The arrangement of the cog wheel *u'*, on the main shaft *h*, and gear wheels *v' v'* secured in slots to the frame A, so that the former may be changed, and the latter are movable, for the purpose of adapting the machine to making bags of different sizes, substantially as herein set forth.

3. The bag former K, constructed as described, in combination with the pressing roller *d'*, for the purpose of forming the bag, and pressing down the pasted side of the same, substantially as herein set forth.

4. The arrangement of the rollers *r* and *w*, one placed under the rear end of the bag former K and the other under the pressing roller *d'*, the rubber carriers *p p*, and the rollers *b' b'*, which latter are provided with rings to hold the carriers in proper position, all constructed as described and operating substantially as and for the purposes herein set forth.

84,077.—WILLIAM WALLACE ANDERSON, Camden, N. J.—*Thill Coupling.*—November 17, 1868.—As the segments do not touch each other, they must bear constantly and snugly upon the coupling bolt, thereby avoiding rattling or looseness at the joints.

Claim.—The steel spring *b*, in combination with the segments or arches *d* and E, which bear upon the shaft pin *g*, but do not touch each other, and with the screw bolt *a*, the whole arranged and operated substantially as and for the purposes herein set forth.

84,078.—CEPHAS APPLEBEE, Lyndon, Vt.—*Safety Apparatus for Lamps.*—November 17, 1868.—This device is to be secured upon the foot of the burner and into the neck of a kerosene lamp. The small pipe supplies air for displacing the gas, which, being generated in the reservoir, is discharged through the small openings to prevent explosion.

Claim.—1. My improved arrangement of the air pipe *d'* with the annular body A, and its series, *d*, of gas-discharging holes.

2. The combination and arrangement of the neck *c*, and the male and female connection screws *a b*, with the annular body A, the air-entrance tube *d'*, and the gas educts or series, *d*, of discharging holes, arranged in such body, as hereinbefore specified.

84,079.—WILLIAM C. BAKER, New York, N. Y.—*Flue Cleaner for Boilers.*—November 17, 1868.—The device consists of a tube scraper and a movable partition, which may be allowed to stand in any desired position, for the purpose of serving as a bridge wall, to direct the heat and prevent it from passing directly into the chimney.

Claim.—The tube scraper, constructed and arranged as specified, so as to form a partition for directing the products of combustion, except during the operation of scraping the tubes, as specified.

84,080.—CHARLES H. BASSETT, Derby, Conn.—*Check Hook for Harness.*—November 17, 1868.—The depression of the spindle is effected in the act of forcing the rein into or out of the hook, in consequence of the inclined surface presented by the conical head.

Claim.—The arrangement of the conical-headed spindle F through the bolt or base of the hook, and provided with a spring, arranged within the body of the bolt and spindle, so as to operate in the manner herein set forth.

84,081.—SANFORD O. BLANDING, Smithfield, R. I.—*Debris Check for Pump.*—November 17, 1868.—The pipe leading upward to the pump barrel is guarded by netting to prevent the upward passage of detritus and other extraneous matter, such matter being deposited in, and occasionally cleaned out from, the air chamber.

Claim.—A debris check or strainer *c*, water charging pipes D E, and air chamber A, arranged and combined substantially as described, for the purposes specified.

84,082.—ALMENA R. BOYLSON, Chicago, Ill.—*Waist-belt.*—November 17, 1868.

Claim.—A metallic belt supporter, made in sections, with an elastic or flexible piece *b*, interposed between the sections *a*, substantially as and for the purposes specified.

84,083.—GEORGE E. BRINCKERHOFF, Brooklyn, N. Y.—*Catamenial Sac.*—November 17, 1868.

Claim.—A catamenial sac, with four elastic straps, two of which are longer than the other two, and all attached to the sac, so that the latter may be adjusted on the body of the wearer in such manner that it will not interfere with the performing of the ordinary functions of nature, substantially as shown and described.

84,084.—JOSEPH H. BRINTON, Thornbury, Pa.—*Horse Hay Fork.*—November 17, 1868.—When the fork has nearly reached the height at which the hay is to be discharged, the ball on the main rope acts through the hinged arm upon one jaw and through the cord upon the other, thereby opening the fork and discharging the hay.

Claim.—1. The use of an adjustable ball or other enlargement upon the operating rope of a hay elevator, for automatically unloading the same, substantially as herein set forth.

2. The combination of the adjustable ball H with an arm, F, jointed to one of the jaws of a hay elevator, connected to the other by a cord, *h*, and having an opining, *e*, for the passage of the operating rope, the whole being constructed, arranged, and operating substantially as and for the purpose described.

84,085.—HENRY L. BROWN, Adrian, Mich.—*Horse Rake.*—November 17, 1868.—To discharge the rake, the operator presses his foot upon the stop and disengages it from the lever, which is then drawn backward by hand to raise the teeth.

Claim.—The segmental gears G and K, lever L, quadrant M, stop N, and spring O, substantially as herein described, and for the purposes specified.

84,086.—WILLIAM BROWN, Smethwick, England.—*Rolling Mill.*—November 17, 1868.

Claim.—1. The combination and arrangement, in rolling machinery such as described, of two sets of rolls, having parallel axes, the one set consisting of two rolls, and the other of three rolls, driven at different speeds, substantially in the manner and for the purposes herein set forth.

2. In conjunction with two sets of billeting or reducing rolls, the one consisting of two and the other of three rolls, driven at different speeds, and combined as herein specified, the arrangement of the flattening and edging grooves formed in said rolls, as described and shown, for preventing the necessity for turning the bar on passing from one set to another.

84,087.—J. M. BURDICK, Ilion, N. Y.—*Hay Spreader.*—November 17, 1868.—The bars carrying the tedder teeth are connected by cranks to a revolving ring which is confined between two rollers, and so arranged as to cause the teeth to point in the same direction, during their entire revolution with the tedder frame. Screw clamps secure the teeth upon the tedder bars.

Claim.—1. The combination and arrangement of the tedder teeth F F, bars E E, with cranks H H, and revolving ring I, constructed and arranged to operate substantially as described.

2. In combination with the teeth F F, the loop *b* and clamp *a*, for fastening said teeth upon the bars E E, substantially as described.

3. In combination with the tedding devices above claimed, hinging the shafts to the main frame A, and making their direction, relatively to said frame, adjustable by means of the link M, rock shaft N, and hand lever O, to raise and lower the tedder frame as required, substantially as described.

84,088.—Robert M. Campbell, Cambridgeport, Mass.—*Sash Supporter.*—November 17, 1868.—The screw, acting against the plate causes the journaled roller to bear against the window frame, with sufficient force to retain the sash at any degree of elevation. The sash, when closed, is locked in place by turning the screw, causing a projection on the plate to enter a notch in the side of the window.

Claim.—The within-described sash supporter and lock, consisting of the plate C, with its friction roll D, in combination with the screw E, and a projection *c*, for locking the sash when closed, operating substantially as described.

84,089.—William B. Choate, Galt, Canada West.—*Heat Radiator.*—November 17, 1868.—Consists of a flattened tube whose end pieces may be of cast-iron, while the remainder is of sheet iron, the parts being joined together by flanges.

Claim.—1. In combination with a radiator of serpentine form, the method of placing the flanges *d* and *f* on the end plates, substantially as shown and described.

2. Depressing the flue of the radiator after the curves or turns, so as to form a series of diving flues, substantially as and for the purpose set forth.

84,090.—Lyman Clinton, North Haven, Conn.—*Horse Rake.*—November 17, 1868.—Improvement on the rake patented by Clinton and Munson, May 22, 1866. Consists in combining with the foot treadle, which bears down the rake teeth, a second treadle, attached directly to the axle and serving to raise the teeth.

Claim.—The combination and arrangement of the two treadles D and E with the axle A, the one fixed directly to the axle, and both in relative position to each other, so as to be operated in the manner specified.

84,091.—John E. Coffin, Portland, Me.—*Machine for Folding and Cording the Edge of Paper.*—November 17, 1868.—The paper passes through three sets of rolls. By the first set the edges of the paper are turned up at a right angle. By the second set and its accessories the cord is guided into place and the paste applied near the upturned edges, and the latter are then folded down so as to inclose the cord. By the third set the folded and corded edges are smoothed.

Claim.—1. The creasing rolls *c d*, chutes *b b′* of guards *z*, pasting disks 1, 2, 3, grooved as shown, pressing roll *m*, and finishing rolls *p q*, all arranged and combined substantially as and for the purposes set forth.

2. The pasting disks 1, 2, 3, provided with grooved edges to receive the cord c^4, substantially as shown

84,092.—Z. S. Cracraft, Lacon, Ill.—*Means for Securing Springs to Slats of Bed Bottoms.*—November 17, 1868.

Claim.—Securing the semi-elliptic spring *b* to the slat *d*, by means of the coupling piece *e*, provided with the bent lips *e′ e′*, passing through slots in the slats, substantially as described.

84,093.—William J. De Grummond, Cincinnati, Ohio.—*Sash Fastener.*—November 17, 1868.—Spiral springs, arranged on one side of the window frame, press a strip against the side of the sash, and thus force a projection on the opposite side into cavities in the window frame.

Claim.—The series of springs marked F or F′, and the pieces D or D′, or the equivalent of said devices, in combination with the catch E and the series of cavities or notches K, as and for the purpose described.

84,094.—Thomas Dillon, Highland, Ohio.—*Corn Plow.*—November 17, 1868.—The plow blade is adapted to any kind of a plow, single or double shovel, sulky plow, or subsoiler.

Claim.—1. The tenoned plow beam E, pivoted in the beam A, and provided with a bent arm, F, by which it is adjusted at any height desired, substantially as herein set forth.

2. The curved plow blade H, provided with an ear or lug, I, for the purpose of attaching it to the plow beam E, substantially as herein set forth.

84,095.—Samuel Disston, Philadelphia, Pa.—*Attaching Handles to Cross-cut Saws.*—November 17, 1868.—The wooden handle is screwed into the tapering socket on the end of the slotted stem for holding the saw, which latter fits in a grooved washer covering the end of the ferrule.

Claim.—The socket B, forming a part of the slotted stem *b*, and having an internal screw thread for the end of the handle D, in combination with the grooved washer *e* and a ferrule E, having an internal screw thread adapted to a thread on the socket, the whole being constructed and arranged substantially as and for the purpose set forth.

84,096.—August Doepp, Newark, N. J.—*Compound for Treating Leather.*—November 17, 1868.—Composed of oleate of glyceryl, oil of tar, and nitrobenzine.

Claim.—A compound for treating leather, the chief ingredient of which is oleate of glyceryl, as set forth.

84,097.—V. C. Duclos, New Harmony, Ind.—*Plow.*—November 17, 1868.—An arm for raising and lowering the plow beam, pivoted to the rear end of the beam, extends upward between two uprights on the rear end of the hounds, and is held by a pin fitting in notches in the posts.

Claim.—1. The arrangement of the notched standards J J, arm K, and pin *d*, for the purpose of regulating the plow, substantially as herein set forth.

2. The combination of the hounds C C, hinged beam F, arm K, standards J J, and lever L, all constructed and operating substantially as and for the purposes herein set forth.

84,098.—William Edson, Boston, Mass.—*Sash Fastener.*—November 17, 1868.—A leaf, hinged to a plate secured to the window frame, is provided with a horn which rests against a segmental wedge on a lever pivoted to said plate. By pressing the lever down the leaf is pressed against the sash and holds it in position.

Claim.—The segment wedge F, horn H, and leaf A, operating in combination with the plate B, substantially as described and for the purpose set forth.

84,099.—John V. D. Eldredge, Detroit, Mich.—*Take-up for Sewing Machine.*—November 17, 1868.—The pin on the needle bar, engaging with the curve in the lever, causes the projection on the end of the lever to engage with the spring take-up, thereby slackening the thread so that the shuttle will only have to draw the thread through the stuff operated upon.

Claim.—The combination and arrangement of the needle bar F, provided with pin G, face plate B, provided with slot I, take-up spring E, and spring lever A, with the curve H, and projection D, all constructed as described and shown.

84,100.—Joseph Ellenberger, Easton, Ohio.—*Post Driver.*—November 17, 1868; antedated November 13, 1868.—A windlass is used to elevate the weight, sliding in guides, adjustable vertically.

Claim.—The arrangement of the adjustable guides K K, grooved weight R, slotted beam H, pulley *g*, cord *f*, and windlass I, with the frame constructed as specified, with its various parts, for operating as herein set forth.

84,101.—JAMES ENGLISH, Syracuse, N. Y.—*Shielding Arches for Evaporating Kettles.*—November 17, 1868.—The connecting ends of the two sections of the arch are corrugated so that they will engage when the supporting walls expand or contract. A cap covers the joint, and clasps and holds the sides of the arch.

Claim.—The combination of the inclosing shield C with the cogs *a a*. in the ends of the sections forming the joint, the whole arranged as described, and operating in the manner and for the purpose specified.

84,102.—CAROLINE F. FLEMING, Belleville, Ill. —*Washing Machine.*—November 17, 1868; antedated October 28, 1868.—The apertures between the sections of the roller allow the water to pass through the clothes.

Claim.—The roller B, when formed of the sector pieces *b*. and combined with the shaft C by the washer plates *c*, substantially as set forth.

84,103.—JAMES H. FOOTE, Pittsfield, Mass.—*Candle Cap.*—November 17, 1868.—The candle cap is provided with an annular flange rest to prevent the uneven melting and wasting of the candle.

Claim.—A candle cap, *a*, when provided with an annular flange rest, *b*, in the form and manner described, as a new article of manufacture.

84,104.—CHARLES E. FRAZIER, Baltimore, Md. —*Hydrant.*—November 17, 1868.—The hollow piston, in the chamber, is connected with the hollow screw in which the valve stem is fastened, and is rotated to open and close the valve by a handle pivoted to a rotating tube on the cap. The hollow piston can be raised or lowered to limit the space in the chamber to allow a space for receiving the water from the discharge pipe when the hydrant is closed to prevent freezing.

Claim.—1. The cap or top B C, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

2. The combination of the hollow screw H, and the valve stem I, arranged, constructed, and operated in the manner substantially as shown and described, and for the purpose set forth.

3. The combination of chamber F, screw H, rod I, and hollow piston *b*, arranged, constructed, and operated in the manner substantially as shown and described, and for the purpose set forth.

84,105.—PETER GEISER and DANIEL GEISER, Waynesborough, Pa.—*Threshing Machine.*—November 17, 1868.—A hook, extending from the tie through the wind case, is provided with a regulating weight so that the action of the register may be regulated according to the degree of strength designed to be given to the blast.

Claim.—1. A threshing machine and separator, combining in its construction the following elements, viz: An adjustable feed board, a cylinder and concave, two sets of reciprocating rakes, and a series of spur wheels and intermediate pinions for driving both rakes from the fan shaft, substantially as set forth.

2. The combination of the fan shaft, the two sets of reciprocating rakes, and the pinions U^2, X, X^1, X^2, and X^3, and arm, with wrists supporting the intermediate pinions X and X^3, substantially as set forth.

3. The arrangement of the shields in relation to the gearing for driving the rakes, substantially as and for the purpose set forth.

4. In combination with the reciprocating rakes, the intermediate notched bars, the slides and guides, the cranks, and the system of driving gearing, substantially as set forth.

5. So arranging the parts of the driving mechanism that the motion of the several parts shall be communicated from one to another at a regularly reduced speed from the cylinder to which the power is first applied, substantially in the manner set forth.

6. The cast shoe, side plates, with pivot or joint bearings, shelf or apron recesses, adjustable slide-board flanges, and with notched recesses to receive the second roller shaft, substantially as set forth.

7. The shoe, when constructed with combined metallic and wooden sides, and so arranged, in relation to the case of the separator, that blasts of air may pass between the shoe and the case, substantially as and for the purpose set forth.

8. In combination with the fixed register plates, the oscillating inner plates V^1, connected by a tie, V^2, and having one side loaded so as to open the register by gravity, and a regulating weight attached to the hook V^3, said parts being so arranged in relation to the blast as to operate substantially as and for the purpose set forth.

9. The dividing apron O, in combination with the graduating rib O^2, substantially as and for the purpose set forth.

10. The chaff board *g* for separating the tailings and the chaff, when constructed and arranged so as to be applicable, also for the purpose of closing the rear end of the winnower, substantially as set forth.

84,106.—CHARLES V. GENUNG, Duquoin, Ill.—*Rotary Pump.*—November 17, 1868.—A slotted V-shaped projection on the piston depresses an abutment connecting with the induction valve, and closes the latter. An opening in the abutment allows the water to enter the hollow cylinder from whence it is discharged through the center of piston and case.

Claim.—1. The hollow cylindrical piston A, having the slotted V-formed projection V, when used in combination with the follower B and vane C, as herein specified.

2. The hollow piston A, provided with the opening H, forming an eduction passage, substantially as described.

3. The vane C, having an enlarged head, forming the follower B, as specified, as arranged in relation to the trip D and valve E, as herein described and for the purpose specified.

84,107.—JOSEPH U. GEROW, Brooklyn, N. Y.—*Sash Lock.*—November 17, 1868.—The slotted bolt, provided with a sharp projection, is pivoted to the lock plate, and operated by an eccentric having a weighted handle, so that, when the projection on the bolt is forced into the window frame by the cam, the weighted handle tends to keep it in place.

Claim.—The arrangement and construction of the slotted and suspended plate A, to which is attached the projecting fastener D, with the weighted handle C', in combination with the cam B and lock plate or case E, as shown and described.

84,108.—SAMUEL D. GILSON, Oswego Falls, N. Y.—*Propeller for Canal Boats.*—November 17, 1868. —A number of small propellers are used instead of large ones, so that they may be placed lower down in the hull to operate when the boat is loaded or unloaded. Two boilers are employed, one of which is reserved, in case of accident to the other.

Claim.—1. The canal-boat, with pairs of shafts, *a a*, carrying propellers B, of small diameter, and applied on each side of the center of the boat, at its stern, upon said shafts, which are all on the same or nearly the same horizontal plane, and driven substantially as described.

2. The combination and arrangement of two small steam boilers, depressed engine, and boiler room E, and shafts *a a*, with small propellers, B, in pairs, on each side of the center of the boat, substantially in the manner and for the purposes described.

84,109.—JAMES GRAY, Albany, N. Y.—*Magazine Stove.*—November 17, 1868.

Claim.—1. In a base-burning stove, having a fuel magazine suspended free from the grate, and having an unobstructed free space around and below it, and having an illuminated casing surrounding the same, the construction of descending flues N N, passing from the brim of the fire pot C, and outside the base A', and near the front of the stove, into annular flue K, in combination with ascending flues L and O, chamber R, and descending flue T'', substantially as shown and described.

2. The construction of hooded chute I, with a flue opening, T, upon the top thereof, for the purpose of causing the products of combustion from flue O to pass through the said hooded chute on their passage

to exit flue M, substantially as and for the purpose set forth.

3. The combination of the intermediate air chamber J, the descending flues N N, the annular flue K, and the ascending flue L, substantially as shown and described.

4. The combination of the combustion chamber E, flue O, and hooded chute I with its top flue opening T, substantially as herein set forth.

5. The revolving cover or valve Q, in combination with the coal reservoir H, and the hooded chute I, substantially as and for the purposes herein set forth.

6. In a coal stove or furnace, having a depressed fire pot, and a supplying reservoir sustained free from the grate and fire pot, and so arranged that the inflamed gases may burn in a free space, so constructing and arranging such stove or furnace, that a portion of the products of combustion arising from the fire will be conducted up, around, and above the reservoir H and hooded chute I to the top of the stove, and at the same time another portion of said products of combustion will be carried down outside the fire pot C, to and around the bottom of the stove, thereby producing an equal degree of heat over the entire surface of the stove, substantially in the manner herein described.

84,110.—John Gray, San Francisco, Cal.—*Hydrocarbon Burner.*—November 17, 1868.—The gas flows from the retort through openings in the bottom of the tube, and escapes around the metal plug, which can be raised or lowered to increase or diminish the size of the flame.

Claim.—The above-described adjustable burner, consisting of the cylinder B, plug E, adjusting stem D, and openings *a a*, constructed and arranged substantially as described.

84,111.—A. C. Greth, Reading, Pa.—*Wrench.*—November 17, 1868.—A roller, having bearings in slots in a case placed over the jaw of the ordinary monkey-wrench, causes the jaws to gripe the pipe more firmly as the pressure of turning increases.

Claim.—1. The roller B, moving in the slides *e e*, when applied to the jaw of a wrench in the manner described, for the purpose set forth.

2. The shell or case, of substantially described construction, when carrying the roller B, and fitted to be placed over the jaw of an ordinary monkey or key wrench, in effect as and for the purpose set forth.

84,112.—Albert Hallowell, Lowell, Mass.—*Gas and Steam Fittings.*—November 17, 1868.—The screw core is passed upward through the center of the mold, thus bringing the top side of a disk on the core against the bottom of the mold, which latter is made in two pieces clamped together. The metal is poured in at the flaring annular gate around the top of the screw case, and after cooling the screw core is withdrawn, the mold unclamped, and the casting withdrawn from the die.

Claim.—The mold or molds, constructed and arranged substantially as described, for the purpose of forming finished fittings, or parts of fittings, as and for the purpose specified.

84,113.—Alexander Hamar, New York, N. Y.—*Roasting Iron Ores by Waste Gases.*—November 17, 1868.—The ore is fed continuously through the furnace and roasted by the waste gases from the blast furnace.

Claim.—The combination, as set forth, with the kiln, of the open top for charging the raw ore, the open bottom for discharging the roasted ores, the flue, encircling the roasting chamber, and communicating with it by the slits *d*, and a fan, for forcing in the heated waste gases escaping from the blast furnace.

84,114.—A. Hammon, Paris, France.—*Machine for Forming Tin-lined Lead Pipe.*—November 17, 1868.

Claim.—1. The combination and arrangement of the sliding cross-head F′, vertically slotted nuts and screws *f* H, or their equivalents, and pillars C C′, for the purpose of adjusting the die *e* to the mouth of the mold, in the manner described.

2. The combination and arrangement of the lifting apparatus, consisting of a cylinder, G, and the parts thereto attached, with the slotted nuts and screws H *f*, or their equivalents, and pillars C C′, for the purpose of confining, releasing, and moving the cross head F′, at the times specified and for the purposes set forth.

84,115.—William S. Harrison, Germantown, Tenn.—*Washing Machine.*—November 17, 1868.—The connecting lever between the operating levers of the upper of two semi-cylindrical wash boards is adjustable.

Claim.—The frame F, hinged at one end of the stationary tub, and provided with levers G, connecting the board A, and with an adjustable lever for operating the interior board B, with slotted arms *m*, all as herein shown and described.

84,116.—Henry Hauer, Philadelphia, Pa.—*Padding or Stuffing for Harness.*—November 17, 1868.

Claim.—The stuffing of collars, saddles, and other parts of harness, with granulated cork, combined with a gum-elastic or other equivalent cement, as and for the purpose herein set forth.

84,117.—B. R. Hawley, Normal, Ill.—*Drying Kiln.*—November 17, 1868.—The cold air enters the kiln through a chamber in the bottom of the house surrounding the fire box, and is heated by the plates of said box, and ascends into the hot air chamber through which the smoke tubes from the fire box pass.

Claim.—1. The dry house or kiln A, when provided with an inlet, *b*, surrounding the fire box, at or near the base of the house, and with the heating chamber B′, which is to be so arranged as to conduct the heated air to the top of the building, and the upcast shafts or chimneys D, when the latter are arranged to take the vitiated or spent air from the bottoms of the chambers A′, substantially as described and for the purpose shown.

2. The fire box B, the smoke tubes C, and the hot air chambers *b* and B′, when constructed and employed as and for the purpose set forth.

84,118.—David B. Hedden, Newark, N. J.—*Chair.*—November 17, 1868; antedated November 5, 1868.—Pins running across the grain of the wood through the seat serve to strengthen it. Holes bored in the seat to lighten it are closed at their outer ends by plugs. The legs are made in one piece, and bent to the desired shape. The back is provided with metal pieces which fit in grooves on the bottom of the seat.

Claim.—1. The seat C, constructed with one or more pins *d*, and the holes E with the plugs F, substantially as and for the purposes set forth.

2. In combination with the said seat, the legs A B, constructed and secured as described.

3. In combination with the said seat, the back G, constructed and secured in the manner described.

84,119.—Clement F. Hinman, Chicago, Ill.—*Composition Roofing.*—November 17, 1868.

Claim.—A roofing composition, composed of coal tar, clay, (or other similar suitable substance,) glycerine, and dissolved India-rubber, either with or without animal oil, substantially as and for the purposes specified.

84,120.—Dwight Hitchcock, Syracuse, N. Y.—*Roofing Compound.*—November 17, 1868.—Composed of calcareous tufa, marl, sand, and coal tar.

Claim.—A roofing compound, composed of the within ingredients, in about the proportions mentioned.

84,121.—Sidney S. Hogle, Berea, Ohio.—*Seeding Machine and Cultivator Combined.*—November 17, 1868.—The machine is constructed so that the ground will be cultivated, harrowed, seeded, and rolled at one continuous and simultaneous operation.

Claim.—1. The revolving cultivators E, as arranged in combination with the jointed frame A, for the purpose and in the manner substantially as set forth.

2. The combination of the revolving cultivators E and rollers B B′, in the manner as and for the purpose specified.

3. The combination of the revolving cultivator E rollers B B′, and seeding boxes, substantially as and for the purpose specified.

4. The special construction and arrangement of the drill box A′, when operated in the manner as and in combination with the cultivators E and rollers B B′, for the purpose described.

5. The slotted standards *i*, revolving cutters or disks F′, in combination with the box D, in the manner as and for the purpose set forth.

6. The windings, wings, or ribs *d*, as arranged in combination with the wings *c* and roller I, for the purpose set forth.

7. The combinations of the toothed wheels K, rollers B B′, agitator I, and chain J, for the purpose specified.

84,122.—Guy C. Humphries, Washington, D. C.—*Can Opener.*—November 17, 1868.—The knife has its fulcrum between the two outside edges of the bearing block, which latter edges prevent any slipping of the block while the knife is cutting.

Claim.—The bearing block C, hinged or pivoted to the knife A A′, substantially as and for the purpose set forth and described.

84,123.—Daniel Hussey, Nashua, N. H.—*Differential Gear Elevator.*—November 17, 1868.—The pulley over which the belt passes rotates on a stationary internally-toothed wheel. A differential gear revolving on a stud secured to the side of the pulley, is composed of two gear wheels, one of which meshes into the stationary toothed wheel and has one more tooth than the other one which gears into the toothed wheel secured to the pinion shaft. The pulley must make as many revolutions as there are teeth in the smaller gear wheel to cause the pinion shaft to be turned over.

Claim.—The combination of the racks *c c*, pinions *d d*, internal gears *j* and *l*, and differential gear *k*, when constructed and operating substantially as and for the purposes described.

84,124.—Benjamin A. Jenkins, La Crosse, Wis.—*Iron Window Shutter.*—November 17, 1868.—The ends of the pins supporting the slats are bent and prevented from being withdrawn by a retaining strip.

Claim.—1. Metal slats *a*, which, in transverse section, are of a form very similar to the letter U inverted, the leaves of each slat being pressed together, so as to leave an air space between them, and form an eye just below the arch of the U, to receive and confine the pivot on which the slat is hung, all as herein described and shown.

2. As a new article of manufacture, the metal window shutter, with its hinging sides, made of U-iron, and its closing sides, of a similar shaped iron, lapping at the closing edges, said shutter having its slats double, and pivoted to the arch of the U-iron, and also having its bar, which adjusts the slats, made of U-iron, and connected to the slats by iron brackets, all as described.

3. The arrangement of the U-sheet metal hinging facing strips G G, in combination with the double slats and U-metal frame, all in the manner described and shown.

4. The pins *c*, carrying slats *a*, with bent ends, in combination with the retaining strip *b*, as herein described.

84,125.—John Klepzig, San Francisco, Cal.—*Lemon Squeezer.*—November 17, 1868.—A movable button supported by a spiral spring is placed in an opening in one of the levers. The juice from the lemon is expressed through a hole in the button into a receptacle while the rind is pressed closely against the face of the button.

Claim.—The movable button E, with its opening H, the spiral spring F, in combination with the two levers A and B, operating substantially as and for the purpose specified.

84,126.—Charles Lewando, Boston, Mass.—*Caster.*—November 17, 1868.—The sphere rests against concave friction rollers which are set diagonally in the caster frame.

Claim.—In a ball caster, the concaved friction rollers D D′ D″, said rollers running on inclined axles, made substantially as described, and for the purpose set forth.

84,127.—William Louden, Cedar Township, Iowa.—*Elevator.*—November 17, 1868.—Designed as an improvement on his patents of September 24, 1867, and March 17, 1868.—The track is so attached to the ridge pole as to be suspended without ascending into the barn peak. A keeper or guide prevents the lateral play of the lever over which the rope from the latch passes.

Claim.—1. The within-described arrangement of the bar N, for suspending the track or railway A, substantially as set forth.

2. The manner of attaching the pulley E to the track or railway A, substantially as shown and described.

3. The adjustable stop P, when provided with a projecting pin or hook, around which the hoisting rope is fastened, substantially as shown.

4. The lever L, so arranged and operated that it can be used both as a latch and as a brake, substantially as shown and set forth.

5. The combination of the levers L L′, having a flexible or sliding connection, substantially as and for the purpose set forth.

6. The levers L L′, having a flexible connection, in combination with a weight for producing, and a stop, F, for releasing the pressure on the hoisting rope, substantially as and for the purpose set forth.

7. So arranging the latching apparatus that the hoisting rope will pass by, instead of through it or around it, and the latch be released by one edge of the plate S coming in contact with it, substantially as set forth.

8. The guide or keeper K, for the purpose specified

84,128.—John Magoffin, St. Louis, Mo.—*Womb Supporter.*—November 17, 1868.—The plate on the inferior rod is curved to fit the posterior side of the anterior lip of the uterus. The superior rod is armed with teeth which shut down on the plate and grasp the uterus, which can then be moved about for proper adjustment.

Claim.—1. The instrument herein described, consisting of the curved rods A B, having their forward ends provided with the plate *b* and claws *a′*, and pivoted together by means of the pin *a*, substantially in the manner and for the purpose described and set forth.

2. The instrument A B, in combination with the external supporter C, as described and shown.

3. The arrangement of the adjusting screw D, by pivoting it to the rod B, and sliding it in a slot in the end of the rod A, as described and set forth.

84,129.—Jabez F. Mason, Brooklyn, N. Y.—*Scrubbing Brush and Mop.*—November 17, 1868; antedated November 2, 1868.—A ring on the end of a metal socket of the handle is placed over a circular flange on the center of the plate and is secured thereto by the flange of the mop handle and a screw on the stem passing through the metal plate on the brush. The thumb screw secures the handle in any position.

Claim.—1. A handle attachment for a scrubbing brush, formed of the ring *c*, flange *i*, stem *e*, and screw, in combination with the plate *b* and thumb screw *g*, substantially as and for the purposes specified.

2. The mop frame on the stem *e*, in combination with said handle attachment for a scrubbing brush, substantially as specified.

84,130.—Silas Merrick, New Brighton, Pa.—*Coffin.*—November 17, 1868.—The sheet metal sides and bottom are held together by angle iron. Strips of wood secured to and even with the top edge of the sheet metal sides are provided with rubber packing on which the cast-iron lid rests.

Claim.—In the construction of coffins, burial cases, or caskets, the sheet metal bottom A, the angle iron B, the sheet metal sides and end plates C C, the strip of wood D, the rubber packing E, in combination with the cast metal top F, arranged substantially as and for the purposes herein described and set forth.

84,131.—Adolph Millochau, New York, N. Y., assignor to himself, Jules Marcrlin, Louis A. Geyer, and Edwin D. Barnes.—*Manufacture of Lampblack.*—November 17, 1868.
Claim.—The use of lampblack as a porous material, to supply oil to the flame in the manufacture of lampblack.

84,132.—Charles Nivert, Paris, France.—*Steam Device for Washing Buildings.*—November 17, 1868.—A water reservoir and steam generator secured to the truck are connected with injectors which discharge the water in a heated state against the building to be cleaned.
Claim.—The combination of the injectors A A, their delivery pipes *f*, tank C, communicating through pipes *a a*, with the injectors, and steam generators G, communicating with the injectors through pipes *d*, the whole being arranged and constructed as herein set forth.

84,133.—A. L. Peters and G. M. Peters, Lancaster, Ohio.—*Dropper for Harvesters.*—November 17, 1868.—The tilting platform is supported by two parallel bars pivoted to the platform at one end and to the finger bar at the other so as to have a motion like a parallel rule. By this device the platform is swung to the rear of the machine, where, being hinged to a supporting platform, it is tilted in a line at right angles to the path of the machine.
Claim.—1. A dumping platform, which is adapted to be swung or vibrated, in the arc of a circle, to a position behind the frame. for discharging the gavel, while, at the same time, it preserves the parallelism with the finger bar.
2. The tilting or dumping platform, in combination with means for operating the same, whereby said platform is adapted to be swung to a position behind the main frame, and there tilted upon a pivot or hinge parallel with the platform, and at right angles to the path of the machine, as set forth.
3. The parallel arms or links C C′, or their equivalent, for supporting and operating the platform, as described.
4. The combination of the parallel arms or links, platform bar, and tilting platform, hinged or pivoted thereto.
5. The retaining teeth, in combination with the platform bar and tilting platform.
6. The arrangement of the fulcrum of the cut-off in rear of the cutting apparatus, and above the same, so that said cut-off, in being operated to intercept the falling grain, shall be moved downward and forward in the arc of a circle, the center of which is in rear of and below said cut-off, as described.
7. The inclined way or cam, on the heel of the shoe or drag bar, for raising the platform as it is swung to the rear of the frame for the discharge of the gavel, substantially as described.
8. The angular extension of the platform arm C′, or its equivalent, operating in combination with the platform, substantially as described.
9. The forked lever or its equivalent, for operating the cut-off, in combination with the vibrating cam or cam rod on the platform arm C′ or platform, substantially as described.
10. The combination of the swinging and tilting platform. cut-off, and means for operating the same, substantially as described.

84,134.—S. A. Poché, St. James Parish, La.—*Apparatus for Evaporating Cane Juice.*—November 17. 1868.—The kettles are secured to the top of the boiler and heated by means of steam.
Claim.—The boiler A, when constructed substantially as described, and combined with a set of sugar kettles, as and for the purpose set forth.

84,135.—William M. Rennyson, Pottsville, Pa.—*Lubricator.*—November 17, 1868.—The neck is provided with a shoulder to hold the rubber gasket. The oil cup is steadied by a strap embracing the cup and attached to the rubber gasket.
Claim.—The combination of the reservoir A, neck B, shoulder *a*, rubber gasket C, and strap D, all constructed and operating substantially as and for the purposes herein set forth.

84,136.—Leonard Rickard, Danville, Ill.—*Ditching Machine.*—November 17, 1868.—The wings are adjuustable, so that the ditch can be made of any width desired.
Claim.—The arrangement of the point I, mold boards H H and B B, adjustable wings D D, and braces C C, all constructed and operating substantially as herein set forth.

84,137.—William C. Rogers, Newark, N. J.—*Reefing Fore-and-aft Sails.*—November 17, 1868.—The roller to which the lower part of the sail is secured has bearings on the boom, and is rotated by an endless screw engaging with a pinion on its end.
Claim.—The combination and arrangement of the pinion K, endless screw L, and crank M, attached to the upper side of the jaws P, and operating the roller at its inner end, as herein described and for the purposes set forth.

84,138.—John L. Rohrer, Upper Leacock, Pa.—*Harvester Reel.*—November 17, 1868.—An adjustable plate secured to the reel standard is provided with a pin eccentric to the reel axis, on which a triangular plate rotates. Wires extend from the several corners of the rakes and connect with the arms of the triangular plate, so that the rakes will be retracted from the grain and be covered by the reel blades just after passing the cutters.
Claim.—1. A rake, F, arranged upon the beater of a harvesting machine. and adjustable thereon, so that its teeth may be projected beyond, or withdrawn from the edge of the beater, substantially as and for the purpose described.
2. The revolving beaters or blades D, and their adjustable rakes F, in combination with a pin *i*, arranged eccentric to the axis round which the blades revolve, and connected to the rakes, substantially as and for the purpose specified.

84,139.—James S. Shields, Medora, Ind.—*Fruit Box.*—November 17, 1868.—Springs secured in grooves on the inner surface of the end pieces press against the cleats on the top and sides.
Claim.—1. A box or crate, having its ends secured therein by means of cleats on the end pieces, and grooves on the sides, top, and bottom of the box, substantially as shown and for the purpose described.
2. In combination with the ends of the box, the secret springs F, substantially as shown and described.

84,140.—James Y. Simons, Troy, N. Y.—*Shoemaker's Shave.*—November 17. 1868.—The knife rests upon bars cast on the stock of the shave, and is held by a cap sliding under lugs on the stock, and a screw.
Claim.—1. The combination of the bars B and C, and lugs I I, the knife D. cap G, and screw H, substantially as and to the effect hereinbefore set forth.
2. The formation of the handles A, in such a manner as to give space for the fingers below them, and with downward projections at their ends, substantially as set forth.

84,141.—Thomas J. Smith, Jackson, Mich.—*Apparatus for Raising Fences.*—November 17, 1868.—A hook is attached to the end of the lever of a carriage jack for the purpose of raising fences.
Claim.—The combination, with the lever of a carriage jack, of a hook, H, substantially as and for the purpose described.

84,142.—William Sydnry Smoot, Washington, D. C.—*Wrench.*—November 17, 1868.—The head is provided with a claw and a V-shaped depression and the sliding jaw with teeth, so as to be used as a pipe wrench. The end of the handle forms a screw driver.
Claim.—A wrench, constructed with a head, A, handle B, and sliding jaw C, when arranged substantially as and for the purpose set forth.

84,143.—Robert Spencer, New York, N. Y.—*Fire Proof Compound.*—November 17, 1868.—Composed of silicate of soda, plumbago, and fire clay.

Claim.—A fire-proof molding compound or paint, composed of the within-described ingredients, mixed together in about the proportions set forth.

84,144—Greenleaf Stackpole, New York, N. Y.—*Lever Power for Sewing and Knitting Machines.*—November 17, 1868.—On each side of the friction wheels are friction rings which are alternately forced in contact with the wheel by levers on the grooved wheels, which latter are rotated by means of a cord secured to the frame and to the thumb nut. The brake is hinged to the lower side of the table and is kept out of contact with the balance wheel by a spring.

Claim.—1. The application to the sewing machine and knitting machine of an auxiliary lever power, consisting of the friction wheel E, or its equivalent, when used to produce continuous motion by the alternate application of friction to its opposite sides, substantially as and for the purpose set forth.

2. The cord I, frame *j*, and thumb nut L, substantially as and for the purpose set forth.

3. The brake P, as and for the purpose set forth.

84,145.—John Stitt, St. Johns, Mich.—*Log Cart.*—November 17, 1868.—One end of the log chain is attached to the rear of the hounds; the other end is secured to a windlass shaft, which is rotated by a weighted lever provided with a pawl engaging with a ratchet wheel on the windlass shaft.

Claim.—The arm E, cast with hollow axle F, when constructed and operating substantially as herein described.

2. The weighted lever T, pawl S, and ratchet wheel R, in combination with windlass O, rope M, block N, and chain U, when arranged and operating substantially as described.

3. The combination of the above-mentioned parts with the cross ties H, hounds I, pole J, braces K, hook L, bearing Q, evener X, and connecting rods Y, when constructed, arranged, and operating substantially as herein described.

84,146.—Worden E. Stoddard, Fort Edward, N. Y.—*Scrubbing Machine.*—November 17, 1868.—Water and soap are placed in the tub and the slot in the hollow shaft is closed by a rod. The movable collar is made to engage with the fixed collar, and the shaft, being rotated, the arms are revolved and the soap and water mixed. The arms are then dropped and the soapy water passes through the hollow shaft to the brush.

Claim.—1. The arrangement of the hollow shaft D. pinion F, cog wheel G, shaft H, crank J, bottom B, and cross bar E, all substantially as and for the purposes herein set forth.

2. The combination of the hollow shaft D and stationary collar M with the movable collar N, plate O, arms P P, rods R R, collar S, arm T, and screw V, all arranged and operating substantially as and for the purposes herein set forth.

3. The arrangement of the hollow shaft D, provided with a slot, *a*, and the rod *b*, substantially as and for the purposes herein set forth.

4. The combination of the hollow shaft D and tub A, with a circular brush, scourer, or drier, when arranged and operating substantially as and for the purposes herein set forth.

84,147.—Charles Streit, Indianapolis, Ind.—*Extension Lounge.*—November 17, 1868.—The bottom of the lounge is made of tongued and grooved boards, every alternate one of which is attached to the movable front rail, so that they may be drawn out to widen the lounge.

Claim.—The slats B, attached to the movable front rail A, movable pieces I and J, and to the strip C, in combination with the slats E, attached to the strip F, and the slats D, attached to the front and rear rails of the principal frame, when constructed and arranged to operate substantially as herein described.

84,148.—Edward W. Taylor, Norristown, Pa.—*Hydrocarbon Burner.*—November 17, 1868.

Claim.—1. The improved process of producing in intensity, and at small expense, heat and other effects of combustion by burning petroleum and other liquid and liquescent fuel on the surface of an open plate, surmounted and combined with an incombustible covering, without the intervention of sand or other materials, the combustion being facilitated and the effects intensified by the employment of a current of steam passing into the fire chamber, substantially as shown and described.

2. The blast apparatus assisting in said process, being the arrangement described, of the air passage D, in combination with the steam receptacle E, arranged to move up and down, and the method of bringing heated steam into union with the air at a point and in a mode as described, so as to form a most intimate union, and at the same time creating a powerful blast, conveying the mixture into combination with the burning fuel.

3. The combination of a fuel plate with a blast apparatus, assisting in the combustion of liquid and liquescent fuel, substantially as shown and described.

4. The slide P, as a device for the purpose of accommodating hydrocarbon burners to fire boxes and other spaces of varying sizes, without requiring the burners in such cases to be constructed on different scales.

84,149.—William H. Towers, Boston, Mass.—*Hoop Skirt.*—November 17, 1868.—Steel wires are substituted for cords, by which the hoops are ordinarily suspended, thus decreasing the number of hoops and the weight of the whole skirt.

Claim.—As a new article of manufacture, a hoop skirt, consisting of the bustle hoops *a a*, flounce hoops *b b*, and suspending wires D D, arranged substantially as herein described.

84,150.—Wesley Westfall, Chelsea, Mich.—*Field Roller.*—November 17, 1868.—The rollers have bearings on pivoted frames so as to adapt themselves to any inequalities of the ground.

Claim.—The frames B B B and C C C, when constructed as described, and secured by the pins F, to bear the rollers A′ A″, all arranged, constructed, and operating as described and shown.

84,151.—Cyrenus Wheeler, Jr., Auburn, N. Y.—*Harvester.*—November 17, 1868.—The main frame has a hollow cylindrical projection on one side for holding the box of the bevel wheel shaft, and to serve as a hinge for connecting the tongue and crank frame, and having an axle for the driving wheel on the other side, which is adjustable, so as to be set at different heights on the main frame. Devices are employed for locking the tongue and crank frame to the main frame when adjusted at different heights.

Claim.—1. A main frame, having a tubular projection on one side, for supporting the bevel wheel shaft, in combination with an axle for the driving wheel, bolted to the other side, substantially as described.

2. A main frame, having a tubular projection on one side, for supporting the bevel wheel shaft, in combination with an adjustable axle on the other side, for receiving the driving wheel, substantially as and for the purposes described.

3. In combination with a main frame and an adjustable crank frame, an adjustable axle, as and for the purposes set forth.

4. In combination with a main frame, an adjustable crank frame, an adjustable tongue frame, and an adjustable axle, substantially as set forth.

5. So uniting the platform with the finger bar as to compensate for the sag of the platform, or its tendency to spring or bend when in use in reaping.

84,152.—John T. Wilson, Pittsburg, Pa., assignor to himself, Frank Rahm, and Thomas J. Louis, same place.—*Railway Rail Coupling.*—November 17, 1868.—The joint plate has a flange formed on it which fits over the ends of the rails, and its tongue extends through the splice brace and is held by a wedge.

Claim.—1. Strengthening the joints between contiguous rails by means of the chairs *c* and the inclined wrought iron splice piece E, having horizontal flanges *d* struck up upon it, and connected together and supporting the ends of said rails, in the manner and for the purpose described.

2. In combination with the chairs, splice piece, and ends, or joint between the rails, the joint plate F, held to the base of the rails and to the splice piece, substantially as and for the purpose described.

84,153.—HERMAN JOHN WALTERS, Chester, Mass.—*Burglar Alarm.*—November 17, 1868.—The horizontal sliding rods, connecting with the door, act against a bar on the pendulous tripper which releases the vibrating match carrier, thus igniting the lamp. Each rod is provided with an index hand which apprises the sleeper of the point at which entrance is being effected.

Claim.—1. The combination, with the horizontal sliding rods *t*, for actuating the bar *s*, of the upright posts *a′*, and their pointers *c′*, moving in slots formed in the case A, and arranged, with relation to the numerical figures or letters attached to the said case, as herein shown and specified.

2. The combination, with the vibrating bar *s*, operated by the rods *t*, as described, and the tripper *m*, to which said bar is attached, of the vibrating match carrier, and its actuating spring, arranged to operate in connection with the friction plate *k* and lamp *a*, as herein shown and specified.

3. The herein-described construction and arrangement of the friction plate supporter *h*, so that it may be adjusted to any desired distance and angle, with respect to the swinging match carrier, as and for the purposes set forth.

84,154.—T. G. YEOMANS, Walworth, N. Y.—*Grape and Vine Trellis.*—November 17, 1868.—A short lever is attached to each of the wire bars for the purpose of tightening or loosening them.

Claim.—The combination, with the independent wires C C′, of the lever B, having openings at different points, whereby said wires are connected thereto, and thereby tightened, and a sliding ring, *d*, for holding the wires when so tightened, substantially as described.

84,155.—BENJAMIN F. ZINN, Mount Rock, Pa.—*Open or Middle Ring.*—November 17, 1868.—This ring can be used to connect the single and doubletree of the wagon, or as a substitute for broken links of chains.

Claim.—The oval or circular parts A A and B B, with the trapezoidal extension C and D, and the trapezoidal apertures C and D, and the rivet or bolt and screw E, connecting the parts A A and B B, all combined and operating in the manner and for the purpose herein set forth.

84,156.—ELIJAH BAKER, Lorraine, assignor to himself and AUGUSTUS L. BAKER, Mannsville, N. Y.—*Reel.*—November 17, 1868.—The movable arm, provided with hooks, which fit in a groove on the nut, is advanced or retracted with the nut when being secured to or disengaged from the other arm. One of the pins holding the skein is adjustable toward and from the center of the reel.

Claim.—1. The screw *b*, nut D, and hooks *a a*, in combination with the arms A A′, by means of which said arms may be secured together or disconnected, for the purpose herein specified.

2. In combination with the above, the pins E E′ E″ E‴, the latter made adjustable by means of the screw F, substantially as and for the purpose herein shown and described.

84,157.—PETER H. BAKER, Virginia City, Nevada.—*Mode of Fastening Straps to Boots.*—November 17, 1868.

Claim.—The plate A, constructed as described, provided upon its outer edges with the long teeth *a*, and upon its inner edges, opposite to each other, with the short teeth *a′*, said plate secured to the boot and strap by inserting the teeth, and lapping the outer rows *a* over the inner rows *a′* upon each side of the frame, as herein described, for the purpose specified.

84,158.—VINCENT M. BAKER, Preston, Minn.—*Water Wheel.*—November 17, 1868.—The water first acts on the concave and convex parts of the bucket by impact, and then descends and exerts a reactive force against the lower part. The rods secured to the gates pass through oblong slots in an annular rim, which latter, on being turned, opens and closes the gates.

Claim.—1. The buckets C, composed of the three parts *a a′ b*, constructed and arranged as described, to be acted upon by the water, as herein set forth.

2. The gates D, composed each of two plates, *e f*, arranged as shown, and connected to the rim *h* by rods *g*, in combination with the tangential plates *d*, between the rims A B, all being constructed, arranged, and made to operate substantially in the manner as and for the purpose set forth.

84,159.—WARREN S. BARLOW, Paterson, N. J.—*Door Spring.*—November 17, 1868.—When the door is opened so that a line drawn from the center of the stud to the hinge will be perpendicular to the face of the spring the door will be held, but if pushed on either side of that point of contact the door will be acted upon by the spring and opened or closed.

Claim.—The within-described combination and arrangement, with a door or blind, A, and casement B, of a spring, C, and stud D, in such manner as that the opening of the door or blind shall draw or extend the spring, substantially as herein set forth.

84,160.—MANFRED C. BATTEY, Washington, D. C.—*Awning for Horse Cars.*—November 17, 1868.—The awning is attached to the ridge pole and to the hinged arms, and can be folded up or opened out by means of the ropes within reach of the driver.

Claim.—1. The combination of the pole A and hinged arms B C with a system of ropes and pulleys capable of folding or expanding said hinged arms, in the manner described.

2. The arrangement of pole A, hinged arms B C, fixed arms D F, and ropes G I, substantially as described and shown.

84,161.—A. BIGELOW, Hamilton, Canada.—*Shaft Coupling.*—November 17, 1868.—The purpose is to provide for free rotation when the shafts are out of line with each other.

Claim.—The shells B B on shaft A, in combination with the rings D, and sockets F F, which receive the shafts G G, the rings and sockets being connected together, and the shells, respectively, by the bolts E H, with the bolts E passing through the bolts H, all being constructed and arranged substantially as and for the purpose set forth.

84,162.—AMOS S. BLAKE, Waterbury, Conn.—*Padlock.*—November 17, 1868.—The cup and cone are capable of sliding longitudinally upon the spindle. When the cone and lock frame are in contact, the latch preserves the relative position of the parts, and the device may be said to be locked. When the device is to be unlocked the key is introduced, the latch turned, and the cup and cone slidden upon the spindle so as to carry the recessed end of the cone away from the engaging extremity of the frame.

Claim.—The frame A, provided with the spindle B, in combination with the cup C, provided with the catch or bar D, or its equivalent, and the cone E, attached to the cup, all being constructed and arranged substantially as and for the purpose specified.

84,163.—E. K. W. BLAKE, Chicago, Ill.—*Velocipede.*—November 17, 1868.—Springs, connected by belts to small drums projecting from the loose pulleys, retract the pulleys to wind on the propelling belts.

Claim.—1. The combination with the driving axles, having the fixed ratchets C, of the loose pulleys B, actuating pawls, and propelling belts, the latter passing over guide pulleys at or near the front of the machine, substantially as and for the purpose described.

2. The combination with the axle of the guiding wheel, of the slotted guide brackets I, swinging bearings K, adjustable foot rests L, and retracting springs M, all substantially as and for the purpose described.

84,164.—D. C. Brewster, Kent, Ohio.—*Extension Spoke.*—November 17, 1868.—The threaded thimble nut is adjustable upon the screw, so that the spoke is practically extensible, the object being to tighten the tire.

Claim.—The socket F, tenon C, screw D, and thimble nut E, all constructed and arranged as shown and described, in combination with the spoke A and felloe B, substantially as and for the purpose set forth.

84,165.—Horace C. Briggs, West Auburn, Me.—*Hoeing Machine.*—November 17, 1868.—The clevises or draught irons are adjustably attached to the forward upward-curving ends of the runners, to which the hoes are attached, and by this means the working depth of the hoes is made variable. The position of a slide governs the vertical play of the tongue.

Claim.—1. The combination of the cross bars A and B, longitudinal bars C, runners D, curved parts or pieces G, and plows or hoes I with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the inwardly-projecting, adjustable hoes J with the rear ends of the runners D, substantially as herein shown and described, and for the purpose set forth.

3. The draught irons H, constructed as desired, in combination with the curved parts G of the runners D, substantially as herein shown and described, and for the purpose set forth.

4. The combination of the adjustable bar or slide L with the hinged tongue K, and front cross bar A, substantially as herein shown and described and for the purpose set forth.

84,166.—Amos W. Brown, Lansingburg, N. Y. —*Brush.*—November 17, 1868.—A flexible brush, designed chiefly for "rubbing down" horses.

Claim.—As a new article of manufacture, the horse brush, having its parts A A B connected together by the transverse leather hinges *e e*, and by the longitudinal metallic spring *d*, covered with strips of veneering, *b*, as herein described, for the purpose specified.

84,167.—James B. Brown, Peekskill, N. Y.—*Garden Roller.*—November 17, 1868.—The weights, which impart the requisite heaviness to the roller, are provided with hooked shanks, whereby they are suspended from the axle, so as to enable them to be readily detached.

Claim.—The combination of the weight D and shank *a* with the shaft B, squared portions *b b*, handles C, and roller A, as herein shown and described.

84,168.—Joseph Buchtel, Portland, Oregon. —*Contact Pad for Photographic Printing.*—November 17, 1868.—One end of the pad can be raised without destroying the pressure on the other.

Claim.—The use of the elastic pad *a*, filled with fluid, air, or gas, and also the eyelets *b*, with the attendant screws, together with the diaphragm *e*, substantially as set forth and for the purpose described.

84,169.—C. J. Bugh, Eau Claire, Wis.—*Tanning Process.*—November 17, 1868.—The specification describes several processes and compositions, and cannot be briefly described.

Claim.—The improved tanning process, substantially as herein shown and described.

84,170.—Wilbur F. Clark, Hagaman's Mills, N. Y.—*Bridle.*—November 17, 1868.—The arrangement of the gag runner, martingale, and driving rein is designed to produce the same effect as a curb. When the gag runner is taken up short, the rein is allowed to play upon the pulleys, and thereby revolve the bit; but when the gag runner is let out so that the junction between the same, the martingale and the rein shall come down to the bit, the latter does not revolve when the reins are drawn, but acts in the usual manner.

Claim.—1. The revolving bit A, having pulleys *a b*, and working in the plates B, substantially as herein described.

2. The combination of the gag runner D, rein C, and martingales E, with the bit A, B B, *a b*, *a b*, substantially as herein described.

84,171.—W. F. Cornell, Adrian, Mich., assignor to himself and Silas Hurlbut, same place.—*Skate.*—November 17, 1868; antedated November 7, 1868.

Claim.—A skate, having the following characteristics: Arched brackets B, sliding ball flanges M, adjustable sectional heel flanges E, padded, hinged, metallic straps P F; bands H, with yokes I, hinged band K, and hinged ankle-support G, constructed, arranged, and operating as herein represented and described.

84,172.—E. H. Craige, Brooklyn, N. Y.—*Paper File.*—November 17, 1868.—A plurality of holes may be made in the weight, so that it may be set upon the impaling wire at random, or without exercising the particular care which would be requisite in the case of a single socket.

Claim.—1. The combination of a base plate, A, having an upright pin or pointed wire, *a*, with a weight, C, having one or more holes, *b*, the whole constituting a paper file, substantially as and for the purpose herein shown and described, as a new article of manufacture.

2. The angular base plate A B, having a pin or pointed wire, *a*, in combination with a weight, C, having one or more holes, *b*, the whole constituting a paper file, substantially as and for the purpose herein shown and described, as a new article of manufacture.

84,173.—Elihu Doud, Oshkosh, Wis.—*Corn Sheller.*—November 17, 1868.—The grain is chiefly detached from the cob as the ear passes between the toothed roller and the first segment; the second segment affords egress to the husked corn, and permits the cob to be advanced in a horizontal position to the third segment, which, in conjunction with the roller, strips off whatever corn may remain upon the cob. The spring adapts the shell to conform to the size of the ears.

Claim.—An outer half-cylindrical shell, constructed in segments, *d e f*, in the manner described, when used in combination with the toothed roller *i*, spring S, plate C, and hopper C′, as and for the purposes described.

84,174.—Desso Duduit, New York, N. Y.—*Process for Ageing and Rectifying Copal Varnish.*—November 17, 1868.—The process consists in, first, boiling the crude varnish; second, passing it through charcoal, brimstone, and oxalic acid, successively; and, third, in showering it down in streams for aeration.

Claim.—The process for rectifying and ageing copal varnish, substantially as herein described.

84,175.—O. P. Dunbar, Norwalk, Ohio, and H. D. Dunbar, Hartland, Vt.—*Steam Valve.*—November 17, 1868.—Each of the two heads has a packing ring fitted between it and a follower, the rings being held in position by a projecting nib working within the chambered head, and the joint of said ring working steam-tight upon the supporting bridge.

Claim.—1. The herein-described steam valve, consisting of the heads G, flange M, ring N, and nib *a*, when constructed substantially as set forth.

2. The bridge O, as arranged in relation to the valve, for the purpose specified.

84,176.—Charles E. Emery, Brooklyn, N. Y.—*Pumping Engine.*—November 17, 1868.—Two auxiliary pistons are combined to operate the main valve of the engine. The invention has reference to the mechanical details whereby to produce positive action without the aid of cams, levers, or tappets, operated by the main piston; and the construction is such that either of the systems used in combination may also be used separately.

Claim.—1. The combination, with cylinder A, main piston J, and the equal heads M and N of auxiliary piston E, of the ports *e f g h* in a valve face operated by E, and *e′*, *f′*, *g′*, and *h′*, in the valve seat, when arranged substantially in the manner specified.

2. The arrangement of the exhaust passages f' and g' with reference to the ports B and B', substantially as described, to accomplish the results specified.

3. The combination of two auxiliary pistons, the first to operate the valve of the second in both directions, without the assistance of tappets, and the second to operate the main valve in the usual manner, to accomplish the results specified.

4. The connection of a moving piston or cylinder with the seat of its slide valve, in such manner that the motion of the piston or cylinder causes the valve seat to follow the initial movement of the valve, and close (and, if necessary, reverse) the ports, and thus bring the moving piston or cylinder to rest, substantially in the manner described, to secure the results specified.

5. The passages r' and s', so arranged, in combination with r and s, as to admit steam to the auxiliary piston E, after the valve P has moved the desired distance.

6. The extra exhaust ports Z Z, when arranged as shown, in the face of the valve, substantially as described.

7. The particular arrangement of the valve-seat piece Q with the valve chamber R, and the face of the pump cylinder at w.

84,177.—William F. Ensign, New York, N. Y.—*Permutation Lock.*—November 17, 1868.—The set wheels and locking gear connected therewith, the traveler connected with the hub, and the series of annular guides for the traveler, are arranged in such a manner in relation to the tumblers that the latter may be brought into positions to admit the stump into their gateways, in order to throw back the bolt.

Claim.—1. The slide H, bars J K, with stump L attached to the latter, in connection with the bolt-locking mechanism, composed of the bar O, wheel N, pivoted bolt P, arm M, and spring l, all arranged to operate in connection with bolt I, in the manner substantially as and for the purpose set forth.

2. The step-like projections k, at the free or disengaged end of bar K, when used in connection with the wheel N, for the purpose specified.

3. The annular plates R R' R'' R''', provided with the internal annular grooves, connected by passages g', in connection with the traveler W, all arranged for operating the tumblers, substantially as set forth.

4. The toothed rims T T' T'', in connection with the pinions e' e', attached to the slides V V, having springs f' bearing against them, all arranged in connection with the tumblers U U' U'', substantially as and for the purpose specified.

5. The combination of the tumblers U U' U'', toothed rims T T' T'', plates R R' R'' R''', traveler W, and hub F, all arranged to operate in the manner substantially as and for the purpose set forth.

84,178.—Snyder Filson and William E. Kinert, Bluffton, Ind.—*Corn Planter.*—November 17, 1868.—The movable notched collar is provided with an arm which engages in its rotation with an arm on the bar connecting with, and operating, the slides. Said collar can be thrown in and out of gear with a lug on the shaft by means of a lever pivoted to the top of the box and actuating a bar connecting with the collar.

Claim.—1. The movable notched collar o, provided with arm or arms k, in combination with the lug n on the shaft a, when operated by means of one of the wheels M, which is firmly secured to said shaft, substantially as and for the purposes herein set forth.

2. The cross-bar g, provided with the arms h and i, in combination with the movable notched collar o and arm k, for the purpose of moving the slides H H, substantially as herein set forth.

3. The lever l, arranged as described, on top of the box D, in combination with the bar m and movable notched collar o, for the purpose of throwing said collar in and out of gear with the lug n, substantially as and for the purposes herein set forth.

84,179.—Rufus A. Fish, Worcester, Mass.—*Milking Pail.*—November 17, 1868.—Said springs are made of steel, and tempered, and firmly fastened to the pail, the lower portion of which projects above the rim of the pail, with an aperture in them, through which the bail passes. Said springs can be attached either in front or rear of the ears of any ordinary pail in use, and can also be fastened to a hoop, and firmly secured to the pail in the usual manner of hooping. These springs can also be constructed of iron, or other metal, or of wood, or their equivalents, arranged substantially in the manner described, and for the purpose set forth.

Claim.—The manner of securing the pail while milking, by allowing its weight to rest upon the knees, on the curved springs A A.

84,180.—George Fletcher, Sr., Greensburg, Ind.—*Mode of Making Combined Wood and Wire Fence.*—November 17, 1868.—The batten is suspended by rods which have bearings in notches in the frame; it can be suspended parallel to the heddles or in an oblique position to enable the fence to be constructed so as to set on uneven ground. A knife is attached to the frame of the loom to sever the superfluous ends of the poles.

Claim.—1. The mode of constructing a wood and wire fence, by means of a stationary crab or anchor, U, and a loom, adapted to be drawn over the ground, in manner substantially as set forth.

2. In the described combination, the suspended and detachable batten R and notches S S, as and for the purpose stated.

3. In this connection, the gauge or knife V upon the frame K.

84,181.—Edwin Gibbs, Painsville, Ohio.—*Device for Bending Scrolls.*—November 17, 1868.—The end of the bar is placed in a notch in the former and bent until it forms a circle; it is then bent over the spiral former to complete the form of the scroll.

Claim.—The finishing scroll former B, and the scroll former A, constructed and combined as and for the purpose set forth.

84,182.—Charles Goodwin, Beardstown, Ill.—*Windmill.*—November 17, 1868.—Springs arranged on the narrow side of the pivoted wings allow them to open when the wind blows hard and close them when the wind subsides.

Claim.—1. The arrangement of the vane F, in an inclined position upon the shaft D, and operating in connection with the wheel G, as herein described, for the purpose specified.

2. The arrangement of the wings H, shafts i, straight springs K, and ring d, operating as described, for the purpose specified.

84,813.—Edward M. Grant, J. B. Van Dyne, and T. R. Pugh, Nashville, Tenn.—*Railroad Car Stove.*—November 17, 1868.—The bottom of the stove, placed above the water line of the tank base, is provided with openings which are closed by lids in such a manner, that when the car upsets, the lids fall off and the water from the tank flows into the stove and extinguishes the fire.

Claim.—1. In combination with the base tank A, the bottom b, with its apertures and lids or valves, d, made and arranged in the manner and for the purposes set forth and described.

2. The arrangement of the bottom b, in the stove, forming, between it and the water line in the tank, the space C, as shown, and for the purposes described.

84,184.—Abram A. Harmon, Olney, Ill.—*Cultivator.*—November 17, 1868.—The foot bar can be slipped forward in its holders so that the pins in the rear of the plow standards may rest thereon when the plows are unemployed.

Claim.—1. The plows H H, attached by clevises to the front bar of the diagonally-braced open frame A B D E F, and connected by a cross bar, I, which admits their adjustment as to relative distance, and causes them to swing by a parallel motion as they are deflected laterally, substantially as described.

2. In combination with the said plows, thus attached and connected, the sliding foot-bar K, arranged as described, and adapted to hold them in elevated position, for the purposes described.

84,185.—Edward P. Haskell, New Bedford, Mass., assignor to the Hale Patent Washer Co., same place.—*Axle Box.*—November 17, 1868.—The internally-projecting ring on the hub plate embraces the periphery of the plate washer and confines it in place.

Claim.—For employment with axle boxes and washers, the hub plate g, constructed with the internally-projecting ring or flange h, substantially as and for the purpose described.

84,186.—George H. Hayden, New Market, Ala.—*Saddle.*—November 17, 1868.—The pummel is provided with a tobacco pipe, match safe, and looking-glass. The cantle has an adjustable back piece which may be elevated to support the back of the rider.

Claim.—1. A saddle, provided with a tobacco pipe, A, and a case, C, having a looking-glass secured therein, and otherwise arranged substantially as and for the purpose described.

2. The combination, with the cantle of a saddle, of an adjustable back piece, I, substantially as and for the purpose described.

3. The back piece I, provided with the lugs K, arranged to slide on the rods L, and with the jointed braces M, substantially as and for the purpose set forth.

84,187.—Charles Henry, Brooklyn, John McLoughlin, Morrisania, and Edmund McLoughlin, New York, N. Y.—*Method of Etching Relief Plates for Surface Printing.*—November 17, 1868.—The zinc plate having been etched and cleaned, is covered with a coat of varnish. The varnish is scraped from the surface when dry, and the etched surface cleaned and dipped in a solution of water and sulphuric acid and allowed to remain until the plane surface is bitten away nearly to the depth of the etched lines. The edges of the lines are then covered with a protective powder and again immersed in the corroding solution, the operation being repeated until the bottom of the etched lines is raised in relief. The plate is then ground down to render the comparatively rough surfaces smooth enough for press-work.

Claim.—1. The transforming of etched plates into relief plates, in which the relief lines shall be of the same continuous material as that composing the body of the plates, by the process and in the manner substantially as herein described.

2. The filling of the etched lines upon the plate with varnish or other protecting gum or compound, in the manner and for the purpose specified.

3. As a new article of manufacture, relief plates, of metal or stone, for printing and similar purposes, prepared direct from etching, and in which the raised surfaces shall be of the same continuous material as that composing the body of the plate.

84,188.—C. W. Hermance, Schuylerville, assignor to W. P. Ostrander, A. H. Pearsall, B. G. Shults, and A. L. Finne, all of the State of New York.—*Stone-drilling Machine.*—November 17, 1868.—The devices for compressing the spring are so arranged that the operator can regulate the desired force of stroke.

Claim.—1. The arrangement of one or more flanges or cams, or their equivalents, on the side of a wheel, for the purpose of operating a machine, by raising a certain part thereof and letting it fall again when said flanges or cams operate from the periphery to the axle of the wheel; that is, commence the raising at or near the periphery, and letting go near the axle, substantially as herein set forth.

2. The tube H, having its sides slotted and notched as described, in combination with the movable collar b, and pins $e\ e$, for the purpose of compressing the spring J, thereby regulating the force of the drill operated by said spring, substantially as shown and described.

84,189.—Cyrus D. Hunt, Fairhaven, Mass.—*Nail-cutting Machine.*—November 17, 1868.—The tubular shaft to which the plate holder is secured is rotated to reverse the blank plate, by means of a segmental rack receiving motion through miter gearing from a rocker shaft connecting with one of the gear wheels. The arm to which the tubular shaft is attached receives a vibratory motion so as to remove the nail plate away from the bed plate in order that it may be revolved.

Claim.—The arrangement, as well as the combination, of the gears $i\ k$, their crank pins $h\ r$, the connecting rods $g\ p$, the arm f, rocker shaft e, toothed sectors $c\ d$, shaft I, toothed sector H, and gear G, as applied to the vibratory arm F, and the tubular shaft E, the whole being for effecting the vibratory motions of the said arm, and the reciprocating semi rotary movements of the nail-plate carrier, as set forth.

84,190.—Silas Hosmer, Concord, Mass.—*Tanning Apparatus.*—November 17, 1868.—The agitating mechanism produces and maintains currents in the liquor bath containing the skins, and prevents the tanning matter held in solution, from depositing in the vat.

Claim.—The combination, with a vessel arranged for tanning *in vacuo*, of an agitating wheel, B, or its equivalent, substantially as and for the purpose described.

84,191.—D. W. Jameson, Warren, Ohio.—*Machine for Holding the Cutters of Mowing Machines while being Ground.*—November 17, 1868.—The knife while being sharpened is held firmly to the bar. It may be moved to the right or left by means of the sliding joint, so as to bring the teeth successively to the action of the stone.

Claim.—1. The flanged rod C, grooved bar D, forming the sliding joint E, as described.

2. The flanged rod C, grooved bar D, in combination with the bar D', uprights A', cross bars $B\ B''$, and foot pieces B', all constructed and arranged to operate as and for the purpose described.

84,192.—William Johnson, Milwaukee, Wis.—*Permutation Lock.*—November 17, 1868.—The guard prevents the fences from touching the revolving tumblers when the latter and disk are not in position for locking or unlocking the bolt, the plate to which said guard is secured preventing the bolt from being withdrawn.

Claim.—1. Guard I and fence h, in combination with plate L, substantially as described.

2. The stop O held in slot P by shaft T, in combination with tumbler U, substantially as and for the purpose set forth.

3. Key bit Y, socket Z, rubber ring a, and nut b, in combination with key stem X, substantially as described.

84,193.—William Johnston and John D. Flansburgh, Philadelphia, Pa.—*Apparatus for Roasting Coffee.*—November 17, 1868.—The aroma which passes off in the form of vapor during the roasting process is conducted to a condenser; as soon as the roasting is completed, the condensation is allowed to flow through the valve and reunite with the coffee. The roasting vessel may be slidden out of the furnace to cool the coffee, and when thus situated its rotation is resumed by reason of the engagement of an extra feather on the hollow draught, with the driving pulley.

Claim.—The elevated condenser C, with its valve c', the tube D, and the tube E, in combination with the hollow perforated sliding shaft a^1, the roasting vessel A, and the furnace B, the said parts being constructed and arranged to operate together as and for the purpose set forth and described.

84,194.—A. C. Kasson, Milwaukee, Wis., assignor to himself and Nelson C. Gridley, same place.—*Culinary Vessel.*—November 17, 1868.—A vessel for cooking food by steam, whereby several varieties may be cooked at once, each article being incapable of imparting flavor to or receiving it from any of the other articles.

Claim.—1. The vessel B, provided with its central steam chamber or tube I, with its openings and slides, and a series of compartments C, constructed and arranged to operate substantially as described.

2. The vessel A, provided with the compartment F and the drip chamber G, substantially as and for the purpose set forth.

3. The combination of the vessels A and B, the

latter having the annular flange *t* fitting into the drip chamber G of the former, when said parts are constructed and arranged for joint operation, substantially as set forth.

84,195.—Edward G. Kelley, New York, N. Y. —*Petroleum Still.*—November 17, 1868.—Improvement on his patent of August 20, 1867.—The indicator shows the height of the liquid in the main still.

Claim.—1. The gate F, arranged in combination with the two vessels B C, to regulate the gravity of the products of distillation, substantially as and for the purpose herein shown and described.

2. The petroleum still, consisting of the cylinders B C, the latter having the shells D, and the former being provided with the automatic indicator I J, all all made and operating substantially as herein shown and described.

84,196.— Theodore Dwight Kellogg, New York, N. Y.—*Refrigerator.*—November 17, 1868.—Improvement on the subject of his patent of February 11, 1868.—The present object is a more thorough ventilation, currents of air being allowed to pass through the bottom, center, and upper part of the refrigerator.

Claim.—The combination of the casing A, lining B, ice chamber G *n*, grating *g*, strips *b b*, *b′ b′*, openings *c c*, boxes C C, and wire cloth W W, all constructed, arranged, and operated in the manner and for the purpose set forth.

84,197.—George W. King, Georgetown, D. C. —*Telegraph Instrument.*—November 17, 1868.—This contrivance obviates readjustments of the armature, inasmuch as the amount of attraction in the stationary magnet, in excess of the attraction in the core, will remain equable under all disturbances in the strength of the current.

Claim.—The core D, acting as an armature, and oscillating in the helix B, when pivoted to the supporting spring I, in the manner and for the purpose herein described.

84,198.—Giles D. A. Krigbaum, Zanesville, Ohio.—*Apparatus for Holding Sheep.*—November 17, 1868.—An apparatus for holding a sheep while its feet are being pared or otherwise treated.

Claim.—The sheep-holding table A, provided with the holes *a*, and legs B, and pivoted levers *b*, notched to coincide with the holes in the table, all arranged and operating as described, whereby the sheep is suspended beneath the table, with its feet clamped in the holes *a* by the levers *b*, as herein set forth, and for the purpose specified.

84,199.—S. C. La Halt, P. Listeman, and C. Hadley, Collinsville, Ill.—*Wagon-top Bow.*—November 17, 1868; antedated November 9, 1868.

Claim.—Arranging the central hoop A in hinged parts, a, a^1, and a^2, and the end hoops B in hinged parts b, b^1, b^2, and b^3, so that said parts may be folded together into small compass, substantially as set forth.

84,200.—Joseph J. Leighton, Boston, Mass.—*Box.*—November 17, 1868.

Claim.—A round or cylindrical wooden box, composed of two or more layers of wood, wound spirally around in opposite directions, and glued or otherwise secured together, substantially as herein specified.

84,201.—Edgar W. Mandeville, Ithaca, N.Y., assignor to himself and Charles D. Johnson, same place.—*Low Water Alarm for Boilers.*—November 17, 1868.—When the water is sufficiently high in the boiler, the globe is occupied by water, and its weight preponderating over the weight on the other end of its suspending lever, closes the faucet; but when the water gets low, the globe is emptied, and the weight being then the heavier, the lever moves, and the faucet with it, and steam escapes through and blows the whistle.

Claim.—1. The faucet B, as arranged and constructed, whereby the opposite ends of the same receive the two pipes, G and H, one from the upper and the other from the lower part of the globe E, as set forth.

2. The construction of the faucet B, with reference to the pipes G and H, and the arrangement of the steam passage in the faucet leading to the whistle, whereby, when the globe E is full of water, no steam can pass to the whistle, but, when empty, the turning of the faucet opens the passage, and the whistle gives the alarm.

3. The arrangement of the direct connection between the globe F and faucet B by the lever C, whereby to operate these several parts in combination, through the three parted passage in the faucet, as set forth.

84,202.—Joseph W. Marshall, Williamsburg, N. Y.—*Hydrant.*—November 17, 1868.

Claim.—The plug D, with openings of supply, L, and waste discharge M, in combination with the plug seat C, spiral spring E, and hand lever N, operating together in manner substantially as and for the purposes described and set forth.

84,203.—Albert M. Maynard, Savoy, Mass.—*Water Wheel.*—November 17, 1868.—A turbine wheel revolves, without contact within an external barrel, which serves as a scroll. The gates are connected by rods to a collar working freely on a sleeve, and operated so as to open and close the gates, by means of a toothed segment and a pinion on an upright shaft, to be turned by hand. The water, after acting upon the upper part of the bucket by impact, exerts an additional impelling force upon the wheel as it descends in contact with the lower, deflected part of the bucket.

Claim.—1. The chutes C, gates D, diaphragm B, and external barrel A A, in combination with the turbine wheel, all constructed and arranged to operate substantially as described.

2. The combination and arrangement of the V-shaped buckets *b*, within the box *a*, diaphragm *d*, hoop *e*, external band A, diaphragm B, carrying the sleeve *n*, the collar *m*, rods *l*, chutes C, and gates D, as herein described for the purpose specified.

84,204.—Antoine Michel, St. Louis, Mo., assignor to himself, James S. Hannan, and Napoleon Moisau, same place.—*Wash Boiler.*—November 17, 1868.—Heat is applied at the bottom of the boiler, and the products of combustion ascend through the central flue. The heated water ascends in the conducting pipe and is discharged through the perforated head upon the articles to be washed.

Claim.—1. The arrangement of a heating flue, B, within each conducting pipe C, for the purpose of accelerating and directing the flow of fluid.

2. The combination of the vessel A, its flues B, duct C, perforated at *c*, and discharging head D, perforated at *d*, substantially as and for the purposes set forth.

84,205.—Ezekiel Mills, Baltimore, Md.—*Sheet-metal Roofing.*—November 17, 1868.—The ends of sheets or strips of metal are interlocked, and the metal then passed between rollers to close the seams, and then through a bath of molten tin or other soft metal, which coats the surface and closes and covers the seams, so as to form continuous pieces, of indefinite length, without appreciable or pervious joints.

Claim.—The continuous metallic strips, jointed and coated by the process herein described.

84,206.—Frank Millward, Cincinnati, Ohio., assignor to himself, Dexter D. Hardy and Henry C. Dart, same place.—*Oscillating Steam Engine.*—November 17, 1868.—This arrangement admits of locating the valve between the joint upon which the engine vibrates and the cylinder, the ports being opened and closed by the movements of the cylinder. The steam and exhaust pipes terminate at said joint, and may be connected to the usual stationary pipes by the flexible interior tubes.

Claim.—1. The combination and arrangement of the frame J, cylinder A, and V-shaped joint or hinge, substantially as shown and described.

2. The arrangement of the pivots K and L, by which the wear between the parts thereof may at any time be taken up, substantially as shown and described.

3. The arrangement of the adjusting screws M N,

with reference to the V-shaped pieces K and L, for the purpose of taking up lost motion and preserving the pivots in line.

4. The oscillating side pipes E G, and flexible tubes I, for the purpose specified.

5. The arrangement of the independent valve motion P Q R S, or its mechanical equivalent, for the purpose of reciprocating the valve the short distance equal only to the "lap" of the valve, and the slight additional distance necessary to give a proper "lead" to the engine, substantially as described.

84,207.—Charles Moore, Stratford, Conn.—*Fruit Basket.*—November 17, 1868.

Claim.—A fruit basket, constructed out of a single piece of sheet metal, cut and swaged up in the desired shape, substantially as shown and described.

84,208.—Joel Moulton, Boston, Mass.—*Machine for the Manufacture of Elastic Rolls and Tubes.*—November 17, 1868.—More especially intended for manufacturing elastic rolls, such as are described in letters-patent granted to the same inventor March 10, 1868, and May 5, 1868. The elastic machine is wound about a rotating, metallic shaft, combined with which is a series of bunters or hammers for driving the coils in close contact with each other, as they are wound. Means are provided for folding the strips of rubber previous to winding, and for introducing a metallic wire into the fold.

Claim.—1. A machine, so constructed and operating as to hold and rotate the roll shaft, and to cause the elastic material and its accompaniments to be wound about such shaft, and condensed or tightly driven thereon, for the purpose substantially as before explained.

2. As an appurtenance or a part of the above-described machine, a device for folding and maintaining, in an upright position, the elastic material as it is fed to the shaft, and also for introducing into the fold of the elastic material a metallic wire or string, for the purpose as before premised and described.

3. For the purpose of condensing the folds of elastic material about the shaft, and for supporting one end of it in position while winding, the combination and arrangement of the case *c* with its cam groove *i*, and the circular carrier *f* with its bunters *g g*, &c., the whole being arranged and operating essentially as herein shown and described.

4. In combination with the last-described arrangement of parts, the sliding carriage *p*, with its shaft, supporting chuck or bearing *o*, such chuck being applied and operating as before referred to and described.

5. Applying the auxiliary frame *e* to the main frame, at an angle to its longitudinal axis, in manner and for the purpose as herein shown and explained.

6. The combination and arrangement of the endless bands b^3 b^3 and the rollers *v v*, &c., or their equivalents, for producing the same result, in combination with suitable supporting and feeding rollers, as and for the purpose before set forth and exhibited.

7. The general combination and arrangement of the bunters *g g*, &c., and the shaft-supporting and operating adjuncts, the sliding carriage *p*, and the mechanism for folding and "wiring" the elastic material or strips, the whole operating together to produce results before set forth and explained.

84,209.—Joel Moulton, Boston, Mass.—*Method of Detaching Rubber Articles from the Molds in which they are Vulcanized.*—November 17, 1868.—The clearing rods inserted between the article and side of the mold loosen the rubber, and, being revolved and made to approach each other at the same time, they cause the mold to revolve in its bearings on the crutches, thus releasing the article around the whole inner circumference of the the mold.

Claim.—1. As a machine for loosening the adhesion of vulcanized articles to their molds, the employment of the clearing rods *c c′*, so arranged and operated as to produce this effect by their combined rotary motion and longitudinal movements

2. Supporting the clearing rods *c c′* within or by means of the dually-arranged sliding head stocks *a a′* and mandrels *b b*, or their equivalents, the head stock and mandrels being actuated by the pinions *d d′* and pinions *l l′*, or other equivalent mechanical devices, and the whole operating together as described.

3. The general combination and arrangement of the dually-arranged head stocks *a a′*, supported substantially as described, with the mandrels and clearers connected, as explained, the twin or dually-arranged pinions *d d′* and *l l′*, and gears *g g′* and *p p′* and *q q′*, the shafts *h*, *r*, *m*, and *m′*, the posts *f f′*, the cradle or clutches *u u′*, being adjuncts or important details of the machine, the operation and general arrangement of the above described combination being as hereinbefore shown and elucidated.

84,210.—David Munson, Indianapolis, Ind.—*Lightning Rod.*—November 17, 1868.—The sections are lapped over each other at their ends, and secured together by cutting into the edges to form ears, which are turned down, and the points on said ears receive the electricity. The rod forms a gutter for conducting the rain or dew to the ground.

Claim.—The lightning conductor, composed of the sections A, formed and secured together as and for the purpose set forth.

84,211.—Francis S. Pease, Buffalo, N. Y.—*Steam Valve.*—November 17, 1868.—The valve is constructed in two parts, the face vibrating against the ports, and the back vibrating in contact with a packing ring acted on by the steam. A rectangular shaft passes through an oblique slot in the valve, having spaces on its side which allow the valve to adjust itself to its seat.

Claim.—1. The oscillating steam valve, consisting of two segments, V and V′, constructed and operating as and for the purposes described.

2. The combination and arrangement of the packing L, and the slots *v v* in the valve V V′, substantially as and for the purposes explained.

84,212.—Levi Pentz, Canton, Ohio.—*Thill Coupling.*—November 17, 1868.—The rear face of the rubber block sets against the end of the strap with its upper flange resting on the upper edge of the strap, and its lower flanges setting under the lip of the thill iron, the latter being secured to the slip arm by the elliptical pin which is inserted through a slot in said arm when the thills are raised.

Claim.—1. The rubber block G, when constructed with concave front face *d*, upper rear flange *a*, and lower side and rear flanges *c b c*, and used in combination with the thill iron H F H and clip arm B, constructed as specified, substantially as and for the purpose specified.

2. The combination of the rubber block G, constructed as specified in first claim, the thill iron H F H, with elliptical pin E, and the clip A, with arm B, provided with the slot D, hole C, and curved wedge part *n*, the several parts being arranged in the manner and for the purpose herein specified.

84,213.—George W. Putnam, Peterborough, (town of Smithfield,) N. Y.—*Pocket Lantern.*—November 17, 1868; antedated November 7, 1868.—

Claim.—The lantern, constructed as described, adapted to receive the case H, containing the candle and match chamber M, in such a manner as to leave an air chamber, U, containing the sliding handle P between said case and lantern, to prevent the heat generated in the latter from communicating with the chambers M, as herein described, for the purpose specified.

84,214.—Nat Raymer, New Sterling, N. C.—*Fruit Jar.*—November 17, 1868.

Claim.—As an article of manufacture a stopper or cork for fruit jars, made as described, viz., furnished with a short, metallic tube, through which the air may be readily drawn, and by the pressing together of which the jar is hermetically sealed.

84,215.—J. W. Rhoades, Clyde, Ohio.—*Oil Box.*—November 17, 1868.—The exit passage is opened or closed by a rubber disk on the end of a rod connecting with a handle on the outside of the oil box. The under side of the box is cut out to fit the shoulder of the axles.

Claim.—The combination of the oil box A, cut-off C, tubes c^2 and d, and shoulder f, all constructed, arranged, and operated substantially as and for the purpose set forth.

84,216.—C. K. Rice, Marlborough, Mass.—*Coal Sifter.*—November 17, 1868.—The main sieve is pivoted to the side of the box and vibrated to release the ashes, while the cinders fall through one side into an inclined sieve resting on the projection and secured to the main sieve by a strap.

Claim.—1. The combination with the ash box A and coal box B, of the sieves C E and D H, substantially as and for the purposes set forth.

2. The combination and special arrangement of the sieves and frames C and D, in respect to each other and the box B, substantially as shown and described.

3. The combination of the projection b and pin a, with the box B and sieves C and D, as shown and described.

84,217.—Canceled.

84,218.—Jacob Sands, Waterloo, N. Y.—*Spinning Jack.*—November 17, 1868.—When the carriage is backing off, the vibrating catch thereon comes against the square part of the sliding block, drawing the cord attached to the trigger, and thereby pushing the slotted catch away from its connection behind the post, so as to allow the spring to shift the belt, through the medium of the bar, on to the tight pulley. The adjustable weight on the weighted lever varies the resilient power of the spring and consequently the distance the belt will be forced onto the tight pulley. The projection on the carriage striking the lever shifts the belt back onto the loose pulley.

Claim.—The combination, with the sliding block A, trigger f, spring catch i, and belt shifter k, of the vibrating catch d, on the carriage, when arranged substantially as and for the purpose described.

2. The combination, with the spring latch i, and belt shifter k, of the weighted lever n, when arranged substantially as and for the purpose described.

3. The combination, with the sliding catch i and belt shifting slide k, of the lever m and the projection r on the carriage, when arranged substantially as and for the purpose described.

84,219.—Charles A. Seely, New York, N. Y.—*Manufacture of Gas from Volatile Liquids.*—November 17, 1868.—The volatile liquid, contained in a closed receptacle, is subjected to the heat of hot water, causing the liquid to be converted into vapor which is led off to the burner by pipes covered with a non-conducting material to prevent condensation.

Claim.—1. The process of generating a gas or vapor of high tension, for lighting and heating purposes, as described.

2. The combination of the generator and the pipes or other receptacles containing hot water, as described.

3. The combination of the generator with the escape pipe and stop cock, as described.

4. The prevention of condensation in the gas conducting pipes, substantially as described.

84,220.—Thomas Shaw, Philadelphia, Pa.—*Generating and Applying Carbonic Oxide for Treating Metals.*—November 17, 1868.—The air blast is prevented from oxidizing the fluid metals by converting the oxygen into carbonic oxide by means of hydrocarbon fluid introduced into the blast pipe and furnace.

Claim.—The employment of hydrocarbon fluids for the purpose of generating carbonic oxide, for operating on heated metals, as described.

84,221.—Thomas Shaw, Philadelphia, Pa., assignor to himself and Phillip S. Justice.—*Power Hammer.*—November 17, 1868.—The spring, secured to one end of the walking beam, is connected to the flexible straps by means of metallic links. The friction belt, passing around the fly wheel, is attached to a pulley on the shaft from which the tightening pulley is suspended, so that, on raising the tightening pulley and loosening the driving belt, the friction belt is drawn against the fly wheel and stops the machine. On reversing the movement of the tightening pulley, the friction belt is slackened and the fly wheel released.

Claim.—1. The combination of the hammer, flexible strap, links, spring, walking beam, connecting rod, and crank shaft, substantially as herein described.

2. The method, substantially as herein described. of simultaneously tightening the driving belt and releasing the friction or clutch belt, so as to suddenly start the machine, and by a reverse movement to as quickly stop the machine.

84,222.—Frederick Shickle, St. Louis. Mo., assignor to Shickle, Harrison & Co., same place.—*Hydrant and Gas-pipe Stop.*—November 17, 1868.—The cap is provided with a pivot pin, which has vertical play, so that the cap can be raised from its seat and swung around to gain access to the hydrant pipe.

Claim.—The stop box A, cap B, and their lug A′, and pivot pin b b^1, when constructed and arranged as and for the purpose herein set forth and described.

84,223.—C. B. Sill, Wilkins, assignor to himself and John Goldsborough, Philadelphia, Pa.—*Instrument for Affixing Stamps.*—November 17, 1868.—The descent of the affixer causes the spring connecting with the feed wheel to be tightened, and by releasing the spring pawl holding the feed wheel, the latter is rotated by means of the resilient power of the spring, and feeds a stamp forward ready to be cut off and affixed on the descent of the latter.

Claim.—The combination of the cutter and affixer D, sponge a, a spring feed, and the within-described devices, or their equivalents, through the medium of which the spring feed is "set" on the downward movement of the affixer, as and for the purpose described.

84,224.—Charles Slotterbek, San Francisco, Cal.—*Fire-arm.*—November 17, 1868; antedated May 18, 1868.—When the trigger is in its forward position the pin on the spring, bearing on the trigger, is on the rear side of the point in the curved slot, so that the slightest pull back on the trigger will bring the point on the front side of the pin, and cause the spring to press the trigger forward and bring its head to bear upon the sear, and thus discharge the hammer.

Claim.—The combination and arrangement of plate B, springs d, i, and l, trigger k, sear g, and hammer f, when operated in the manner substantially as shown and described, and for the purpose set forth.

84,225.—Hiram F. Smart, Worcester, Mass.—*Process for Printing in Colors.*—November 17, 1868.—An impression can be taken from an engraving or plate in as many different colors as is desired by overlaying the different parts of the impression or print on the sheet, supported by the tympan, and cutting out corresponding parts of the sheet attached to the frisket frame.

Claim.—The mode of printing in colors from a single plate or engraving, substantially as and for the purposes described.

84,226.—Kilburn Smith, Lowell, Mass.—*Register for Time and Price.*—November 17, 1868.—The face of the dial has three circles of figures or numbers marked upon it with radial division lines beyond each circle of such numbers. The pointer stand on the inner flange indicates the time employed in performing certain labor. If the labor is suspended for a time, the pointer stand on the outside flange is set to the corresponding number on the stationary circle of figures between the outer and inner flanges. A small dial on a pivoted arm is actuated by pins on the dial, and indicates hours.

Claim.—1. The circular flange F, in combination with the moving dial A, in the manner and for the purpose set forth.

2. The outer flange H, in combination with the

stationary circle of figures and indicating lines, for the purpose and substantially as described.

3. The pointer stands E, having each a point, *d*, when used in combination with the flanges F or H, and the moving dial A, or the stationary figured circle between said flanges, for the purposes and in the manner substantially as described.

4. The pivoted arm J, in combination with the dial I, for the purpose and substantially as described.

84,227.—Albert Spangler, Philadelphia, Pa. —*Latch.*—November 17, 1868.—The spring bolt, operated by the sliding face plate, is locked by means of a projection on a loose collar turning on a stationary knob shank, which engages in the curved recess in the face plate.

Claim.—The sliding face plate E, with its slots *e'* and *e''*, in combination with the loose collar D, the fixed shank C, and the sliding spring bolt F, the said parts being constructed and arranged so as to operate as and for the purpose described.

84,228.—William Stein, Camden, N. J.—*Target.*—November 17, 1868.—Plates representing animals are hinged near the periphery of a revolving frame, and drop when struck, and are turned up by coming in contact with an inclined bar. A screen is placed in front of the target, with an aperture large enough to expose the object as it revolves; another screen is placed behind the target to arrest the balls.

Claim.—1. The swinging plates or aims C C, hinged or pivoted to the rotating frame or disk B, substantially as herein shown and described, to form a target in which the aim will automatically indicate when it is hit, as set forth.

2. The rotating disk or frame B carrying the hinged or pivoted plates C, in combination with the incline D, for automatically resetting the plates C, substantially as herein shown and described.

3. The screen E, having the aperture *g*, in combination with the rotating frame B, and with the plate C hinged or pivoted thereto, as set forth.

4. An automatically-adjusting target, consisting of the rotating frame or disk B, of the hinged or pivoted plates or aims C, of the stationary incline D, perforated screen E, and ball arrester F, all arranged in combination with each other, and made and operating substantially as herein shown and described.

84,229.—A. R. Stewart, Douglas Harbor, New Brunswick.—*Machine for Sharpening Saws.*—November 17, 1868.—The table supporting the laterally-adjustable saw holder is adjustable so as to set the teeth in the right position for grinding on their opposite sides at the desired angle of inclination. A guide rest is so arranged as to keep the teeth true when they are ground, and to regulate their advance.

Claim.—1. The combination and arrangement of the table *b*, adjustable saw rest *n*, pivoted arm *c*, vertical shaft *d*, slotted segment *h*, segment *k*, and sector slide *m*, all constructed and operating as herein described, for the purpose specified.

2. The adjustable guides *r r*, and the wedges *t t*, connected with the saw rest *n*, combined with the stud *s*, on the table *b*, constructed, arranged, and operating as described.

84,230.—Barna T. Stowell, Quincy, Ill.—*Excavator.*—November 17, 1868.—The cutting cylinder, composed of two disks united together by bars on which the sinuous cutters are secured, is actuated by suitable power, and while revolving, draws the machine forward. Scraping blades secured to the periphery of the disks throw the dirt separated by the cutters on to the endless apron.

Claim.—1. The cutters *m m*, when constructed in the sinuous form described and shown, and attached to the rotary cylinder G, in the manner specified.

2. The arrangement of the disk J J', connecting bars M M, scraping blades N N, and sinuous cutters *m m*, when the several parts are constructed in the manner described.

3. In that class of excavators in which the rotary cutting cylinder operates to move the machine forward in the manner herein described, the arrangement of such cylinder horizontally across the machine, in front of an inclined apron C, so that the cylinder shall cut the dirt and throw it back upon the apron, while, at the same time, it draws the machine forward, substantially as described.

4. The arrangement of the horizontal rotary cylinder G, apron C, wheels D D, frame E, lever F, and side cutters P P, substantially as described.

84,231.—Henry Thacker, Oneida, N. Y.—*Combined Rake and Hoe.*—November 17, 1868.

Claim.—As a new article of manufacture, the combined rake and hoe, cast in one piece, the cross head A being sharpened between the tines B, to form a straight cutting edge, as herein described, for the purpose specified.

84,232.—J. H, Thurston, Rainsborough, Ohio, —*Bee-hive.*—November 17, 1868.

Claim.—The slide *n* and lever *o*, pivoted in recesses cut in the partition *c*, between the same and the spare honey boxes C C, said lever extending to the outside of the hive, whereby the capacity of the opening *l m* is regulated, or communication closed between the boxes C and chamber *a*, as herein shown and described, for the purpose specified.

84,233.—Michael Tromly, Washington, D. C. —*Gun Lock.*—November 17, 1868.—The upper part of the hammer containing the head slides on the lower part so that when the hammer is at "full cock" and sprung, centrifugal force throws the head out far enough to explode the cap, but when the hammer is sprung from less than "half cock," it is not thrown out far enough to explode the cap, but falls on the guard.

Claim.—1. A hammer constructed with the parts A and B, operating together, substantially as described.

2. The combination of said hammer with the nipple *n* and guard G, in the manner set forth.

3. A hammer constructed with the depression *m*, shoulders *i i*, and lip or projecting plate *o*, substantially as described.

84,234.—Louis Verstraet, Paris, France.—*Hydrocarbon Burner.*—November 17, 1868.

Claim.—1. The reservoir A constructed with a double casing or wall, and filled in with the absorbent C, substantially as and for the purposes described.

2. Withdrawing the vapor which rises from the petroleum, or other mineral oil or liquid, from the reservoir, preventing thereby its escape into the atmosphere, and the accumulation thereof in the reservoir, substantially as described and for the purposes set forth.

3. Collecting and using in the boiler the water produced by the condensation of the vapors in the smoke flues, substantially as described.

4. Discharging into the furnace, and utilizing as fuel, the vapors rising from the oil in the reservoir, substantially as shown and described.

5. Producing a current of air through the reservoir, in contact with the oil therein, substantially as and for the purposes described.

6. The filling C, in combination with an oil reservoir, substantially as and for the purposes described.

7. The air-discharge tube E', closed at its base, having a conical end, perforated at *e*, and surrounding the closed conical-ended tube E'', in such a manner as to leave an annular space, *m*, between them, and arranged, with relation to the air-supply pipe F and the gas pipe N, as herein described, for the purpose specified.

84,235.—James Viney, Manchester, N. H.—*Paper-making Machine.*—November 17, 1868.—A vacuum or partial vacuum, produced in the boxes over which the apron bearing the paper pulp passes, extracts the water or moisture from the pulp. These vacuum boxes can be adjusted to the width of the paper to be made.

Claim.—1. Extracting the water or moisture, to a greater or lesser extent, from the pulp on the wire cloth or felt apron, on its way to the pressing rollers, by the removal of atmospheric pressure, as described, or in any equivalent manner.

2. The adjustable slides E on the boxes A, by which the aperture in the top of the box is made to correspond with the width of the paper, substantially as described.

84,236.—WILLIAM WARDSWORTH and E. H. SEMPLE, St. Louis, Mo.—*Machine for Picking Wool.* --November 17, 1868.—The journal boxes of the roller have a lateral adjustment so as to set the revolving brushes in such a position as to sweep the edges of the revolving blades on the cleansing cylinder and clear them of adhering particles of wool. The floor is slotted to permit the dirt separated from the wool to pass down into the apartment below.

Claim.—The combination of the cleansing cylinder B, roller C, arranged in adjustable bearing boxes c^3, and having radial arms C and brushes c^1 c^3, the slide F, and slotted floor F′, all constructed, arranged, and operating as and for the purposes set forth.

84,237.—R. WAITE, Blue Earth City, Minn.—*Wind Wheel.*—November 17, 1868.—The horizontal wheel, having a spirally-tapering vane of varying twist, is inclosed in a bell-mouthed case, which latter is provided with a regulator at its receiving end to govern the quantity of air to be admitted.

Claim.—The wind wheel constructed as described, of the case A, having the flanges B C, the draught-regulator D, horizontal shaft G, and the spiral wind wheel E, having a variable diameter and pitch, all arranged and operating as described for the purpose specified.

84,238.—THOMAS WAITE, Plymouth, Ohio.—*Cultivator.*—November 17, 1868.—The shares can be adjusted for plowing furrows of different widths.

Claim.—The side beams C, when provided with slots D for the insertion and adjustment of the standards E, in combination with the beam A, for the purpose set forth.

84,239.—BERNHARD WEINMANN, Cincinnati, Ohio.—*Steam Whistle.*—November 17, 1868.—A piston fitting in the tube can be raised or lowered to increase or decrease the height of the column of steam vibrating therein, and thus produce a sonorous or shrill sound. The plug at the lower end of the tube has an upwardly-projecting stem which is provided with a head around which the steam passes on its way to the tube.

Claim.—1. The adjustable piston E, arranged in the upper end of a steam whistle, substantially as herein shown and described.

2. A steam whistle, consisting of the tube A, plug B, which has the stem *d*, head *e*, and the adjustable piston E, all constructed substantially as herein shown and described.

84,240.—WILLIAM WELLS, Ashtabula, Ohio.—*Spring Butt.*—November 17, 1868.—A pawl slides in a recess in one leaf of the hinge, and can be made to engage with, or be disengaged from, teeth on the end of the spiral spring, and thus cause the latter to operate in closing the door, or be inoperative, as desired.

Claim.—The pawl *i* and the ratchet teeth *h*, when arranged substantially as and for the purposes herein shown and described.

84,241.—GILES B. WILLIAMS, New York, N. Y., assignor to ELISHA M. ALLEN, same place.—*Desiccated Cocoanut.*—November 17, 1868.—An alkali is added to the grated cocoanut to prevent acidification.

Claim.—An improved article of confection, consisting of desiccated cocoanut meat combined with sugar and the bicarbonate of soda, substantially as set forth.

84,242.—JOHANN WINKLER, Hudson City, N. J.—*Froth Arrester for Beer Glasses.*—November 17, 1868.—An oval plate, hinged to the edge of the glass, is notched at its free end to permit the liquid to escape and arrest the foam.

Claim.—The oval froth arrester A, provided with a notch, *b*, and arranged substantially as and for the purpose described.

84,243.—JUSTIN P. WOODWORTH, Brooklyn, N. Y.—*Electro-plating.*—November 17, 1868.—The articles are so held by the rack as to prevent a deposit mark being left.

Claim.—1. The method, substantially as set forth, of depositing different thicknesses of plating or metallic coating on different portions of an article at one operation, by obstructing and deflecting the electric current in the bath in its passage between the two poles, substantially as described.

2. The rack or holder, Fig. 1, or its equivalent, for holding the articles to be plated properly, and for receiving and adjusting, by suitable means, the said obstructing device, substantially in the manner described.

84,244.—JOHN YATES and EDGAR DEUELL, Brooklyn, N. Y.—*Beer Cooler.*—November 17, 1868. —The ends of the pipes are so connected as to prevent leakage. The beer is prevented from coming in contact with the external air when flowing down over the series of pipes, by means of doors hinged to the connecting boxes.

Claim.—1. Connecting the ends of the pipes or tubes A by means of boxes, C, divided into compartments by means of partitions *a*, the ends of the pipes or tubes passing through suitable standards or plates, B, into the compartments of said boxes, substantially as shown and described.

2. Inclosing the series of pipes or tubes A by means of doors, E′ E′, hinged to one of the boxes C, substantially as and for the purpose herein set forth.

84,245.—AUGUST DESTOUY, New York, N. Y.—*Manufacturing Boots and Shoes.*—November 17, 1868.—The twist of the thread fills up the awl holes and prevents the entrance of water through the same.

Claim.—The within-described method of manufacturing boots and shoes, that is to say, securing the insole by a stitch whose parts are twisted and crossed in or at each awl hole, substantially as and for the purpose herein described and represented.

84,246.—RICHARD SMITH, Sherbrooke, Canada, —*Machine for the Manufacture of Paper Boxes* — November 17, 1868.

Claim.—1. A plunger, so constructed as automatically to admit air beneath its lower end just previous to its withdrawal from the cavity of the completed box or other hollow article, substantially in the manner and for the purpose set forth.

2. The formation of the sides of the box by the sudden displacement of the pulp in the mold, by the introduction of the plunger into it by a quick motion, substantially in the manner described.

3. The combination and arrangement of the piston, packing *r*, air passage *c*, and valve *v*, in the manner and for the purpose specified.

4. Discharging the completed box or other hollow article from the bottom of the mold, substantially as set forth.

5. The molds H; made with removable bottoms and permanent perforated linings, as distinguished from removable linings, substantially in the manner specified.

6. The ways W, in combination with the common bed plate of the molds H H′, for the purpose of allowing the latter to have a reciprocating movement to bring the molds alternately beneath the plunger, in the manner and for the purpose described.

7. Forming a box or other hollow article from pulp, by forcing a plunger down into the mold containing the pulp, of which the box or other article is to be made, as set forth.

84,247.—SAMUEL L. ALLEN, Cinnaminson, N. J. —*Planting Machine.* — November 24, 1868.—The carrying wheel, the hopper, and chambers revolve together upon the axle, and the chambers discharge the grain successively into the continuous channel, from which it flows into the furrow made by the carrying wheel.

Claim. — 1. In combination with the carrying wheel A, a central hopper, B, having chambers C constructed and arranged around in the said hopper, substantially as and for the purpose described.

2. In combination with the said hopper and chambers, arranged and combined as described, the slides *c'*, constructed and operating substantially as and for the purpose described.

3. In combination with the hopper B and the perforated rim or tread *a'* of the wheel A, the continuous intervening channel a^6, as and for the purpose described.

84,248.—Henry E. Anderson, Ripon, Wis.—*Swaging Attachment for Sheet-metal-working Machines.*—November 24, 1868.—The rollers are placed upon the revolving arms of a tinner's or iron worker's beading machine for the purpose of swaging screws on stove pipes. The nut and the mandrel of the attachment run out or in according to the direction in which the arms are turned. The guide is set by the index hand to agree with the size of the pipe.

Claim.—1. The screw F, nut G, swaging rollers H and I, acting in combination, substantially as described.

2. Frame C, guide standard D, guide E, nut L, and index hand P, substantially as and for the purpose described.

84,249.—Earle C. Bacon, New York, N. Y.—*Steam Engine.*—November 24, 1868.—The trunk presents an oblong cross-section, with its greatest diameter lying in the same direction as the path of the piston rod's vibration; the object being to increase the effective area of the piston head.

Claim.—The construction of the oblong hollow trunk D, and its arrangement with reference to the piston head B, cylinder A, and cylinder head F, substantially as described.

84,250.—Haydn M. Baker, New York, N. Y.—*Manufacture of Carbonate of Soda.*—November 24, 1868.

Claim.—The use of bicarbonate of soda for the purpose of decomposing soluble silicate of soda, to produce pure carbonate of soda and silica, (silicic acid.)

84,251.—John S. Barden, Providence, R. I., assignor to himself and Daniel N. Pickering, Boston, Mass.—*Steam Pump.*—November 24, 1868.—The stationary block or cylinder in the pump case contains the passages which afford communication between the space below one piston and that above the other, and said block is employed in order that the passages may be larger than it would be practicable to have them in an extension of the main shaft.

Claim.—1. The combination of the stationary cylinder K, and its passages b^2 c^2, with the pump pistons *i' k'* connected with the shaft B, and arranged in the pump case, provided with valves and partitions, and induction and eduction conduits, as explained.

2. The arrangement of the steam engine and the pump, and their connection by the neck I and the shaft B, as described.

84,252.—Edward D. Benjamin, Old Town, Ill.—*Plow.*—November 24, 1868.—The arrangement of the whiffletrees is designed to equalize the work of the horses. The levers, short axles, and sway bar are arranged to vibrate upon the ends of the axletree, for the purpose of raising and lowering the plow frame. When the machine is at work the sway bar rests upon the folding frame, but when it is desirable to depress the plows the folding frame is drawn from beneath the sway bar, which then assumes a lower position and rests upon the plow frame.

Claim.—1. The combination of the whiffletrees with the plow, when the same are constructed and arranged in connection therewith, in the manner herein shown and described.

2. The levers D D', pivoted to the ends of the axletree, and bearing wheel axles E E at the ends of their short arms, and having their long arms connected by the adjustable sway bar G, the whole arranged and operating substantially as herein set forth and specified.

3. The folding frame K, arranged and operating as described, and for the purpose specified.

84,253.—Thomas Booth and Charles Carroll Sanderson, Norway, Me.—*Let-off Mechanism for Looms.*—November 24, 1868.—It is the design of this mechanism that when once set to a certain number of picks to the inch on the web, the weaver shall have no power to change the standard to accelerate the weaving and change the texture of the cloth.

Claim.—The combination of standard *d*, arms *g g*, rods *i i*, weights *j j*, arms *k k*, and bands *n n*, with the beam *b*, as and for the purposes herein set forth.

84,254.—Lewis S. Bortree, Grand Rapids, Mich.—*Horse Rake.*—November 24, 1868.—The bell-crank lever engages a notched segment to hold the arms and teeth in their depressed position. By throwing forward the foot lever, the rake teeth are made to assume a nearly vertical position, and when this has been done the rake is tilted upward at the rear by giving a forward movement to the crank lever. The teeth work very near the ground, but the rollers prevent them from touching.

Claim.—1.—The vibrating frame E, bell-crank lever F, arms G, slotted double-pronged teeth I, provided with rollers K, and the spiral springs J, when constructed, arranged, and operating substantially as herein described, and for the purposes specified.

2. The standards L, rock shaft N, provided with arms X, the wires P, foot lever O, and bell-crank lever F, substantially as and for the purposes set forth.

84,255.—Anson R. Brown, M. D., Albion, Mich.—*Bandage for Preternatural Enlargements.*—November 24, 1868.

Claim.—An elastic bandage, having numerous perforations or interstices, *e*, in its structure, to admit air to the surface of a diseased portion of the human body while under compression, substantially as and for the purpose herein set forth.

84,256.—Edward Brown, New York, N. Y.—*Hinge Machine.*—November 24, 1868.—The hinges are pressed between dies, so that the pipe of the hinge shall be rendered truly cylindrical, and the leaves flattened and bent, and made to lie in the proper plane relative to the axis.

Claim.—The combination, with the bed A, posts B, shaft D, and gate F, with their connections, constituting the frame and moving parts of a press, of the die H, the yielding dies K I, the levers T, T', T^2, T^3, and N, and their corresponding springs, substantially as and for the purpose set forth.

84,257.—George E. Burt and Edwin A. Hildreth, Harvard, Mass.—*Hay Spreader.*—November 24, 1868.

Claim.—1. The forks *j j*, when so arranged as to revolve horizontally over the ground, turning the hay, substantially as described, and for the purpose set forth.

2. The forks *j j*, when so arranged as to revolve horizontally over the ground and sweep the hay from before the wheels, in order to give them a path clear from grass or hay, substantially as described and set forth.

3. The arms *g* and *h*, in combination with the fork handle *i*, when so arranged as to revolve the forks *j j* horizontally over the surface of the ground, gathering and discharging or turning the hay, substantially as described and set forth.

4. The forks *j j*, when actuated by mechanism so constructed that there shall be imparted to the forks, in addition to their horizontal, rotary motion a dipping and rising motion, to collect and discharge the hay, substantially as described.

5. The forks *j j*, when hung from hinges *l* and *m*, (one or both,) and so arranged that the forks can freely rise, and pass over rising ground or obstacles, substantially as described, and for the purpose set forth.

6. The shaft *f*, disk *u*, and eccentric wrist *s*, in combination with the driving arm *g* and operating

arm *h*, arranged to operate the forks *j j*, substantially as described.

7. The gear *c*, pinion *d*, tube *e*, shaft *f*, disk *u*, and wrist *s*, when used in combination to operate the arms and forks of a hay tedder or rake, substantially as described.

8. The flexible joints *l* and *m* in the arms *g* and *h*, to allow the forks to follow over rising ground or obstacles, substantially as described, and for the purpose set forth.

9. The combination of the forks *j j*, the pivots *q*, pins *p*, staves *i*, and pivots *k* and *n*, with the driving arm *g* and operating arm *h*, operating as and for the purposes set forth.

10. The springs *v v*, when so arranged as to lift a portion of the weight of the forks *j j* and their connections, substantially as described, and for the purpose set forth.

84,258.—ERASTUS T. BUSSELL, Indianapolis, Ind.—*Car Spring.*—November 24, 1868.—The annular air spaces communicate with an air chamber in the base cup, upon which the rubber tubes and spiral springs rest, and into which air may be pumped to replenish any leakage.

Claim.—1. The formation of a rubber, spiral, and air spring, by the arrangement and combination of two or more concentric, hollow tubes of vulcanised India-rubber, R^1 R^2 R^3, and four or more spiral springs S^1 S^2 S^3 S^4, in such manner that the spirals support the rubber tubes externally as well as internally, and so as to form annular air spaces for the confinement of atmospheric air between said rubber tubes, substantially as described and shown.

2. The chambered base C^2, with induction openings *i*, furnished with valves V, and eduction openings J, between and in combination with the tubular and spiral spring, composed of the rubber tubes R and spirals S, arranged to operate in conjunction, as shown and described.

84,259.—JOHN BUTLER, Brooklyn, N. Y.—*Method of Generating Fixed Gases from Hydrocarbon Vapors.*—November 24, 1868.—The vapors generated in the vaporizer by steam from the boiler pass to the roasting chamber. The vapor traverses the longitudinal perforations in the charcoal block, and is thus divided into streams, to be more effectively acted upon by the heat. It then passes to the condenser.

Claim.—1. An arrangement of mechanism for roasting hydrocarbon vapors or changing them into permanent gases, by exposing them to heat while minutely divided or separated into small streams, substantially as herein shown and described.

2. The combination and arrangement of the furnace or fire chamber A, boiler B, vaporizer E, roasting chamber H, and perforated charcoal block I, or its equivalent, with each other, substantially as herein shown and described, and for the purpose set forth.

3. The perforated charcoal block I, prepared and operating substantially as herein shown and described, in combination with the roasting chamber H, as and for the purpose set forth.

84,260.—JOSEPH CHARLEVILLE, St. Louis Co., Mo.—*Step Ladder.*—November 24, 1868.—This mode of applying the top seat or foot board renders it readily removable.

Claim.—The rail *a*, its tenon *f*, in combination with the mortise *g* of the seat board B and the brace G and step or round *b*, substantially as and for the purposes set forth.

84,261.—CHARLES L. COLE, Richmond, Mich., assignor to himself and THOMAS JOHNSON, same place.—*Spinning Wheel.*—November 24, 1868.—The depression of the respective treadles causes the spindle to approach and recede from the operator.

Claim.—The rock shaft M, wheel L, friction wheels H, S, and T, arms Q and R, belts N, U. and V, and treadles O and P, when arranged relatively to each other, as herein described, in connection with any hand spinning wheel, and operating as and for the purposes substantially as set forth.

84,262.—HUGH H. CRAIGIE, New York, N. Y.—*Water Closet.*—November 24, 1868.—The piston is depressed by a connection with the seat of the water closet, and when free to rise its valve is opened by the upward pressure of the water. Thus water flows upward through the piston, while the latter is rising in the act of closing, under the conjoint upward pressure of the water and a spring.

Claim.—1. The piston *l*, moving in the cylinder *b*, between the inlet and outlet pipes, in combination with the valve *n* and seat *f*, the parts being arranged and operating substantially as and for the purposes set forth.

2. The rod *m*, piston *s*, and valve-controlling chamber *a*, in combination with the water way 8, and valve *n*, to the water closet, substantially as specified, so that the end movement given to the piston rod shall open or close the water way 8, for the purposes specified.

3. The valve *r*, applied at the piston rod *m*, in combination with the valve controlling chamber *a*, and a piston, moving in said chamber, to regulate the closing of a water-closet valve, substantially as set forth.

84,263.—JAMES B. CRANE, Dalton, Mass.—*Manufacture of Paper Belting.*—November 24, 1868.—The pulp is carried through the first press rollers by means of a felt; it is then carried over other rollers, and the first formed end is brought back to the first press rollers, run through again, and made to perform the same journey over the other rollers as before, carrying with it the continued stock as the felt delivers it.

Claim.—The process herein described for manufacturing paper fabric, substantially in the manner and for the purposes herein set forth and described.

84,264.—DANIEL M. CUMMINGS, WYMAN PATTEE, and ALBERT M. SHAW, Enfield, N. H.—*Divided Axle for Railways.*—November 24, 1868.—One part of the sleeve is fixed to one half of the divided axle, and the other part permits the other half of the axle to revolve within it, and the parts of the sleeve are rigidly connected, so that, while either axle section can be rotated independently of the other, neither can be oscillated within its coupling.

Claim.—1. Uniting the axle section *b* with the coupling section *d*, by fitting a tapering portion of the former into the tapering bore of the latter, and then employing a screw nut or nuts on the inwardly-projecting end of said axle section, when the said coupling section *d* is combined with its matching coupling section *c*, substantially in the manner herein set forth.

2. The arrangement of a properly proportioned disk or washer, *e*, within the coupling box of our improved car axle, in such a position as to prevent any lateral action that may be exerted upon the car wheels or axle from injuriously jamming the tapering portion of the axle section *b* within the coupling section *d*, substantially as herein set forth.

84,265.—WILLIAM H. CURTIS, Painesville, Ohio.—*Thill Coupling.*—November 24, 1868.—The diameter of the eye of the hook equals that of the joint bolt, but the mouth of the hook is contracted by the feather to an extent equal to the depth of the notch in the joint bolt. In order to couple or uncouple the hook and bolt, the thills must be raised to such a position as will bring the feather and notch into coincidence.

Claim.—The combination of the hook B and its key B′ with the rigid joint bolt E and its notch *e′*, when arranged and operating in the manner and for the purpose set forth.

84,266.—CHARLES B. DAVIS, Dayton, Ohio.—*Device for Hanging Picture and other Frames.*—November 24, 1868.—Designed to sustain the frame at any inclination from the wall.

Claim.—The method of hanging frames herein described, with the eyes B, C, and C′, ring D, cord E, and slip F, when arranged with relation to the frame A, substantially as and for the purposes set forth.

84,267.—JOB A. DAVIS, Watertown, N. Y.—*Clog.*—November 24, 1868.—The clog is held upon the foot by the force of the springs, tending to draw the front and rear parts of the clog together, the heel support and toe piece serving as adjuncts of the springs.

Claim.—1. A clog formed in two separate parts, so connected that, while drawn toward each other by force of a spring or springs, they may be stretched further apart from each other, substantially as and for the purpose described.

2. A heel piece for a clog, mounted with a heel support and with a flexible shank, substantially as and for the purpose described.

3. The sole piece, having therein a cavity and a yielding spring or springs, substantially as and for the purpose described.

4. The combination of the cavity and spring or springs in the sole of the clog, with the elastic shank piece secured to the heel piece, substantially as shown and described.

84,268.—Paul Dehlinger, Buffalo, N. Y.—*Hod Elevator.*—November 24, 1868.—The bodies of the hods rest in the angular notches of the frame, and are retained in place by a cleat on the bottom of each, and by a cross piece beneath, against which the handles rest. The open ends of the hods rest against a guard board, which prevents the accidental discharge of their contents. The hinged step admits of the hook of the hoisting tackle being reached.

Claim. — 1. A frame, provided with angular notches, when used in combination with hods, provided with cleats *j* for elevating the latter, substantially as set forth.

2. The arrangement of the guard board M between the hod racks, as described.

3. In an elevating apparatus, the combination and arrangement of the platform C with hod racks E, substantially as set forth.

4. The arrangement therewith of a hinged step, Q, as herein set forth.

5. The construction of the hod rack E with double row of angular notches, $e\ e'$, in the manner described.

6. The arrangement of the brace and elevating bars *g g g g* and eye *h* with the hod racks M, constructed as herein set forth.

84,269.—William E. Derrick, Jordan, N. Y. —*Horse Hay Fork.*—November 24, 1868.—The slides being forced together so as to open the prongs, the central shaft is thrust into the hay, and the upper slide then clamped to said shaft by the cam lever. The foot is placed upon a projection of the lower slide, and the prongs close as the instrument is raised.

Claim.—The caliper-shaped prongs B, in combination with the straight piercing shaft C, for the purpose herein described.

84,270.—Ossian E. Dodge, St. Paul, Minn.—*Reflector for Public Halls, &c.*—November 24, 1868. —The reflector may be adjusted upon its horizontal axis so as to cast the light fully in any particular place or direction, or wholly or partially exclude it.

Claim.—The double reflector E, as arranged and operated by the cord H, in combination with the pipe A and burners, for the purpose specified.

84,271.—George H. Dow, Freeport, Ill.—*Horse Hay Fork.*—November 24, 1868.—The prong is sustained in a raised position away from the point of the tine by a lever catching in a notch near the lower end of the prong, and in this condition the fork is thrust into the hay; the prong is then released and forced downward until the lower end reaches the point of the tine, it being locked in this position by the engagement of the lever with an upper notch.

Claim.—The curvilineal tine A, in combination with the prong B, in the manner as and for the purpose set forth.

84,272.—Gustave Durellé, Boston, Mass.—*Composition for Pavements.*—November 24, 1868.—Asphaltum, coal tar, yellow wax, iron slag, sand or silica, caustic lime, and clay.

Claim.—The new pavement composition, as made of the several materials and in the manner as herein first described.

84,273.—F. G. Foster, Eagle Rock, N. C.—*Type-setting Machine.*—November 24, 1868.—The type is pressed from the box into a slot in the vertical plate by means of a coiled spring, so that on operating the keys the arms are caused to rotate, thus forcing the types into a groove which directs them to the central channel, from whence they fall through a curved groove on to a setting rule which slides in a pivoted composing stick. When one line is completed the composing stick is turned over, the type justified, and the setting rule slidden back, while a slide moves the type into the galley far enough to permit the rule to be again placed alongside of the stick.

Claim.—1. The arrangement of the removable vertical plate I, when provided with recesses *x x*, and grooves $x'\ x'$, as described, and entirely covered with a glass or other transparent plate, with the type boxes D D and fingers *f f* acting in the recesses *x x*, substantially as and for the purposes herein set forth.

2. The type box D, constructed as described, and provided with a spring, *g*, to press the type forward, substantially as herein set forth.

3. The arrangement of the fingers *f f*, placed in the recesses on the plate I, in combination with the journal *e*, lever *d*, rod *b*, and the key C, all constructed as described, and the fingers operating so as to force the type down in the grooves, substantially as herein set forth.

4. The guide E, constructed as described, with a curved groove to guide the type properly into the composing stick, as herein set forth.

5. The combination of the setting rule G, composing stick *h*, slide *i*, and galley F, all constructed as described, and operating as and for the purposes herein set forth.

6. The setting rule G, constructed and working in the manner and for the purposes herein set forth.

84,274.—Earl J. Hall, Indianapolis, Ind., assignor to himself and Jacob Eldridge, same place.—*Pump.*—November 24, 1868.—The induction pipes are reciprocated simultaneously, in the same direction, upon the pipes of the water box, and the valve chambers are alternately charged with water.

Claim.—The arrangement and combination of water box A, horizontal induction pipes V, valve chambers B, and the means used for operating the same, all as shown.

84,275.—Everett C. Hammond, Oswego, N. Y., assignor to himself, O. H. Pennock, and Ira G. W. Pennock, same place.—*Center-board Winch.*—November 24, 1868.—The worm and worm wheel give the men more complete control of the cranks, and obviate the injury to which they are liable in suddenly starting a heavy center board by the common means, namely, a spur wheel and pinion. The arrangement is such that the operating cranks do not interfere with a lumber deck load.

Claim.—1. The barrel A, worm wheel B, endless screw C, and gears E *f*, combined and operated substantially as herein described and for the purpose set forth.

2. The arrangement of the operating shaft or shafts *c e*, when placed at right angles to the barrel A, for the purpose herein described.

84,276.—Anne B. Hancock, Suspension Bridge, N. Y.—*Fan.*—November 24, 1868.

Claim.—The combination of the whalebone frame A E and buckram plates C, to form an elastic foundation to receive the covering of feathers, D, substantially as described.

84,277.—James Harris, Janesville, Wis.—*Evaporator.*—November 24, 1868.—The apparatus is divided into several compartments, so arranged and connected with each other and the flue passage as to regulate the draught and prevent the apartments from being emptied unless so desired, and their contents from burning.

Claim.—1. So constructing the opening in the partition between finishing apartment b''' and the others, that the bottom of this opening, being above the bottom of these latter, they cannot get empty and burn.

2. Dropping the finishing apartment b''' lower than the others.

3. The combination and arrangement of dampers *e* and *f* with the pan C, constructed with its several apartments, as set forth.

4. The combination of pan C, damper *f*, cold-air passage *g'*, and flue *d*.

5. The evaporator constructed, arranged, and operated in the manner substantially as shown and described, for the purpose set forth.

84,278.—Thomas M. Herriott and Samuel Myers, South Pittsburg, Pa.—*Balance Slide Valve.*—November 24, 1868.—The upper ring is held in easy contact with the cap of the steam chest by the elastic force of a beveled ring, but when steam is admitted to the chest, its pressure upon the outside of the spring ring tends to close the latter concentrically, and thus force the top ring into steam-tight contact with the cap of the chest.

Claim.—The combination of the rings C and B, with the projection S; the whole constructed substantially as shown and described.

84,279.—William T. Horrobin, Bennington, Vt.—*Molding Machinery.*—November 24, 1868.—The mold may be easily separated from the pattern, for inspection and repair, and the parts again united and caused to register truly.

Claim.—1. The combination, substantially as described, of the reversible follow board with the sliding carriage C, for the purposes set forth.

2. The combination of the flask with the reversible follow board and the clamping screws J, as and for the purpose set forth.

84,280.—Charles Kaiser, New York, N. Y.—*Rotary Steam Engine.*—November 24, 1868.—The fly valves fitted into the circumference of the revolving piston, are provided with semicircular self-adjusting packing pieces having their ends presented to the pressure of the steam. Spring levers connecting with the inner surfaces of the fly valves form a parallelogram, the action of which is to keep the fly valves in contact with the cylinder.

Claim.—1. The arrangement of the circular piston H in an oblong or oval cylinder A, when said piston is provided with fly valves N N' N'' N''', constructed and fitted into the circumference of the piston, substantially as described.

2. The construction and arrangement of the fly-valves N N' N'' N''' in the circumference of the piston H, with circular packing pieces *c* near the outer ends of said valves, substantially as herein set forth.

3. In combination with a circular piston H, provided with fly valves, constructed as above described, and working in an oval cylinder, the arrangement of two induction passages *n n*, and of two eduction passages *m m*, directly opposite each other, whereby to admit and exhaust the steam simultaneously at the opposite sides of the revolving piston, substantially as described.

4. Rods or levers *s s' s'' s'''*, forming a parallelogram, in combination with the fly valves, said levers being provided with springs, substantially as set forth.

84,281.—R. H. Kent, Middlebury, Ohio.—*Cloth-measuring Apparatus.*—November 24, 1868.—The standards in which the winding shaft is journaled are adjustable on the slides so that any width of goods can be measured. By means of the slides the uneven winding of the cloth is obviated, thereby preventing wrinkles.

Claim.—The combination of the slide O and adjustable standard R, as arranged in relation to and combined to coöperate with the rollers H J, winding shaft F, all in the manner as and for the purpose set forth.

84,282.—Chester King, East Cleveland, Ohio.—*Water Elevator.*—November 24, 1868.—The bucket on being drawn up is caught between guide arms which prevent it from swinging about and striking the curb, and tilted by arms coming in contact with lugs on the centrally pivoted bucket.

Claim.—The guide arms F, hinged at *a*, and tilting arms H, when arranged in relation to the curb A and spout I, all constructed in the manner and for the purposes substantially as described.

84,283.—George H. Kitchen, New York, and Scotto C. Nash, Brooklyn, N. Y.—*Portable Gas Apparatus.*—November 24, 1868.

Claim.—1. A diaphragm *h*, introduced in the lower part of the vessel containing the liquid hydrocarbon, so that said liquid shall freely pass into and fill the space below said diaphragm, in combination with a pipe supplying air below said diaphragm, and a pipe conveying away said carburreted air, substantially as set forth, whereby said diaphragm directs the bubbles of air, as they pass through the lower part only of the liquid hydrocarbon, and they do not disturb or vaporize the upper portion of the same, as set forth.

2. The diaphragm *h*, and spiral flange, forming a channel in which the bubbles of air travel, in combination with the pipes 2 and *k*, and diaphragm *f*, within the gasoline vessel *l*, substantially as and for the purposes set forth.

3. A gas holder, provided with perforated distributing pipes in the lower part, in combination with the carbureting vessel, pump, and pipes arranged substantially as specified, so that the air that is forced directly into the gas holder, to dilute the gaseous hydrocarbon, will enter by the same distributing pipes that have supplied the carbureted air, in order that the contents of the gas holder may be mixed together with uniformity, substantially as set forth.

4. The combination of a gas holder, formed of a flexible bag, with a pump and carbureting vessel, substantially as and for the purposes specified.

84,284.—J. Klinkhardt and W. Kiburz, St. Louis, Mo., assignors to themselves and Paul Oehler, same place.—*Brick Machine.*—November 24, 1868.—Plungers operate on two sides of the brick in the mold at one operation, while a cutter detaches any swelling on the lower face, thus producing a true-faced brick.

Claim.—1. The arrangement and combination of the pug mill A, its screw *b*, and passage *a'*, with the mold chamber C, and plungers D and E and slide F, substantially as set forth.

2. The knife *f*, when combined and operated with the slide F, substantially as and for the purpose set forth

85,285. — Francis Krick, Fidelity, Ohio, assignor to himself and Eli Sinks.—*Lifting Jack.*—November 24, 1868.—A stirrup on the end of the lever which is pivoted to the notched standard fits into the notches on the movable rod, and on lowering the lever the rod is raised and held in position by a spring catch.

Claim.—The combination and arrangement of the bars A B, the lever C, stirrup K, guides E D, and spring-catch G, constructed substantially as and for the purpose specified.

84,286.—J. C. Lander and R. R. Lander, Mazo Manie, Wis.—*Beehive.*—November 24, 1868.

Claim.—The sections A B, movable sides H, dividing boards C', and frames C, when said frames are so arranged in the cases that a space is left between them and the walls, all constructed, combined, and arranged in relation to each other, in the manner as and for the purpose set forth.

84,287. — Charles Leavitt and W. H. Burridge, Cleveland, Ohio.—*Cotton Gin.*—November 24, 1868.—The vibrating comb prevents the edge of the plate and the rollers from being gummed.

Claim.—1. The rollers D and G, vibrating comb J, and plate K, combined and operating as set forth.

2. In combination with the above, the rotating brush I, or its equivalent, operating substantially as described.

84,288. — J. H. Linville, Philadelphia, Pa.—*Bridge.*—November 24, 1868.—The struts are stayed at one or more intermediate points in their length, by means of diagonal ties which act in a twofold capacity of suspension ties and trussing rods, without the use of auxiliary truss rods for that purpose.

Claim. — The construction and arrangement of tension bars and struts for giving initial tensile stress to the bars, and rigidity to the struts, substantially as herein set forth.

84,289.—EDWARD A. LOCKE and WILLIAM N. WEEDEN, Boston, Mass.—*Mode of Packing Lamp Shades.*—November 24, 1868. — The blanks may be packed in a small compass for transportation, and readily formed in shape by joining the edges.

Claim.—A compact encased package of two or more paper lamp shade blanks, having a single margin prepared with a dried gum or cement, and with the margins or ends left ununited, substantially as and for the purposes described.

84,290.—SAMUEL B. LUCKETT, Corydon, Ind.—*Cloth Measuring Apparatus.*—November 24, 1868.—A rod arranged within the winding cylinder is provided with hooks which are thrust into or withdrawn from the cloth by the rotation of the rod.

Claim.—The cylinder B, arranged as described. cylinder C, with rod c^1, and hooks c^2, and the rod D, the whole being combined and operated substantially in the manner and for the purpose set forth.

84,291.—HARMON F. LUSHBAUGH and OSCAR Z. HURD, Mount Pulaski, Ill.—*Animal Trap.*—November 24, 1868.—The animal depresses the platform on reaching for the bait, thus disengaging a pawl which allows the shaft to rotate and push the animal onto a platform operating a series of pointed rods which, on the animal passing into the end of the box, prevent it from returning.

Claim.—1. The combination of the shaft B, coil-spring h, rods $m\ m^1\ m^2\ m^3\ m^4$, and n and $o\ o^1\ o^2\ o^3$, platform p, with its springs q, link f, and pawl r, as and for the purpose specified.

2. The combination of the platform t, links v and s, levers w and z, rock shafts E and F, with their lance heads and weight, as and for the purpose specified.

3. An animal trap, formed by the combination of the parts hereinbefore described, as and for the purpose specified.

84,292.—THEODORE W. MAHLER, Rome, N. Y. —*Water Wheel.*—November 24, 1868; antedated November 9, 1868. — The water passes onto the wheel by a double scroll, and a separate radially moving gate provided for each guide is constructed in two parts, so that an obstruction of one gate will not prevent the closing of the others.

Claim.—1. The double scroll, constructed and arranged in relation to the wheel, substantially as described:

2. The extension gate F F^2, constructed and arranged to operate as described.

84,293. — CORNELIUS W. L. MARTINE, Scotch Plains, N. J.—*Water Elevator.*—November 24, 1868. —The links of the chain fit in grooves in the sides of the buckets. The ratchet wheel, pawl, grooved wheel, and weight are so arranged as to prevent the rapid descent of the full buckets when the operator releases the crank.

Claim.—1. The chain P, and buckets or cups O, when combined, constructed, and operated, substantially as described, for the purposes specified.

2. The combination of the chain P, buckets or cups O, ratchet wheel I, pawl J, grooved wheel F, and weight H, constructed and operated substantially as shown, for the purposes indicated.

3. In combination with the subject-matter of the second claim, the shaft C, box A, and crank N, for the purposes set forth.

84,294.—SAMUEL MASON, Newark, N. J.—*Horse Shoe.*—November 24, 1868.—The calks are provided with ribs which fit in grooves or indentations in the shoe, and are held together by pins.

Claim.—The rib b, indentation c, the pin d, and the corresponding groove e, when combined in the manner and for the purpose specified.

84,295. — WILLIAM C. MCGILL and WILLIAM KNOX, Cincinnati, Ohio.—*Safety Stove for Railroad Cars.*—November 24, 1868.—The upper reservoir is provided with a spherical valve, and the lower reservoir, which forms the base of the stove, with a cap, so that a collision of the car would cause the spherical valve and the cap to be removed, allowing the water to extinguish the fire.

Claim.—In combination with the fire chamber, the upper and lower water reservoirs H and A, substantially as set forth.

84,296.—LYNFRED MOOD, Ithaca, N. Y., assignor to TITUS and BOSTWICK, same place.—*Seeding Machine.*—November 24, 1868.

Claim.—1. The arrangement and construction of the bars P P fast to a cross-bar, anterior of and extending to the rear of the carriage axle, but are not fixed to it, for the purpose of obviating the jar of the seed box A by the carriage wheels, as set forth.

2. Moving the sliding bars H and I in opposite directions at the same time, when made and used substantially as described, thereby giving great motion to the sowing bars, as set forth.

3. The arrangement of the double crank C, over and transverse to the center of its motion, for the purpose of moving the sliding bars H and I in opposite directions, as set forth.

4. Attaching the agitators G to the bar H, when said bar H is used for the twofold purpose of agitating the grain, &c., and for forming part of the throat, as set forth.

5. The arrangement of the hinged leaf J, so as by the described means to regulate the throat made by the leaf and the sliding bar H, as described.

6. The construction and use of the lever K and its set-screw clamp, for the purpose of setting the throat by the leaf J, as set forth.

7. The arrangement, on the ends of the leaf J, of one or more springs, M, for the purpose of evening the sowing, as set forth.

8. The combined whole, made and arranged of the carriage B, the seed box A, bars H and I, and double crank C, substantially as described.

84,297.—F. A. MORLEY, Syracuse, N. Y.—*Potato Digger.*—November 24, 1868.—The riddling cylinder is supported by a single set of arms, located somewhat in rear of the cylinder, so as to have free action. The screen is driven by means of pinions on the driving shaft and internal gears on the driving wheels.

Claim.—1. A rotating cylinder, I F, sustained wholly by a central spindle, f, with arms $i\ i$, only, which are projected from the said spindle considerably in the rear of the screen F, when combined with the shovel H, as herein shown, and for the purpose described.

2. A crank axle, C c, having a driving shaft, E, working through the center of its crank wrists $c\ c$, as shown in Fig. 4, in connection with the driving wheels B B, frame A g, and screen F, all constructed and operating substantially as and for the purpose set forth.

84,298.—ADOLPHUS F. W. NEYNABER, Philadelphia, Pa.—*Water Indicator for Steam Boilers.*—November 24, 1868.—Improvement on his patent of June 4, 1867. The float in a pipe on the water line of the boiler is connected by a rod with the whistle valve, which is placed above the water line of the boiler to prevent water from being blown through the whistle.

Claim.—The construction and arrangement of rod B, bracket E, and pipe F, substantially in the manner described.

84,299.—GARRET J. OLENDORF, Middlefield, N. Y.—*Mode of Poling Hops.*—November 24, 1868. —The cords are secured to stakes in the hills and to poles placed between the hills, instead of using a pole for each hill without cord.

Claim.—The poles A, hill stakes B, and cords C, when arranged as and for the purposes herein set forth.

84,300.—HENRY H. PALMER, Rockford, Ill.—*Spring Bed Bottom.*—November 24, 1868.—End play is prevented by the straps, and side play by the band.

Claim.—The bed bottom described, consisting of the frame A with cross pieces E, slats c with straps B and projections G, springs F and band D, the whole being combined and arranged as and for the purpose set forth.

84,301.—William G. Perry, Manchester, N. H.—*Machine for Producing Weavers' Cut Marks.*—November 24, 1868.—Beneath the shaft is a wire which takes up and transfers color from the trough, in contact with one or more tiers of threads in the web.

Claim.—The shaft *b*, with the wire *a'*, or its substitute, attached, and the trough *a*, and the disk and sweep by which the wire is brought from its state of immersion in the color trough into contact with the web of yarn, all substantially as and for the purpose set forth.

84,302.—Charles C. Post, Hinesburg, Vt.—*Sap Spile.*—November 24, 1868.

Claim.—The sap spile, constructed with the longitudinal fins B, whereby it may be held or retained in the tap or hole in the tree without materially interfering with the flow of the sap, substantially as herein set forth.

84,303.—Eli Rice, West Northfield, assignor to himself and N. H. Richardson, Fitchburg, Mass. —*Device for Preventing Hens from Scratching.*—November 24, 1868.—A plate or clog, through one end of which is passed the leg of the hen, extends to the rear and terminates in a point, so that the forward movement of the leg will draw the point forward and prevent the hen from scratching.

Claim.—The within-described device for preventing fowls from scratching.

84,304.—Carl Wilhelm Rorden, San Francisco, Cal.—*Anchor.*—November 24, 1868.—The fluke arms consist of two parts, divided longitudinally through the center, and secured together by rivets or bolts. The arms are pivoted to the stock by means of steel balls working in recesses in the shank and arms.

Claim.—1. An anchor, constructed with its fluke arms B divided in two pieces, and attached to the shank A, as described.

2. The use of metal balls G, as a means of pivoting the arms on the shank, the whole as herein described, and for the purposes as set forth.

84,305.—Warren Rowell, New York, N. Y., assignor to himself and John Heck, same place.—*Molding Gear Wheels.*—November 24, 1868.

Claim.—1. Molding the double gear wheel A with the groove between the two series of teeth, by, in effect, dividing the core into parts or steps, and mounting the parts alternately in the opposite flasks, and forming them of greensand at the same time the main parts are formed, substantially as and for the purposes herein set forth.

2. The introduction of an elastic substance between the pattern and plate, as described.

84,306.—George H. Sanborn, New York, N. Y.—*Paper-cutting Machine.*—November 24, 1868.—The knife bar is hung eccentrically to two gears pivoted to a frame and operated simultaneously by two worms on one shaft.

Claim.—The combination of the knife bar H, gears F F', and worm wheels D D', constructed and operating in the manner and for the purpose specified.

84,307.—George H. Sanborn, New York, N. Y.—*Paper-cutting Machine.*—November 24, 1868.—The swinging arms, to which the knife is suspended, are not parallel to each other, which has the effect of lifting the knife a little higher at one end than the other, thus giving an inclined and gradual cut.

Claim.—1. The combination of the knife *c* and the swinging arms *b b'*, when the latter are arranged relatively to each other, in the manner described, for the purpose specified.

2. The arrangement and combination of the rod *p*, arm *h*, rock shaft *e*, and lever *q*, as and for the purpose described.

3. The rubber *r*, attached and adjusted as described, for the purpose of arresting the motion of the knife, as set forth.

84,308.—Ethiel Sanger, Alton, Ill.—*Car-heating Stove.*—November 24, 1868.—A water reservoir attached to the stove is so connected with the fire box that should the stove be overturned, the fire will be at once extinguished. A float in the reservoir is so connected with a damper in the smoke pipe as to turn the same and obstruct combustion of the fuel.

Claim.—1. The stove A, tubes C, and reservoir D, when arranged as herein described, and for the purpose set forth.

2. The arrangement of the float E, valve or damper *b*, and the connecting devices $c\ e^1\ e^2$, as and for the purpose set forth.

84,309.—Norman B. Sherwood, Millville, N. Y.—*Potato Planter.*—November 24, 1868.—A series of cups attached to an endless chain is made to pass through a curved tube attached to a hopper containing the potatoes to be planted, and convey the same to a distributing cultivator tooth.

Claim.—1. The tube A, in combination with the carrying chain B, or its equivalent, and elevating cups C, or their equivalent, arranged substantially as and for the purpose set forth.

2. In combination with the above, the hopper D, constructed and operating as herein shown, and for the purpose described.

84,310.—Louis Shmetzer, Chicago, Ill.—*Sleigh and Baby Carriage.*—November 24, 1868.—The carriage body is mounted on a frame formed by two sled runners, which frame has attached to it two detachable axles having wheels. The runners are made in two sections, hinged together near the front end, the forward end being turned back when used as a carriage.

Claim.—The combination of the removable carriage body A and wheels D C with the sled runners B, when constructed and arranged as herein described, for the purpose of easy conversion into a child's carriage or sled, at will.

84,311.—John Siddons, Rochester, N. Y.—*Ring-ferruling Machine.*—November 24, 1868; antedated November 7, 1868.—Upon the top of an upright slide, which is pivoted to a slotted lever, is fastened an arm, extending over the top of the standard, and having on its under face a half-round rib. On the top of the standard is a steel die provided with a raised edge and a groove, and between two arms is pivoted a bent lever, to which is bolted a steel die.

Claim.—1. The lever O, upright slide W, and arm *y*, with its swaging rib c^2, in combination with the grooved die C, all constructed and arranged as and for the purpose set forth.

2. The combination of the cutting and forming dies C, c^2, and K, constructed and operating substantially as shown and described.

84,312.—James Spear, Philadelphia, Pa.—*Railroad-car Stove.*—November 24, 1868.—Self-acting valves are so arranged on the top plate of the stove, and in relation to the pipe, as to obviate the necessity of separate holes for the air and smoke pipes.

Claim.—The arrangement of the valves A A on the top plate of the stove, in such a manner as to allow the stove pipe to extend through the cold-air pipe, substantially as and for the purposes set forth.

84,313.—Norman C. Stiles, Middletown, Conn.—*Adjustable Press.*—November 24, 1868.—A rocking lever, fitted between cheeks in a punch or die carrier, is supported indirectly upon an axis which passes eccentrically through a wheel fitted to be easily turned in a corresponding hole in the lever, the said wheel being provided with diagonal screw threads to receive an endless screw, by which it is operated.

Claim.—The method herein described, or its equivalent, of adjusting and fastening the eccentric to the lever or working part, and allowing to the supporting or crank pin freedom to rotate in the body of the eccentric, or in its own bearings, substantially as described.

84,314.—John Stokes, Springfield, Mass., assignor to Wesson Fire-arms Company, same place. —*Gun Lock.*—November 24, 1868.—The end of the short arm of the main spring, instead of resting in a fixed position against a rigid support, is elongated so as to bear upon the upper edge of the tumbler during a part of the rotation of the latter.

Claim.—The construction and arrangement, relatively to each other, of the main spring and tumbler in the locks of fire-arms, whereby the hammer, after delivering its blow, is made, by the action of the main spring, to rise or return sufficiently to relieve the nipple, firing pin, or cartridge, substantially as and for the purpose set forth.

84,315.—Ole O. Storle and Lorens Swenson, Norway, Wis.—*Horse Rake.*—November 24, 1868.—The teeth are attached to the bolster by means of a hinge or "cap," which is held open by a spring. A bolt, through which the teeth pass, enters the upper part of the hinge, and, with a nut, holds the teeth firmly against the hinge.

Claim.—1. Hinged cap I and bolt M, in combination with spring K, substantially as described.

2. Tooth F, passing through bolt M, with its end passing up through hinge I, substantially as and for the purpose specified.

84,316.—Anson C. Stowe, San José, Cal.—*Carriage Spring.*—November 24, 1868.—Two shafts extend across from one reach to the other, each having three bent cranks, the middle ones being joined by a connecting rod, and attached to bars, so as to cause the weight to be equally distributed on both sides.

Claim.—The shafts E E, with their cranks or bent arms *d* and *g*, and the connecting rod *c*, together with the links *e e* and rods *b*, the whole operating on the springs D as an equalizing device, substantially as herein described.

84,317.—Edward Strothman and John Strothman, Milwaukee, Wis.—*Straw Cutter.*—November 24, 1868.—Rollers attached to the knife frame bear upon the back of the knife, to which latter is imparted a drawing motion by means of a lever. A spring throws back the lever which moves the feed rollers, a knob on the fly wheel throwing the lever forward.

Claim.—1. Pitman H, shaft I, frame K, rollers L L, knife M, lever N, arranged and combined substantially as described.

2. Wheels C C′, hands D, feed lever E, spring F, and knob G, all combined and arranged substantially as described.

84,318.—Andrew Terry, Waterbury, Conn.—*Iron Fence.*—November 24, 1868.—The collars are made double, one portion fitting upon the posts and the other receiving the tube rails. The posts are inserted in cast metal stumps.

Claim.—The combination of the posts and stumps *a a′*, with the collars *d d′*, tube rail *c*, and pickets *e*, substantially as shown and described, and for the purpose set forth.

84,319.—William Thompson, Dublin, Ireland.—*Car Window Ventilator.*—November 24, 1868; patented in England November 11, 1867.—Two or more rows of semi-tubes are so arranged that the centers of those in a rear row will cover the interstices of those in front.

Claim.—A dust blind and ventilator, consisting of two or more rows of troughs or trough-shaped tubes, *m′*, set in a suitable frame-work, constructed and arranged substantially as and for the purposes hereinbefore set forth.

84,320.—Charles W. Tremain, Chicago, Ill.—*Boiler Tube Scraper.*—November 24, 1868.—Two semicircular disks, the front one of which is provided with a chamber inclosing a spring to expand the disk, are attached to a rod by which they are drawn through the boiler flue.

Claim.—The boiler tube scraper, consisting of the opening disks A′ A″, chamber D, spring C, guides F, and lips E, connected to rod I, arranged substantially as set forth.

84,321.—Newell Tupper, Grand Blanc, Mich.—*Adjustable Flood Gate.*—November 24, 1868.—The gate is a continuation of a fence across streams, and hangs loosely from suspending arms, so as to allow floating objects to pass. When the water is high and ice drifting, the rails may be sustained in an elevated position.

Claim.—The combination of the parts C D E G H I J, in a water gate, substantially as and for the purposes set forth.

84,322.—William H. Vance, New Corydon, Ind.—*Compound for Treating Ring Bone, Spavin, &c., in Horses.*—November 24, 1868.—Venice turpentine, corrosive sublimate, mercury, and iodine.

Claim.—The composition of matter herein described, when the same is prepared and used in manner and form substantially as herein set forth.

84,323.—William F. Warburton, Philadelphia, Pa.—*Hat Ventilator.*—November 24, 1868.—Improvement on his patent of December 11, 1860; reissued September 8, 1863. The outer strip is secured to the hat by stitching or otherwise, while the inner strip adapts itself to the forehead.

Claim.—The within-described ventilator, composed of the non-elastic flexible strips A and B, secured together, so as to leave a crescent-shaped opening, *a*, substantially in the manner and for the purpose described.

84,324.—A. F. Ward and J. H. Bean, Marietta, Ohio.—*Cane and Willow Stripper.*—November 24, 1868.—The plates form a casing in which the scrapers are mounted in sets, each set forming an opening through which the canes are thrust to be stripped. Springs are attached to the "standards" to adapt the knives to canes of different sizes. The catches and adjustable clamp secure the stripper to a cane mill.

Claim.—1. The cane stripper described, consisting of the plates A B, standards *c*, scrapers D, and springs *e*, all being constructed and operated substantially as and for the purpose set forth.

2. The plate B with catches *b*, in combination with the adjustable catch B^1, when operated in connection with a mill frame, as described.

84,325.—John T. Waring, Yonkers, N. Y.—*Felted Tufted Fabric.*—November 24, 1868.—The tufts of yarn or rovings are introduced through the cloth by means of a suitable needle and a perforated board or "tuft holder." The object of the felting is to prevent the tufts from being pulled out of the fabric; hence either the back of the fabric, or the tufts, or both, must have sufficient felting properties to unite with the bat or sliver or with each other by the process of felting.

Claim.—1. The new and improved manufacture of tufted fabrics, consisting of tufts secured in a previously manufactured back of felt or woven cloth by the process of felting, substantially as hereinbefore described.

2. The tufting needles, or either of them, in combination with the tuft holders.

84,326.—Isaac P. Wendell, Philadelphia, Pa., assignor to Ebert J. Wendell, same place.—*Journal Bearing for Railroad Cars.*—November 24, 1868; antedated May 25, 1868.—For supplying the journal with oil by capillary attraction.

Claim.—The journal bearing A, constructed with an oil chamber, B, and tubes or openings, C, which are provided with a cord, D, or other fibrous material, substantially in the manner and for the purpose set forth.

84,327.—Darius White, Portland, Me.—*Paint Brush.*—November 24, 1868.—The handle is driven through the leather disk, so as to expand it into the creases of the binding wire. Being thus applied, the handle continues intact, and aids in securing the bristles.

Claim.—The disk *d*, when made of leather, or any equivalent substance, when used in the manufacture of brushes, in the manner as and for the purposes specified.

84,328.—Charles Whittaker, Milwaukee, Wis.—*Rein Holder.*—November 24, 1868.—This device is secured to the dash board of a vehicle, and has a pivoted bar which is raised to enable the reins to be hitched thereto, and is then thrown down by a spring, so as to hold the reins securely.

Claim.—A rein holder, consisting of the parts A, B, and C, substantially as described.

84,329.—GEORGE F. WILSON, East Providence, R. I.—*Method of Inserting India-rubber in Hubs of Carriages.*—November 24, 1868.—The metallic lining is introduced as a strengthening appliance whereby to preserve the hub against splitting, when said hub has India-rubber applied to it as described in patent granted to James M. Whiting, March 30, 1858.

Claim.—1. The employment, in the hubs of carriage wheels, such as described, of a metallic lining, interposed between the India-rubber, or other elastic substance, and that portion of the hub in which said elastic substance is held, substantially as and for the purposes set forth.

2. The combination, with the rubber or other elastic bearing and chambered hub, of a metallic lining, constructed as herein specified, so that while its larger end will line the sides and end of the chamber in which the rubber is held, its smaller end will extend back more or less into the interior of the hub, as and for the purposes set forth.

84,330.—JAMES F. WINCHELL, Springfield, Ohio, assignor to himself, GEORGE C. STEELE, and L. A. SIMONS.—*Road Scraper.*—November 24, 1868.—The scoop, after being filled, is released from the lock bar, and turns upside down to dump the load. The lever automatically engages the several stops which detain the scoop in its different positions.

Claim.—1. The pivoted lever D, in combination with the frame, arranged to lock against the stops *m*, *n*, and *i*, and provided with the chain E for operating it, substantially as described.

2. The stops *m*, *n*, and *i*, arranged to operate as described, for the purpose of holding the scraper in the different positions, as set forth.

3. Providing the scraper with the adjustable stops for adjusting the handle at various angles or heights, substantially as and for the purposes set forth.

4. The manner of securing the frame to the scraper by means of the notch in the corner of the bars C and metal strap *a*, arranged as described.

84,331.—JESSE WINECOFF, Berlin, Pa.—*Hand Plow.*—November 24, 1868.—The plow is pushed along by means of the wheels and beam, and a downward pressure is exerted upon it by a long, wooden spring.

Claim.—The combination of two wheels, 1, going before, and a single plow, 10, together with a pivoted and adjustable beam, 3, and spring, 5, arranged in the manner described, and for the purpose set forth.

84,332.—JOSEPH S. WOOD, Philadelphia, Pa.—*Apparatus for Carbureting Air.*—November 24, 1868.—The object is to improve the apparatus for which the same inventor has heretofore obtained letters-patent, No. 66,545. The carbureter is suspended in the volatile liquid in such a manner that it may rise and descend by the pressure of the inflowing air, and thus agitate the liquid while the air is passing from one of the chambers of the carbureter to another.

Claim.—1. A carbureter E, which is composed of an inverted cup and a number of independent concentric chambers formed by concentric rings projecting from its bottom, and which is suspended from the case A of the apparatus by means of an adjustable spring, substantially in the manner and for the purposes described.

2. The construction of a carbureter, E, having a number of independent carbureting chambers or cups in its bottom, with a central guide tube, *e*, and side tubes e'', leading therefrom into the central chamber e^4, substantially as described.

3. The condenser G, air inlet pipe C, draw-off cock W, and central guide pipe *d*, in combination with a suspended agitator and carbureter, substantially as described.

4. While not claiming broadly a floating carbureter, I do claim a cupped carbureter, which is suspended and balanced in the volatile liquid by means of a spring arm, T, substantially as described.

5. The condensing chamber S interposed between the chamber in which the receiver O works and the chamber in which the air is carbureted, said chamber S being in communication with the receiver O, and also with the service pipe R, substantially as and for the purposes described.

6. The discharge tube V, leading from the condenser S into the tank D, substantially as and for the purposes described.

7. The combination of the receiver and its valve, operating substantially as described, in a chamber, L, with an agitator and carbureter, which is constructed and suspended so as to operate substantially as described.

8. A combined carbureter, regulator, and condenser, constructed and operating substantially as described.

84,333.—JOHN ABSTERDAM, New York, N. Y.—*Apparatus for Refining Iron and Making Steel.*—November 24, 1868.—Improvement upon his patent of January 23, 1866. A current of steam passes through the nozzle and thereby produces a partial vacuum in the converter. By adjusting the nozzle in relation to the discharge spout, the degree of exhaustion may be varied to suit the requirements of the process.

Claim.—The combination of the nozzle F and conical spout E, either one or both of which may be made movable toward or from each other, with the suction pipe C and converter A, substantially as and for the purpose herein shown and described.

84,334.—JOHN ABSTERDAM, New York, N. Y. *Process for Refining Iron and Making Steel.*—November 24, 1868.—Improvement upon his patent of January 23, 1866. When the forced current of air is required, plugs are withdrawn from small openings in the bottom of the converter. A movable chamber, situated beneath the converter and communicating with the air-supply pipe, is then elevated until its openings match with those of the converter bottom.

Claim.—The within described process of refining iron and making steel by exposing the molten metal in the converter to the combined action of a current of air produced by suction, and of a current of air produced by force, substantially as and for the purpose set forth.

84,335.—JOHN ABSTERDAM, New York, N. Y—*Apparatus for Making Steel and Refining Iron.*—November 24, 1868.—Improvement upon his patent of January 23, 1866. The spark arrester and the exhauster may be swung back or raised from the mouth of the converter without breaking the connection of the steam-supply pipe. Hydrocarbon gas or air is supplied under pressure, it being injected into the converter through the perforated chamber when the latter is pressed up against the bottom of the converter. The adaptation of plugs to the nipples of the chamber renders the latter, when elevated, serviceable in plugging up the converter.

Claim.—1. The spark arrester B in combination with the converter A, substantially as and for the purpose set forth,

2. The tubular pivot *b*, in combination with the spark arrester B, steam pipe *d*, and exhauster C, substantially as and for the purpose described.

3. The chamber D, having a rising and falling motion in its socket *m*, in combination with an air or gas-supply pipe, one or both, and with the converter A, substantially as and for the purpose set forth.

4. The arrangement of nipples *s* in the chamber D, substantially as and for the purpose described.

5. The moveable plugs *t*, in combination with rising and falling chamber D, substantially as and for the purpose set forth.

6. The pipe *r*, connecting with an air-forcing apparatus, in combination with the converter A and exhauster C, substantially as and for the purpose described.

84,336.—JOHN ABSTERDAM, New York, N. Y.—*Process for Introducing Gas Fuel into a Converter* *for Making Steel and Refining Iron.*—November 24, 1868.—The metal may be treated in *vacuo*, after the manner described in patent granted to the same inventor January 23, 1866. The materials which are introduced during the process of conversion, to produce fuel, are carbonaceous gases, or ground or powdered solid carbonaceous substances, which are drawn into the converter by the suction involved in the general process.

Claim.—The process herein described, of introducing fuel into the molten metal in a converter by suction.

84,337.—Calvin P. Alling, Jr., Sylvan, Wis. —*Folding Bedstead.*—November 24, 1868.—The bedstead can be compactly folded up for storage and transportation, and in such a manner that the frame of the bedstead may be protected, while folded, by the slat frames which form the bed bottom.

Claim.—An improved folding bedstead, formed by the combination of the hinged posts A, hinged side bars C, cross slats D, jointed longitudinal bars or slats E, hinged or pivoted elbow straps F, and hooks G, with each other, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

84,338.—Theophilus Arndt, Mount Joy, Pa., assignor to himself and E. L. Flowers, same place. —*Cultivator.*—November 24, 1868.—The plowbeams extend backward through slots in the bolts which pass downward through the curved slotted bar, and through binding clips and nuts at the under side thereof. This mode of attachment, in connection with that at the forward end of the beams, admits of the ready lateral adjustment of the beams together with the shovels.

Claim.—1. The ring or ring plate D, in combination with the central or main beam A of the cultivator, and with the hooked forward ends of the side or adjustable beams E, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the curved and slotted bar H, slotted bolts I, clips J, and nuts K, with the central beam A, and with the adjustable side beams E, substantially as herein shown and described, and for the purpose set forth.

84,339.—Moses Atwood, New Sharon, Iowa. —*Harrow.*—November 24, 1868.—By raising the free end of the lever the hinged bar will be lifted away from the "cams," so as to allow the shafts to revolve and thus clear the teeth. The supplemental arms or teeth act against the ground to keep up the rotation of the shafts while the harrow teeth are not performing the same function.

Claim.—1. The pivoted or hinged bar E, having notches or catches *e'* formed upon its lower side, and the cams F, in combination with each other and with the frame A and toothed shafts B, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the arms or teeth D with the shafts B and teeth C, substantially as herein shown and described, and for the purpose set forth.

3. An improved harrow, formed by the combination of the frame A, shafts B, teeth C, arms or teeth D, pivoted or hinged bar E, having notches or catches *e'* upon its lower side, cams F, and lever G, with each other, substantially as herein shown and described, and for the purpose set forth.

84,340.—John Blue, Trumansburg, N. Y.—*Harvester.*—November 24, 1868.—This contrivance enables the attendant to alter the position of the reel while the machine is cutting, and thus adapt it to the various requirements of the grain in the different parts of the field. The arrangement of the pulleys produces a uniform tension of the driving band in all positions of the reel.

Claim.—1. The combination of the lock, consisting of the curved plate C, bolt *h*, and spring *d*, or their equivalents, with the staff B, joint *i*, shaft K, and pulleys *f* and I, when these several parts are arranged for operation, substantially in the manner described, for the purpose specified.

2. The combination of the toggle joint F with the slide E, and pulleys *f*, I, and *g*, when these several parts are arranged for operation, substantially in the manner described, for the purpose specified.

3. The combination of the lock, consisting of the curved plate H, bolt *k*, and spring *c*, or their equivalents, with the toggle joint F, slide E, and pulleys *f*, I, and *g*, when these several parts are arranged for operation, substantially in the manner described, for the purpose specified.

84,341.—George W. Casilear, Washington, D. C.—*Method of Preventing the Alteration of Numbers on Bonds, &c.*—November 24, 1868.—The numbers are printed between brackets or other peculiar marks, leaving no room for an additional number, and on a finely-engraved background, in fugitive colors.

Claim.—Printing numbers in parentheses, or between any other marks or forms, on a fugitive ground or background, tint or color, thus effectually preventing alteration of the figures or numbers, as substantially set forth.

84,342.—John Chase, Farmington, Pa.—*Harrow.*—November 24, 1868.—The harrow is composed of four parts, consisting of triangular and square frames, connected together by hook and eye joints.

Claim.—The arrangement and combination of the several parts B D E E, substantially as herein shown and described.

84,343.—Sarah M. Clark, Beaver Dam, Wis. —*Reservoir Cook Stove.*—November 24, 1868.—The separate devices, as well as their combination, are disclaimed.

Claim.—The arrangement, with reference to the stove A, of the flanged top frame B, rotating top C, whose upper surface is a plane, the stove hearth M, extending along both sides of the stove body, at both ends of the fire box, the concavo-convex reservoir J, and the oven L, as herein described, for the purpose specified.

84,344. — Adam Collignon, Closter, N. J.—*Folding Chair.*—November 24, 1868.—The upper ends of the legs are connected with the arms by straps which form swinging joints, and allow the arms and front to separate, so that the chair can be compactly folded.

Claim.—1. In combination with a folding chair, the straps *i*, connecting the arms with two of the legs of the chair in such a manner as to allow the chair to be folded, substantially as described.

2. The arms G, hinged to the back, and connected with the legs B, substantially as specified.

84,345. — John J. Crider, Greenfield, Ind.—*Grain Screen.*—November 24, 1868.—A spiral conveyor at one end of a rotating cylinder feeds the grain at about the axis thereof. The grain is raised at the discharge end by means of slats, and discharged into pockets on one of the screw heads, and thence into a delivery tube.

Claim.—1. The head *e'*, provided with cups H and apertures *h*, adapted to collect and deliver the grain, substantially in the manner shown and described.

2. The worm or spiral conveyer *i*, in its application to the feed end of a rotating grain screen, and adapted to feed the grain in regular quantity, substantially as described.

84,346. — Robert Cushman, Pawtucket, and John R. Dennis, Central Falls, R. I.—*Pounce Holder.* —November 24, 1868.—A small bag containing powdered rosin and chalk is fastened to a handle.

Claim.—As a new article of manufacture, a paper smoothener, consisting of the handle and bag, substantially as herein shown and described.

84,047. — Samuel Danks, Cincinnati, Ohio.—*Revolving Puddling Furnaces for Treating Iron and Steel.*—November 24, 1868.—A section of the flue in front of the cylinder is suspended by hangers, and made to close the mouth of the cylinder for puddling or balling, or open the same for removing the ball. Under an opening in front of the fire chamber is a bridge within which is a coil of cold-water pipes.

Claim.—1. The hollow ribs L and protuberances M (either or both) in the metal shell of the rotary refining cylinder I, forming, on the outside, troughs or pockets for the reception of water, in the manner and for the purposes set forth.

2. The shiftable piece P, employed, in combination with a rotary refinery, for the double purpose of a door and a flue, as described.

3. The arrangement and adaptation, substantially as described, of the water bridge G H, in combination with the fire chamber A and rotary puddling chamber I, for the purpose set forth.

84,348.—MILTON FISK, Sparta, Tenn.—*Horse Power.*—November 24, 1868.—A rotating table carries a counter shaft and gearing which derive motion from a wheel secured to a fixed bed, and communicate it to a central spindle, which latter may serve for a set of stones on the top of the movable table, or as a shaft for communicating motion to other machinery when the upper stone is removed and a socketed shaft is employed.

Claim.—1. The table C C′, arranged as shown, and provided with the adjustable spindles D and G, and the operating shaft F, and its wheels, in combination with the wheel B and bed A, all substantially as and for the purpose described.

2. The combination, with the movable table C C′ and spindle G, of bed stone H, substantially as and for the purpose described.

3. The combination, with the spindle G, of the socketed shaft I, substantially as and for the purpose described.

84,349.—JAMES W. GAINES, Clarksville, Texas.—*Millstone Dress.*—November 24, 1868.

Claim.—The millstone dress, formed by the annular beveled furrow *a*, the leading furrows *b*, passing through the annular furrow, the radial furrows *c*, connecting with the leading furrows at an angle, and the secondary furrows *d*, all laid out in the manner herein shown and described.

84,350.—WILLIAM GILLMORE, Hudson City, N. J.—*Tenoning Machine.*—November 24, 1868.—Motion is communicated from a vertically-sliding rod to a pawl arm which carries a feeding and a holding pawl working in a rack on the top of the carriage.

Claim.—The combination of the pawl arm *d*, vertically sliding rod *a*, and pawls d^1 d^2, with the vertical carriage C, all arranged and operating as described, for the purpose specified.

84,351.—RANSOM W. GREEN, Bradford, Pa.—*Combined Hammer and Nail Holder.*—November 24, 1868.—Underneath the handle are attached a fixed and a sliding clamping jaw, the latter being provided with a spring and a thumb piece.

Claim.—The jaws A and C, secured to the hammer handle by the plate D, constructed and arranged to operate as and for purpose set forth.

84,352.—WILLIAM W. GREEN, Jr., Janesville, Wis., assignor to himself and E. BROWN, same place.—*Device for Holding Doors Open.*—November 24, 1868.—A spring catch passes through a knob affixed to the washboard or wall, and catches into a socket plate secured to the bottom of the door.

Claim.—The holder, having the bifurcated end *d d*, adapted to fit within the plate *e* attached to the door, and with a shoulder at the inner end of the bifurcation, by which the knob A is held to the washboard B, as constructed and shown.

84,353.—EDWARD GUILLOD, Titusville, Pa., assignor to BRYAN, DILLINGHAM & COMPANY.—*Drilling Jars.*—November 24, 1868.—The wearing and striking surfaces of the bolt head, and the wearing surface of the bolt are of steel, the remainder of each being of wrought iron.

Claim.—The within-described drilling jars, consisting of a single link and bolt, constructed of wrought iron and steel, combined and applied substantially in the manner represented, and for the purpose set forth.

84,354.—A. W. HAGER and JOHN H. S. GROVE, Waverly, Iowa.—*Dog Power.*—November 24, 1868.—The working beam is made extensible in order to adjust its length to the desired throw of the part of the machine to be driven. A sliding weight adjusts the brake to the power of the dog.

Claim.—The combination of the extensible working beam I J, weight H, connecting rod K, crank L, drums C C′, rollers D, adjustable bearings S, and the endless belts, consisting of the transverse slats O and the pivoted buttons *e*, arranged to break joints with each other, all operating as described, for the purpose specified.

84,355.—THOMAS HANSBROW, deceased, Sacramento, Cal., (LUCY A. HANSBROW and B. B. REDDING, executors.)—*Pump.*—November 24, 1868.—The vertical play of the valve pivots enables the valves to be always readily adjusted to their seats. The water chest is connected directly with the barrel at the bottom, and with the air chamber through valve chambers at the top.

Claim.—1. The valves F, when their pivots *a* are adapted to fit in recesses formed in the walls of the valve chamber, whereby the heel of said valves has a vertical play while swinging upon said pivots, as herein described, for the purpose specified.

2. The pump barrel A, water chest B, and valve chest, all cast in one piece, and arranged as described, for the purpose specified.

84,356.—S. J. HARE, Louisville, Ky.—*Hot-air Furnace.*—November 24, 1868.—An arrangement of cylinders, pipes, and chambers for securing a large heat-radiating surface.

Claim.—The described arrangement of the annular outer drum H, formed by the cylinders I J, and supported above the combustion chamber C by the short pipes *k*, the central chamber L containing the perforated plate *m*, the air pipe N and pipe O connecting the chamber L and drum H, the damper S, combustion chamber C, and fire chamber B, all constructed and operating as described, for the purpose specified.

84,357.—HIRAM HARRIS, Circleville, Ohio.—*Snow Plow.*—November 24, 1868.—The lower parts of the moldboard are inclined, so as to pass beneath the snow and raise it from the track, and the upper parts are curved upward and forward.

Claim.—The snow plow B, the moldboards *b′* of which are constructed substantially in the form and manner herein shown and described, and which is detachably secured to the pilot A by the bar or plate C, shackle bar D, and side arms or bars E, substantially as and for the purpose herein set forth.

84,358.—JOHN ADAM HUSS, Louisville, Ky.—*Machine for Cleaning Entrails.*—November 24, 1868.—Two rollers, revolving in opposite directions and armed with scraping edges, are surmounted by elastic feed rollers, and provided each with an adjustable curved surface for pressing the entrails against the scraping edges.

Claim.—1. The counter revolving rollers A B, armed with scraping edges *a a a*, or their equivalents thereof, all substantially as shown and described, in combination with any curved surface or surfaces, D E, all as set forth.

2. The feed rollers H H, in combination with the scraping rollers A B, substantially as described, and for the purpose set forth.

3. The gear wheels J K *d* L, and crank wheel M, substantially as described, in combination with the rollers A B, scraping edges *a a a*, and surfaces D E, all as and for the purposes set forth.

84,359.—J. GEORGE JUNG, Newark, N. J.—*Method of Constructing Chains.*—November 24, 1868.—Designed as an ornamental chain for jewelry.

Claim.—As a new article of manufacture, a chain, constructed of links having two heads and two apertures, in the above described location to each other, and the links being interlinked, substantially as specified.

84,360.—LUCIEN H. KELLOGG, Monroe, Ohio.—*Horseshoe.*—November 24, 1868.—The flange prevents the toe calk from being forced out of the dovetailed guides. The heel calks are arranged lengthwise with the side of the curve.

Claim.—The described construction of the horseshoe, having the flange B extending entirely around its under side, forming a rest for the front end of the toe calk C, and adapted to receive the dovetailed heel calks in such a manner that they shall rest upon the flange, longitudinally of the same, as herein shown and described.

84,361.—William A. L. Kirk, Hamilton, Ohio, assignor to Owens, Lane, Dyer and Co., same place.—*Swage for Saws.*—November 24, 1868.—The die is slid into position in the jaws of the swage, and a portion of one of the saw teeth is embraced by the guides and swaged by a blow on the shank.

Claim.—The swage, consisting of jaws *d* and *f*, and angular or movable die E, all constructed and arranged as shown and described, for the purpose set forth.

84,362.—A. F. Kitchen, Shelton Depot, S. C.—*Door Fastening and Alarm.*—November 24, 1868.—A lever is arranged to trip the trigger of a fire-arm by connecting with the fastening of a door, in case an improper attempt is made on the latter.

Claim.—An improved door fastening and alarm, formed by the combination of the hinged plate F, bar or plate E, chain G, or equivalent, lever I, and spring K, with each other, and with the hasp C, attached to the door frame B, and staple D attached to the door of the outhouse to be protected, and with the gun or pistol J, placed in the dwelling, substantially as herein shown and described, and for the purpose set forth.

84,363.—John Kline, Rochester, N. Y.—*Cover for Circular Vessels.*—November 24, 1868.

Claim.—A rotating semicircular cover for pails, &c., moving in a groove, and pivoted to a fixed semicircular cover, substantially as described, for the purpose specified.

84,364.—Samuel Lagowitz, Newark, N. J.—*Frame for Traveling Bags.*—November 24, 1868.

Claim.—A traveling-bag frame, made of sheet-metal, each jaw having one edge doubled up, and the other provided with a wire, the ends of which form the joints on which the jaws open and close, substantially as shown and described.

84,365.—John Lough, Buckingham Village, Quebec.—*Dressing Saw Teeth.*—November 24, 1868.—In place of treating each tooth separately by a hammer and file, a "dressing-machine," extending over a considerable number of teeth, is employed, by which uniformity is obtained. The cutting side of each tooth is formed by passing the saw through a peculiar apparatus, the unformed point of each tooth passing into a steel die, and pressure being applied by a powerful lever.

Claim.—1. Widening the saw tooth at its under side in such a manner that the expanded cutting face thereby produced is parallel-sided, or in the form substantially as shown in Fig. 10, and as hereinabove described, for the purpose set forth.

2. The plates *c c*, when united by the bolts *d d*, and provided with the projections *e e* and the arm h^2, and having between them the space *f* and the space for the compression bar, substantially as described.

3. In combination with said plates *c c*, constructed as above described, the lever *h*, pivoted at h^1, the strap h^3, the compression-bar *i*, and the die *k*, all operating together in the manner and for the purpose set forth.

4. In combination with said plates *c c*, constructed as above described, the wedge g^1, lever g^2, strap g^3, key or equivalent g^4, eccentrics g^5, and pivots g^6, g^7, g^8, all operating together substantially as and for the purpose set forth.

5. The improved saw-dressing machine herein described, consisting of the bed plate *o*, top plate *p*, clamp *q*, plane *r*, iron strap or file-holder *s*, adjustable screws *t*, file *u*, adjustable strip *v*, and adjusting screws *v'*, all arranged and working together substantially in the manner and for the purpose described.

84,366.—Samuel Macferran, Philadelphia, Pa.—*Removable Head for Boxes, &c.*—November 24, 1868.—For securing the removable heads of round or elliptical boxes in their places.

Claim.—The combination of the lever D, having an elliptical or wedge-shaped projection *c*, with one end of the tightening strap C, and the slotted piece F with the other end of the strap, substantially in the manner above described, and for the purpose specified.

84,367.—Jacob Miller, Canton, Ohio.—*Threshing and Grain-separating Machine.*—November 24, 1868.

Claim.—1. In combination with the straw carrier, the toothed beater D, revolving in a direction contrary to that of the motion of the straw carrier, so as to lift up and throw over the straw, substantially as and for the purpose described.

2. In combination with the straw carrier and the cylinder D, for throwing over the straw, the perforated board *e* to prevent the straw from driving into or between the slats of the carrier, and to carry and deliver the grain to the screens, substantially as described.

3. In combination with the straw carrier, the double pickers or beaters *h i*, at the upper end thereof, as and for the purpose substantially as described.

4. The construction of the picker or beater *i*, viz., of the central shaft, the heads, and the rods or wires, as described and represented.

5. Supporting the lower end of the straw carrier upon adjustable journals, and without a cross shaft, as and for the purpose described and represented.

84,368.—Jacob Miller, Canton, Ohio.—*Dropping Platform for Harvesters.*—November 24, 1868.—The platform is arranged to be dumped to drop the grain upon it, and the apron at the same time is raised up to catch the falling grain.

Claim.—The combination of the pivoted platform, the flexible apron, and the traveling belts, united to each other, as herein described, so that the tipping of the platform shall bring the holding apron into action, and the returning of the platform into its receiving position move the apron out of action, substantially as herein described.

84,369.—J. B. Newbrough, New York, N. Y.—*Compound of Rubber or Gutta-Percha.*—November 24, 1868.

Claim.—As a new composition, gutta-percha, or India-rubber, combined with clay, iodine, and wolfram or tungsten-oxide, substantially as described.

84,370.—John Sanders, Harrisburg, Pa., administrator of the estate of Richard Norris, deceased.—*Exhaust Nozzle for Steam Engines.*—November 24, 1868.—The valves of the nozzle are alternately opened by the exhaust steam, and immediately closed by the spiral springs, the exhaust steam passing off through the smoke stack.

Claim.—The arrangement of the valves *c c*, rods *d d*, springs *e e*, partition *h*, and exhaust pipes *b b*, constructed as described.

84,371.—Ferris Ogden, Meadville, Pa.—*Rotary Steam Engine.*—November 24, 1868.—The two halves inclose the steam space through which the piston passes, and power is transmitted to the main shaft by an arm which passes through a hole in the ring up into the piston, the space through which the said arm passes in revolving being closed by the ring; the latter has a bearing with the abutment and rotates with it.

Claim.—1. The two halves A A, the ring *m*, the arm *j*, and the piston C, constructed as described.

2. The abutment D, constructed as described.

3. The thimble *h* and the plug valve G, constructed as described.

4. The steam chest I, constructed as described.

5. The arrangement of the parts designated in the foregoing clauses of the claims, constructed as described.

84,372.—Enoch Haile Paine, Louisville, Ky.—*Baggage Check.*—November 24, 1868.

Claim.—The baggage check attached to the ticket, and corresponding in number with the number of the ticket, as herein set forth.

84,373.—William Rochester Pape, Newcastle-upon-Tyne, England.—*Breech-loading Fire-arm.*—November 24, 1868.—Flanges on the cartridge fit in rabbets in the extractor, so that as the breech is opened the cartridges are drawn out by means of a beaded tongue moving in a flange in connection with guide rods.

Claim.—The cartridge extractor *a*, provided with rabbets *a′*, guide rods *d d′*, and beaded or flanged tongue *b*, substantially as and for the purpose described.

84,374.—G. S. Perfater, Camp Point, Ill.—*Root Cutter.*—November 24, 1868.—Designed to be attached to a plow. A revolving cutter works in the rear of, and above, a fixed cutting point, and also in a slit in a curved shank that supports the fixed cutter.

Claim.—1. The revolving cutter A and fixed cutter G, when constructed and operating substantially as described.

2. The pivoted plate E and curved shank H, having a slit *d*, in combination with the revolving cutter A and fixed cutter G, substantially as described.

84,375.—Gottfried Rank, Greenleaf, Minn.—*Seed Sower.*—November 24, 1868.—Within the seed-cylinder is a flanged rod moved by a lever for adjusting the cavities in the rod in relation to the holes in the cylinder. The discharged seed passes through an inclined narrow box, having a series of transverse rods or pins.

Claim.—1. The seed or wind protector and scatterer K, in combination with the cylinder G, flanged rod H, and hopper D, substantially as described for the purpose specified.

2. The combination and arrangement of the perforated slides E *h*, cylinder G, and rotating rod H, provided with cavities *d*, substantially as and for the purpose set forth.

84,376.—W. W. Rexford, Loch Sheldrake, N. Y.—*Extension Pole and Holdback for Carriages.*—November 24, 1868.—The holdback is arranged to be moved backward or forward on the pole, so as to be adjusted to different kinds of harness, and to horses of different sizes.

Claim.—The sliding tube C, holdback D, and spring-catch E *b*, in combination with the perforated tube B, affixed to the end of the pole, said tubes being prevented from turning one upon the other by means of the feather *a*, all constructed and operating as described, for the purpose specified.

84,377.—J. C. Richardson, Ilion, N. Y.—*Fork Blank.*—November 24, 1868.—The fork is finished by turning up the end tines at right angles to the shank, and then drawing them out by rolling or hammering, and then turning them down. The central tines and shank are also drawn out in a similar manner.

Claim.—The blank A, formed by punching or otherwise severing it from a bar of suitable width, with the space *e e′*, slits *c*, and shoulders *f*, substantially as and for the purpose described.

84,378.—Benjamin H. Roberts, Fall River, Mass.—*Carriage Spring.*—November 24, 1868.—One part of each spring passes over, and the other passes beneath the axle, and the rocker is secured between two parts of the spring, thus dispensing with a reach pole.

Claim.—1. In combination with the elliptic springs B B, the O-springs F F, formed by an extension of the ends of the elliptic springs, substantially as described.

2. In combination with the O-springs F F formed by an extension of the elliptic springs, the braces or brackets G G for connecting the O-springs to the body of the carriage, substantially as described.

3. The arrangement of the axle and rocker between two parts of the elliptic springs, substantially as described, and for the purposes set forth.

84,379.—Milton Satterlee, Richland Centre, Wis.—*Sleigh Brake.*—November 24, 1868.—A spur-wheel is supported between two arm plates, which are operated to raise or depress the wheel by connections with a lever under control of the driver.

Claim.—The combination of the arm-plates *e e* with the spur wheel *w*, and the means for raising or depressing it, when used as a brake in connection with a sleigh or sled, in the manner described.

84,380.—Marshall Sattley, Taylorsville, Ill.—*Revolving Coulter for Plows.*—November 24, 1868.—The lower portion of the upright is bent at right angles and slotted to receive the swivel bolt, and is inserted in a slot in the swiveled arm attached to the wheel.

Claim.—1. The slotted upright D, constructed substantially as herein shown and described, and for the purpose set forth.

2. The wrist or swivel bolt C, constructed substantially as herein shown and described, and washers E, in combination with the slotted upright D, and slotted end of the swiveled arm B, as and for the purpose set forth.

84,381.—Charles B. Seaman, Honesdale, Pa.—*Insect Net.*—November 24, 1868.—This device is placed upon the bed so as to cover the body.

Claim.—The frame A, having bows *a*, or rods *d*, and provided with a netting, which is secured by rods *c* and eye bolts *b*, all substantially as described, as a new article of manufacture.

84,382.—George H. Seaver, New York, N. Y.—*Reversible Latch.*—November 24, 1868.—The piece which connects the latch with the followers is flexible, so that when the spindle is removed the followers can be pressed inward and forward sufficiently to admit of the reversal of the latch.

Claim.—1. The flexible tail piece *c*, constructed and arranged substantially as described, and for the purpose specified.

2. In combination with a reversible latch and flexible tail piece, the application of the spring *e*, for the return of movable followers to their proper position.

84,383.—Thomas Shaw, Philadelphia, Pa.—*Pile Driver.*—November 24, 1868.—The hammer falls upon a cartridge in the chamber of the cylinder, and the consequent explosion forces the hammer up the guide tube and drives the pile into the ground. The descent of the hammer automatically releases the pawl from the spring, and the pawl engages with the rack to sustain the hammer when it reaches its elevated position.

Claim.—1. A suitably-guided hammer, G, in combination with a cylinder, R, all constructed, arranged, and operating in the manner and by the means described, and for the purpose set forth.

2. The rack C, pawl K, and spring L, in combination with the hammer G, all constructed and arranged as described, and for the purpose specified.

84,384.—Peter M. Sherwood, New York, N. Y.—*Bottle-filling Apparatus.*—November 24, 1868.—A siphon straddles the side of a reservoir, and is so hinged thereon as to permit the alternation of its lower and higher extremities, the inside valve being opened by the act of elevating that end. An adjustable staging on the outside sustains the bottle.

Claim.—1. The valves, as arranged on the interior and exterior ends of the siphon E, said siphon being combined with a reservoir, substantially as described.

2. The valve *l*, arranged as described, on the delivery end of the siphon H, with the collars *m o*, spring *p*, and yoke *n*, substantially as and for the purpose specified.

3. The bayonet fastening *z*, in combination and arranged with the tapering valve *v′*, the spiral spring, and the sleeve *w*, having the enlarged portion *y*, and the flange *x* adapted to fit upon the mouth of the bottle, all operating as described, whereby, as the bayonet catch is released, the sleeve *w* is thrown outward, to close the orifice *i* in the valve *v′*, as and for the purpose specified.

4. The valve, arranged on the interior end of the siphon J, in such a manner that the operation of the siphon moves its end from the packing *v*, affixed to the reservoir, and allows the liquid to flow, substantially as described.

5. The adjustable bar *a* and shelf B, constructed

and arranged substantially as shown and described, in combination with the reservoir A, for the purposes specified.

6. The faucet y', embracing the tapering valve v', sleeve w, and the bayonet fastening z, substantially as described, and for the purposes set forth.

84,385.—Thomas B. Simonton, New York, N. Y.—*Elevator.*—November 24, 1868.—A crank may be applied to the extended journal of one of the lower pulleys, from which motion is transmitted to the scroll wheels on the platform shaft, which wheels, by engagement with the racks, and connection with the upper pulleys, cause the entire power multiplying apparatus to move up and down with the platform.

Claim.—1. The combination of the scroll wheels J K, the platform shaft G, inclined plates H, and racks L, substantially as herein shown and described, and for the purpose set forth.

2. The combination and arrangement of the racks L, inclined plates H, flanged or scroll wheels or pulleys J K, shaft G, platform N, band or chains M, pulleys E and F, shaft D, sliding guide bars C, ways B, endless bands T, and guide pulleys P Q, pulleys S, and band R, with each other, substantially as herein shown and described, and for the purpose set forth.

3. The arrangement of the mechanism, by means of which all the operating parts of the hoisting apparatus may be raised and lowered with the platform, substantially as herein shown and described.

84,386.—John Simpson, Charleston, Ill.—*Combined Crusher, Harrow, and Roller.*—November 24, 1868.—This device admits of a longitudinal separation or division of the implement, so that it may be converted from a double to a single horse machine.

Claim.—The rollers E, fitted in the frames D, attached to the frame A, as shown, in combination with the toothed cylinders C C, all arranged substantially as and for the purpose specified.

84,387.—James D. Sinclair, Brooklyn, N. Y.—*Hatchway.*—November 24, 1868.—The object is to admit of any one or all of the hatches in a storehouse or other building to be conveniently opened or closed by a person standing on one of the floors, thus obviating the common necessity of proceeding to the several floors to control their respective hatches.

Claim.—1. The arrangement of the pulleys *a b*, the cord or chain H, and the hatches B D F, whereby the latter are opened successively, substantially as described, for the purpose specified.

2. In combination with the pulleys *a b*, cord or chain H, and hatches B D F, the hooks *d* and cord *e*, whereby the hatches are released simultaneously, substantially as described, for the purpose specified.

84,388.—William Borthwick Smith, Coventry, England.—*Frame for Protecting Watch Works.*—November 24, 1868.—An improved construction of lever watch frame, together with the application thereto of a T-lever escapement, having the same action as in the ordinary construction, but being so applied as to admit of its complete and ready detachment.

Claim.—1. The means employed for facilitating the separate detachment of the escapement, to wit, the bars $L\ L'\ M'$, arranged and applied in the manner substantially as set forth.

2. The bow A^x, applied to the bar M', and in relation with the balance staff, substantially as and for the purpose set forth.

3. The protecting cap B^x, when arranged and applied, in relation to the pillar plates and regulator, substantially as shown and described.

84,389.—M. R. Smith, Armonk, N. Y.—*Sewing Machine.*—November 24, 1868.—If a seam or knot occur in the cloth, the block will press the seam against the wheel with one of its ends, and will rock on its pivot until the other end touches the presser roller or foot, when the feed of the cloth will proceed without delay.

Claim.—The pivoted self-adjusting block H, in combination with the lever D and the presser roller C, substantially as described, for the purpose specified.

84,390.—William C. Smith, Brooklyn, N. Y., assignor to Henry Sutcliff and John E. Tucker.—*Paper Ruling Machinery.*—November 24, 1868.—The smoothing plate presses upon the paper in front of the pens, and may be adjusted to suit the thickness of the paper. Provision is also made for setting the smoothing plate nearer to or further from the pens.

Claim.—1. The combination of the blocks I, supports J, and bars M, with the smoothing plate H and frame A of the machine, substantially as herein shown and described, and for the purpose set forth.

2. Smoothing the paper as it passes beneath the ruling pens, by means of a smoothing plate H, adjustably attached to the frame of the machine, substantially as herein shown and described.

84,391.—Arnold Sprague, Poland, N. Y.—*Combined Latch and Lock.*—November 24, 1868.—The rotary latch is locked by the eccentric when the latter occupies its recess. The movement of the latch is limited in either direction by a stop projecting from the case into the curved groove of the latch. The tumblers are operated by a key and serve to hold the eccentric into or out of gear with the latch.

Claim.—1. The combination of the slotted, vibrating latch A, a^2, provided with a stop, b^1, and the eccentric B, with stops D E, arranged and operating substantially as described.

2. In combination with the said eccentric, the spring tumblers C and stops D E, arranged and operating substantially as described.

84,392.—William Sutton, Washington, Ga.—*Saw Cotton Gin.*—November 24, 1868.—Designed to render the outer saws of the gang more effective in operation. By giving obliquity to the sides of the hopper, the spaces between the same and the outer saws become gradually larger from the top downward so that the cotton may be readily drawn downward in said spaces.

Claim.—The hopper A, constructed as described, with its sides inclined, for the purpose of supplying the cotton to all the saws equally, as herein shown and described.

84,393.—William E. Tate, Cambridgeport, Mass.—*Water Wheel.*—November 24, 1868.—The top plate is provided with a tangential water passage or guide, in continuation of the induction pipe. Said passage is curved downward and directs the water at right angles against the buckets. The space between the top of the abutment and the under surface of the top plate is just sufficient to allow the buckets to pass through edgewise.

Claim.—The top plate E, with its channel or passage, in combination with the suspended or pivoted pendent buckets *c* of the wheel B, the groove d^x in the case A, the abutment *e*, within said groove, and the induction and eduction pipes C D, all arranged to operate in the manner substantially as and for the purpose set forth.

84,394.—S. J. Thomas, Dawson, Ga.—*Water Wheel.*—November 24, 1868.—The wheel is composed of a series of segments, each having a spiral bucket. Projections and recesses formed on the front end of each segment match with corresponding recesses and projections in the rear of the preceding one.

Claim.—The wheel composed of sections or segments A, with buckets B, the segments joined by means of the projections *a e c* fitting into the recesses *b f d*, all constructed and arranged in the manner set forth.

84,395.—C. Arthur Totten, Hudson, N. J.—*Wash Boiler.*—November 24, 1868.—The water, after it has passed through the clothing, goes up the corner conduits, and is discharged, and, falling on the porous partition, is strained of impurities before going through the clothes again. The sides of the partition are sustained in slots or grooves.

Claim.—1. The braces B, when arranged to strengthen the corners, and provide a channel for the rising water also, substantially as and for the purposes specified.

2. The flange D, the brace B, and short tube E, in combination with the boiler sides, substantially as described and set forth.

3. The porous cover L, when provided with the hinges at its center, in connection with the grooves M, substantially as and for the purposes specified.

84,396.—Samuel Trumbore, Easton, Pa.—*Governor for Steam Engines.*—November 24, 1868.—The float is provided with a tubular extension, into which the tube conveying the gas extends, said extension being provided with guide rollers acting against the interior walls of the water vessel to steady the float.

Claim.—The float D, provided with the tubular extension F and guide rollers G, and arranged with reference to the vessel E and the tube H, substantially as described.

84,397.—A. Van Patten, Weyauwega, Wis.—*Book-cover Protector.*—November 24, 1868.—The ordinary binding of books is covered with tin or suitable metal, for the purpose of protecting and preserving the binding.

Claim.—A metallic protector for book covers, hinged and constructed substantially as and for the purpose herein described.

84,398.—Edward Weissenborn, Hudson City, N. J.—*Construction of School Globes.*—November 24, 1868.

Claim.—1. A school globe made of two layers, A, of pasteboard, cut out to form arms, a, and placed together and united by the aid of the mold B, all as shown and described.

2. The strip f, pasted to the inner surface of one hemisphere, and serving to fasten and retain the second hemisphere, substantially as set forth.

84,399.—William N. Whiteley, Springfield, Ohio.—*Harvester.*—November 24, 1868.—The wedge-shaped lever throws the bevel gear on the driving shaft in contact with the pinion on the shaft driving the cutters. The angle of the tongue may be changed by means of the lever and notched bar.

Claim.—1. The double-pivoted crank wrist box, moving upon axes at right angles to each other, as set forth, so that the wrist pin will not be cramped in its box by any irregular movement of the pitman, as set forth.

2. The pitman joint at the heel of the cutter bar, formed by the conical or conoidal points and the plates $o\ o$, secured by the bolts $p\ q$ and stay plate s, in the manner set forth.

3. Jointing the inner shoe of a harvester's cutting apparatus to a rocking shaft, located transversely to and extending across the main frame, so that by moving said shaft upon its axis the points of the guard fingers and cutters may be "set" high or low, as desired, substantially as shown and described.

4. In combination with the shoe R and rocking shaft Q, the lever q', and the standard rack x, for the purpose of permitting the adjustment and retention of said shoe and shaft in the desired position, as set forth.

5. Mounting the driver's seat upon two notched rails $w\ w$, so that said seat may be shifted forward or backward when slightly raised at the back, substantially as set forth.

6. Pivoting the platform U at the tops of the posts $u\ u$, and adjusting its forward end at any desired height by the adjusting bar V.

7. Arranging the two unequal-sized driving wheels C and F, with their axles about in the same vertical plane, so that neither wheel will drag when the machine is being turned, as at the field corners.

8. The wedge-ended clutch lever M, constructed and operating as set forth.

9. The notched bar z and lever y, constructed and operated as set forth.

84,400.—C. F. Wieland, Darmstadt, Ill.—*Ice Spur.*—November 24, 1868.—A U-shaped plate incloses the wearer's heel, while a similarly-shaped plate is pivoted to the heel plate in such a manner as to fold back and forward under the sole of the shoe, and is held in position by a spiral spring.

Claim.—The combination in a spur or creeper, of the two U-shaped plates A and B, pivoted together by pintles $d\ d'$, and actuated by a spring within a case, C, with the spring catch E, and pin b, all arranged and operating substantially as shown and described, and for the purpose set forth.

84,401.—Henry Zahm, Toledo, Ohio.—*Railway Rail.*—November 24, 1868.

Claim.—The hollow elastic base B, having inwardly-inclined sides, terminating in the vertical parts $a\ a$, between which the tongue b of the rail A is bolted, whereby the rail B is depressed by the weight of the passing train, causing the parts $a\ a$ to pinch the tongue b, thereby lessening the effect of percussion and vibration in proportion to the downward pressure of the rail, as herein shown and described.

84,402.—Oliver M. Adams, Milford, Mass.—*Boot Crimper.*—November 24, 1868.

Claim.—The jaws $b\ b$, with serrated or segmental rows of teeth, in straight lines, at right angles to the jaws, as described, and in combination with plate d, and clamp a, screw c, and screw nut e, constructed and operating as and for the purpose set forth.

84,403.—Samuel J. Baird, Staunton, Va.—*Printing Press.*—November 24, 1868.—The frisket frame is made of flexible material, so that it may be bent when used with a cylinder press, to avoid contact with the ink rollers.

Claim.—1. A flexible frisket, to be used in combination with a flat form and cylinder impression press, substantially as and for the purposes set forth.

2. The roller, smooth or grooved, for protecting the frisket from the ink rollers, and directing its ascent, as above described.

3. The grooved frame above described, whether fixed or made movable, so as to be adjusted to any desired breadth of frisket, holding it firmly extended, as above described, and for the purpose specified.

84,404.—Haydn M. Baker, New York, N. Y.—*Process of Recovering Pigments, Oils, and Gums from Cloths Used by Engravers.*—November 24, 1868; antedated November 7, 1868.—The invention consists in treating engravers' wiping tools with any substance capable of dissolving the oils and resinous or gummy portion of the ink, and forming a solution of the same, which solution, together with the coloring matter, is submitted to distillation

Claim.—1. The manufactures of paints from the material contained in cloths or fibrous substances, (used by engravers for wiping their plates,) in the manner or by the process herein described.

2. Also, the use of the solvents herein enumerated, or their equivalents, for the purpose set forth in the specification, *i. e.*, the manufacture of paint.

3. Furthermore, the process, herein described, for the separation and recovery of oils, and gums, or resinous matter.

84,405.—B. F. Barnes, Boston, Mass.—*Oil Can.*—November 24, 1868.—The wire is designed to clear the oil passage of dirt or other obstruction.

Claim.—The nose C, made in two parts or sections, D and E, in combination with the wire J, secured at one end in section D, and extending by its other therefrom into the oil passage, through part E, substantially as and for the purpose specified.

84,406.—Alfred Bliss, New York, N. Y.—*Lamp Burner.*—November 24, 1868.—The chimney is made with an inward projection which rests upon a ring forming a part of the lower edge or flange of the cone or deflector.

Claim.—The combination with the burner of a kerosene or other lamp, of a removable cone or deflector, so constructed, that when the chimney and cone or deflector are in position for use, the chimney will rest upon the bead or ring and retain the cone in place, substantially as described.

84,407.—W. P. Boyd, Thorntown, Ind.—*Gauge for Mortising Window Sash.*—November 24, 1868.—A grooved bar is provided with a series of blocks, each having a spring stop or bolt, to be placed in a common mortising machine, for determining the position of the mortise to be cut.

Claim.—The combination of the adjustable blocks B B, stops or bars C C, and slotted or grooved bar A, all arranged as described, and operating substantially as and for the purposes herein set forth.

84,408.—Jonathan S. Buell, Buffalo, and Willard B. Buell, Pompey, N. Y.—*Screw Press.*—November 24, 1868.—A continuous circular motion of the crank imparts a vibratory motion to the lever and an intermittent rotary motion to the screw to operate the follower.

Claim.—1. The ratchet wheel, lever, pitman, and crank, in combination with the press screw, when arranged and operated substantially as and for the purpose set forth.

2. The combination of the diagonal brace M with the oscillating lever F and screw D, arranged so as to support the former, and permit the necessary movement of the parts, as set forth.

3. The combination of the triangular-pointed spring pin *i* and arm *h* with the double-pointed pawl G, arranged to operate substantially as and for the purpose set forth.

84,409.—William H. Butterworth, Trenton, N. J.—*Hay Spreader.*—November 24, 1868.—The angle which the forks are to assume in moving is adjusted by an eccentric, provided with a slot so as to be fastened to the side of the frame. The fork bars are connected to cranks pivoted to the periphery of a ring arranged to rotate about the eccentric.

Claim.—1. Eccentric H, provided with a slot *c*, so as to be adjusted as desired, substantially as herein described, and for the purpose set forth.

2. The combination of the adjustable eccentric H, the rotating ring G, and the reel, having its rake bars journaled therein, and connected by cranks *b* to the ring G, all arranged to operate as and for the purpose described.

84,410.—John T. Campbell, Altoona, Pa.—*Nut Planer.*—November 24, 1868.—A series of nuts of different sizes are screwed to the mandrel, and one side of the latter is a sliding tool rest, to which are screwed a series of tools, having each two cutting edges, by which a number of nuts can be simultaneously faced and beveled.

Claim.—1. The combination of one or more tools, *m m′*, and a revolving mandrel, G, all constructed, arranged, and operating together, substantially as and for the purpose set forth.

2. The combination and arrangement of the revolving mandrel G, sliding tool rest E, edge-planing tool *n*, and the double edged tools *m m′*, all constructed and operating substantially in the manner described.

84,411.—Samuel J. Mills Clark, Brookline, and John L. Farrell, Boston, Mass.—*Screw Tap.*—November 24, 1868.—The tap is formed of a series of cutting surfaces of different diameters, so arranged as to perform the work for which three distinct taps are usually required.

Claim.—The improved compound tap, made as before described, that is, having its cutting surface or series of teeth disposed in graduated sections, substantially in the manner and for the purposes shown and specified.

84,412.—E. W. Cooper, Williamstown, assignor to himself and Lukens Cooper, Blackwoodtown, N. J.—*Glass Mold.*—November 24, 1868.—A detachable ring is used so that when the screw thread has become worn or broken, the ring may be removed and replaced by a new one.

Claim.—In a mold for forming glass vessels with screw tops, a detachable ring, D, having screw threads on its inner edge, and being applied to the mold, substantially in the manner described.

84,413.—William F. Coulter, G. F. Trabue, and W. A. Lowrey, Hardinsburg, Ind.—*Cultivator.*—November 24, 1868.—Beneath the axle and hounds are two shovel-carrying beams pivoted to V-shaped pendants, so arranged as to vibrate in vertical planes and be adjusted vertically.

Claim.—1. The V-shaped brace pendants S S, adjustable beams G G, stiff pendants H H, and staple guides *p p*, arranged together in a cultivator, substantially as herein described.

2. The hooked-spring goose necks F, applied to axle B, and adapted to serve for holding up the shovel-carrying beams out of action, substantially as described.

84,414.—John Crandell, Chicopee, Mass., assignor to Lamb Knitting Machine Manufacturing Company.—*Gathering Attachment for Sewing Machines.*—November 24, 1868.—Two plates of sheet metal fastened together at one end, in connection with a screw for regulating the distance of the upper plate from the lower, so operate as to cause the lower one of two pieces of cloth, being sewed, to be at the same time gathered, the amount of gathering being readily adjusted.

Claim.—The within-described gathering attachment, consisting of the plates *a b*, constructed in the manner explained and represented, provided with the screw *d* and projection *f*, and adapted for operation in conjunction with the feed and presser foot of a sewing machine, as and for the purpose set forth.

84,415.—Samuel Cuplin, Iowa Falls, Iowa.—*Beehive.*—November 24, 1868.—The comb frames are pointed at their lower ends and braced at the center by vertical bars.

Claim.—1. The removable boards F F, held in place by the strips *f f′*, and used for the purpose of retaining firmly in position the comb frames, and facilitating the removing of the same.

2. The comb frames E E, constructed, arranged, and operated substantially as described.

3. Casing A, cover B, honey boxes G G, ventilating lid I, comb frames E E, removable or adjustable boards F F, strips *f* and *f′*, horizontal and inclined bottom C, inclined board D, and door J, all constructed and arranged substantially as and for the purpose set forth.

84,416.—Paul Dismukes, Gallatin, Tenn.—*Clover Harvester.*—November 24, 1868.—A reel in front of the machine carries the blades of grass against adjustable stationary fingers, by which they are held, and the heads are cut off by revolving blades.

Claim.—1. A machine for gathering clover or grass seed, having the adjustable fingers C, reel E, and cutter D, all constructed and combined substantially as set forth.

2. The combination of the adjustable fingers C and the rotating cutter D, when said parts are constructed and arranged to operate as herein described.

84,417.—Alfred Duvall, Baltimore, Md.—*Universal Joint.*—November 24, 1868.—The device is particularly adapted for communicating motion to hollow, revolving dredging pipes. Two sections of hollow spheres are arranged one within the other, the outer driving the inner by gearing, and by means of two pins fastened into and revolving with the outer section, the latter revolving within three stationary bearings, or on friction rollers.

Claim.—The combination of devices, substantially as shown in the drawings, and set forth in the foregoing specification.

84,418.—Gustav Julius Günther, London, England.—*Armor Plating for Vessels.*—November 24, 1868; patented in England, October 25, 1867.—The plates are so constructed and connected as not to exhibit any bolt holes or other source of weakness in those parts of the armor which are exposed to the enemy's fire. The plates may be secured to the back structure by T-shaped plates, the T portion fitting in grooves in the vertical end edges of two adjoining plates.

Claim.—1. The combination of two or more armor plates with each other by back flanges and bolts, substantially as described.

2. The combination of two or more armor plates

with each other, by means of back flanges and bolts, and tongues and grooves, substantially as described; and this I claim both when the said tongues are attached to and separate from the plates, as described.

3. The method, substantially as described and represented, of fastening armor plates, which are combined with each other by flanges and bolts, to a backing structure by means of T-shaped plates, substantially as specified.

84,419.—Friedrich Häfelfinger and Robert N. Eagle, Washington, D. C.—*Corn Husker, Sheller, and Stripper.*—November 24, 1868.—Two or more sectional bars are each provided with side bars and transverse serrated bars, and are so arranged as to assume a curved form when the hand of the operator is closed, the sections being allowed to swing loosely upon each other.

Claim.—1. The sectional bars B B, connected by transverse bars C C, substantially as and for purposes set forth.

2. In combination with the aforesaid bars B B and C C, the spring D, for the purpose stated.

3. The hood E F G G', in combination with the sectional frame B B C C, substantially as set forth.

4. The loops K, for the attachment of the straps or bands of any suitable form.

84,420.—William Howell and N. W. Browning, Webster City, Iowa.—*Compound for Hardening and Uniting Iron and Steel in the Manufacture of Plows, &c.*—November 24, 1868.—Composed of alum, saltpetre, chloride of sodium, borax, and prussiate of potash dissolved in soft water.

Claim.—The solution herein described, or its equivalent when used for the purposes specified.

84,421.—Nathaniel Irish, Rochester, Minn.—*Compound for Roofing and Painting.*—November 24, 1868.—Composed of boiled linseed oil, plaster of Paris, white or colored lead, Venice turpentine, and water.

Claim.—A compound, consisting of the above-mentioned ingredients, and used substantially as and for the purposes herein set forth.

84,422.—Eben James, Tyngsborough, Mass., assignor to himself and W. B. Brinley, same place.—*Machine for Making Boxes.*—November 25, 1868.—The arrangement of the adjustable cutters allows the manufacture of boxes of various sizes. The lumber is secured to the table, which latter can be raised or lowered to bring the wood in or out of contact with cutters, square tenons being cut on both edges of the board simultaneously.

Claim.—The combined arrangement of the two gangs of cutters, *h h* and *i i*, one being adjustable toward and from the other, and the table *q* movable between the said gangs of cutters by means of the crank *t*, pinions *v v*, and racks *w w*, all substantially as and for the purpose herein specified.

84,423.—Barton H. Jenks, Bridesburg, Pa.—*Loom.*—November 24, 1868.—The cords, which pass over blocks attached to the lower end of the heddle frames are secured to a flanged drum, which is toothed at one end to form a ratchet wheel, and provided with a pawl, whereby the tension of said cords can be regulated. The cam hubs and cams are sustained and guided during their laterally-sliding movements by means of feathers fitting into corresponding matrices, and arranged diametrically opposite each other in such relation to the switch that the hubs and cams will be firmly sustained against any twisting action, and be guided freely while changing.

Claim.—1. The combination of the tension device G, arranged and operating substantially as described, with heddles, which are either held down or suspended by means of a cord and a system of sheaves, substantially as and for the purposes described.

2. The combination of the twilling cam K, hub L, which is grooved circumferentially, and as described, diametrically opposing feathers *y y*, on the cam shaft, and the swivel *n*, substantially as and for the purpose described.

3. The combination and arrangement of the system of loom treadles, the twilling cam, the circumferentially-grooved hub, which is grooved as described, and slides, the cam shaft with two feathers, *y y*, and the swivel *n*, substantially as and for the purpose described.

84,424.—Barton H. Jenks, Bridesburg, Pa.—*Reeling Machinery.*—November 24, 1868; antedated November 14, 1868.—The arms and parallel bars can be folded to permit the ready removal of the hanks. By means of the circular, movable bearing the yarn can be carried beneath the ends of the reel shaft and thrown off without lifting said shaft or changing its axial line.

Claim.—1. The combination of the folding reel bars G G, shaft E, circular bearing J, with a brake, P, in its rim, and groove or flanges *i i*, substantially in the manner and for the purpose described.

2. The bearing J P, *p p*, constructed in the manner shown and described, in combination with the groove or flanges *i i* and pin *s*, for the purpose set forth.

3. The arrangement, consisting of the oscillating bearing J P, reel E G, groove or flanges *i i*, intermittent, longitudinally, reciprocating bar C, sizing box B, and gearing, shown, for operating the bar and reel, all substantially in the manner and for the purpose set forth.

84,425.—William Ashley Jones, Dubuque, Iowa, and James L. Sherman, Cassville, Wis.—*Steam-engine Water Heater.*—November 24, 1868.—Relief valves are attached to each section of the worm or coil to relieve the latter from shocks occasioned by the back action of the water passing through on its way to be forced by the pumps into the boiler.

Claim.—A valve or valves, E, applied to the several sections, D^1, of a worm or coil of pipe, which is arranged within a heater, A, substantially in the manner and for the purposes herein described.

84,426.—C. A. Kellogg, Elyria, Ohio.—*Corn Planter.*—November 24, 1868.—A pair of chutes is secured to the front side of the box and a third one is attached to a lever pivoted to the case, and so arranged that when the slide, which is kept in contact with the lever by a coiled spring, is brought into a position to feed the grain, the jaw closes and prevents the grain from being discharged into the ground until the motion of the lever is reversed to force the slide back into the box.

Claim.—1. The slide L and spring M, as arranged in combination with the lever D, for the purpose set forth.

2. The lug E, as arranged in combination with the chutes I, F, and G, and operated in the manner as and for the purpose described.

84,427.—John C. Kilgore, Philadelphia, Pa.—*Steam Generator.*—November 24, 1868.—A foam cap attached to the curved part of the siphon breaks the foam and prevents the water from being drawn into the steam pipe.

Claim.—The foam cap *c*, combined with the siphon H and tubes C, substantially as herein specified.

84,428.—Alexander Carnegie Kirk, Glasgow, Great Britain.—*Blowing Engine.*—November 24, 1868.—The cylinder provided with openings and valves supports a hollow piston rod or trunk, which is provided with piston disks and valves which draw the air or gas in through the piston and expel it through the cylinder valves.

Claim.—The cylinder 1, with its openings and valves, in combination with casings 7 7, and with a hollow piston rod or trunk extending through both heads of the cylinder, open at each end, and communicating with a hollow piston, A, having openings and valves arranged as described, the whole being constructed and operating as set forth.

84,429.—David H. Lowe, Boston, Mass.—*Sad-iron Heater.*—November 24, 1868.—The interior of the sad iron is divided into three compartments, in the center one of which the gas is generated and spread over the bottom by a conical deflector, through which the flame passes from the burner, and through apertures in the other compartments to heat the sides.

Claim.—A sad-iron, heated substantially in the manner described by gas from naphtha.

84,430.—Thomas E. McDonald, New Brunswick, N. J., assignor to P. P. Runyon, Johnson Lester and George J. Janeway, same place.—*Cultivator.*—November 24, 1868.—The teeth are secured in rebates in the faces of radial arms on the hub by bolts.

Claim.—1. A machine, having a series of cultivator teeth arranged on a rotary shaft, in combination with a swinging or hinged frame, pivoted in rear of the cultivator, when the latter is operated by its progressing over and in contact with the ground, substantially as described.

2. The employment, in combination with the cultivator hinged frame, of the chains, or their equivalent, and a suitable moving and holding mechanism for retaining the adjustable frame while the cultivator is at work, substantially as and for the purpose set forth.

3. Arranging the teeth on each hub, or each set of teeth, spirally, as and for the purpose specified.

4. Method, shown and described, of constructing and combining the teeth and their retaining arms and hubs.

5. A divided cultivator shaft, whereby the machine is rendered capable of straddling a row of plants, and cultivating each side, as hereinbefore set forth.

84,431. — Charles Messenger, Cleveland, Ohio.—*Dish Washer.*—November 24, 1868.—The plates are laid on the coarse wire netting or grate secured in the case. The spindle, provided with triangular arms, is then rotated by means of the bow, thus throwing the water against the dishes and cleansing them.

Claim.—The grate I, radial angular arms C, as arranged, in combination with the spindle D, bow G, and case A, and operated in the manner as and for the purpose set forth.

84,432.—Lewis Miller, Akron, Ohio.—*Harvester.*—November 24, 1868.

Claim.—1. The combination of the changeable gears with the adjustable crank wrist, so that a fast motion and short stroke, or a slow motion and a long stroke, may be given to the cutters, as the work to be done may require, substantially as described.

2. The arrangement of the gear, pinion *j* with regard to the pinion *k* and rake driving gear H, so that a long coupling may be used, and a change of gear and change of speed attained or given to the rake, as and for the purpose described.

3. In combination with the device by which the tongue may be made fast or loose, the double hook 1 2, or its equivalent, by which the coupling bar may be suspended to the main frame, and to the lifting lever by the same or another chain, *x*, as and for the purpose described.

4. In combination with a detachable platform, the rearward projecting arms O P on the main frame, for connecting said platform to, and carrying it upon, when the machine is being transported to or from the field or elsewhere, substantially as described.

5. Hanging the rake and beaters or reel, and operating them upon or from two centers, remote from each other, and to which they are connected, so that the beaters shall have their rising and falling and horizontal position without the use of guides, ways, or cam ledges, substantially as described.

6. In combination with a combined rake and reel or beaters, having the motions herein described, the incased spring for raising the rake after it has cleared the platform, substantially as described.

84,433.—Lewis Miller, Akron, Ohio.—*Making Harvester Guard Fingers.*—November 24, 1868.—The roller dies for shaping the parts of which the guards are made, fit on the projecting necks of the rolls and can be readily removed to substitute a different set of rollers. The two pieces composing the finger guard are held together and shaped while being welded by a pair of die tongs.

Claim.—1. In combination with the rolls B C, projecting beyond one of their housings, the pairs of changeable die rollers, with their dies for rolling out irregular, shouldered pieces, F I, as and for the purpose set forth.

2. In combination with a pair of rolls projecting beyond one of their housings, a pair of welding and shaping rolls and dies, and a pair of clamping and shaping tongs or holders, operating together to hold, weld, and shape a guard or finger, substantially as described.

84,434.—Simon B. Minnich, Landisville, Pa.—*Windlass and Horse Power.*—November 24, 1868.—The upper toothed flange of the cylinder or drum is provided with a locking device, and the lower flange with chambers for the insertion of radial arms provided with adjustable hooks, over which a chain is wound, when the whole is operated by a horse attached to the sweep. A trunk, through which the chain passes, is employed when used to drive a corn sheller.

Claim.—1. The construction of the hub or drum C, with its lower flange and open chamber Y, when the upper flange is provided with cog-like stops *n* on its upper face, arranged and operated substantially in the manner and for the purpose specified.

2. Independent rings D M, provided with cog-like stops *n*, in combination with the drum C, arranged in the manner and for the purpose set forth.

3. The adjustable sliding hooks L on the radiating arms K, in combination with the chambered hub or drum C, when operated in the manner and for the purpose described.

4. The arrangement of the sweep head E, when provided with slots 1, 2, and 3, for the reception of the rod J, click bolt I, and hook bolt G, in the manner and for the purpose specified.

5. A loose, wooden click bolt, I, beveled, and operating, in combination with the cog-like stops *n*, in the manner and for the purpose set forth.

6. In combination with the hub or drum C, radiating arms K, and hooks L, the arrangement of the trunk Q, with its vertical roller S and horizontal pulleys *t u r v*, all arranged in the manner and for the purpose specified.

84,435.—John H. Morris and Thomas B. Harrison, Maquoketa, Iowa.—*Hand Corn Planter.*—November 24, 1868; antedated November 18, 1868.—On lowering the plunger the chamber or mortise is filled with seed which is deposited in the cast-iron box at the same time that the end of the plunger comes in contact with and forces the springs apart, thus allowing the seed to be deposited in the ground. The brushes prevent any seed from dropping except from the chamber.

Claim.—1. The seed box A, of sheet metal, cast box B, blocks C′ C″, springs E E, plunger D, in combination with the chamber or mortise H, regulating slide R, and brushes T T, constructed, arranged, and operating as and for the purpose set forth.

2. The seed box A, in combination with the opening and glass sliding door X, the strap L, screws M and N, and plunger D, constructed, arranged, and operating as described.

3. The combination of the stop block O, plunger D, blocks C′ C″, and seed box A, constructed substantially as and for the purpose specified.

84,436.—Lewis Y. Myers, Roanoke, Ind., assignor to himself and Emanuel Raber, same place. —*Elevator and Conveyer.*—November 24, 1868.—The article to be raised is attached to a block and pulley which slides on a rope attached at one end to the conveyer frame, the other end passing over a pulley, to be grasped by the band. The block on being raised comes in contact with a latch, which allows the conveyer to be carried forward with its load. A weight and cords carry the conveyer back when the load is removed.

Claim.—The rail A, conveyer frame D, latch b^2, catch b^3, pulley *g*, cord *h*, weight *h′*, cord c^1, pulley *d* and block and pulley *f*, all combined, arranged, and operated substantially as set forth.

84,437.—Walter Notman, Deerfield, Ohio.—*Corn and Potato Plow.*—November 24, 1868.

Claim.—The moldboards G, of the twisted and bent form, as shown, combined and arranged with the V-shaped frame A, cross-pieces H, uprights D, and braces C L I, which parts are firmly secured to each other, as herein represented and described, and for the purpose specified.

84,438.—John Owen, Dayton, Ohio, assignor to himself, Henry L. Brown, and A. Barr Irwin, same place.—*Patterns for Stoves and Hollow Ware.*—November 24, 1868.—The object of this invention is to obviate the warping or change of shape incident to the use of wooden patterns.

Claim.—Patterns for casting stove plates and hollow ware, made of paper, substantially as set forth.

84,439.—A. D. Puffer, Somerville, Mass.—*Beer Cooler.*—November 24, 1868.—The cooler occupies the space beneath the drip plate, which latter can be removed to insert the ice charge. The opening through the case board is covered by a back protecting plate, which can be removed when the couplings of the beer pipes with the delivery faucets are to be examined. The water from the cooler is withdrawn by a pipe surrounding the waste pipe.

Claim.—1. The arrangement of the cooler, with respect to the movable drip plate, as and for the purposes specified.

2. The opening *e*, protected by the plate *f*, as and for the specified purpose.

3. A base draught waste, constructed and arranged substantially as described.

84,440.—Leolf Reese and Harry Reese, Philadelphia, Pa., assignors to themselves and William McHenry, same place.—*Printing Press.*—November 24, 1868.—The rods to which the lid is hinged are provided with spiral springs and nuts to regulate their tension, so that the yielding plate on the lid will rest evenly on the type when pressure is applied.

Claim.—1. The box A, having a recess in the top for the reception of type, and to which is jointed, by yielding hinges, a lid, F, containing a movable plate, H, faced with rubber, or its equivalent, and bearing on springs *l*, all substantially as and for the purpose described.

2. The arrangement of the springs *k* on the rods *h*, between nuts on the latter and the projections *i*, through which the rods slide, as and for the purpose specified.

84,441.—Martin Rhinehart, Lockport, Ill.—*Compound for Treating Piles.*—November 24, 1868.—Composed of tannic acid, flowers of sulphur, pulverized nutmeg, lard, and goose oil.

Claim.—The medical compound, consisting of the ingredients substantially as herein described, as a remedy for the piles, as set forth.

84,442.—Adam C. Smith, Philadelphia, Pa.—*Construction of Waste Water Pipes.*—November 24, 1868.—This construction allows the pipe to expand when ice is formed, thus preventing bursting.

Claim.—A water pipe, consisting of a strip of metal coiled spirally, and so that one edge shall overlap the other, as set forth.

84,443.—Lewis Smith and Samuel Foster, Jr., Des Moines, Iowa.—*Curtain Fixture.*—November 24, 1868.

Claim.—In combination with the roller D and its reel F, the elongated journal *a*, provided with an indentation, *i*, within which the bend in the curved spring rod I is rested, all as herein shown and described.

84,444.—L. F. Smith, Philadelphia, Pa.—*Low-Water and High-Steam Indicator.*—November 24, 1868.—Water from the steam boiler enters the outer cylinder and passes through openings at the upper end of the inner cylinder, thus filling the latter. When the water in the boiler becomes so low that the outer cylinder is emptied, the inner cylinder, being filled with water, acts as a weight to operate the valve, through a system of levers, steam taking the place of water in the outer valve, and sounding the whistle.

Claim.—1. The combination of the cylinder A, tube B, and cylinder E, the latter provided with openings, *a a*, and suspended by means of levers G H and rods *b c d*, from the valve J of the steam-whistle D, all substantially as herein set forth.

2. In combination with the valve *e*, the circular cap *f*, fitting in the groove *i* on the valve-seat *h*, substantially as herein set forth.

3. The arrangement of the levers U W, weight T, and rod V, as set forth.

4. The arrangement of the cylinder A and the inner vessel E, with its perforations *a a*, with the steam generator C and whistle D, all substantially as specified.

84,445.—E. M. Stigale, Philadelphia, Pa.—*Case for Preserving Flowers, &c.*—November 24, 1868.

Claim.—The rubber band *e*, applied to the edge of the glass, fitting a recess in the base, and protected by a flange, *i*, on the glass, all as set forth.

84,446.—William F. Vernier, Philadelphia, Pa.—*Carriage Spring.*—November 24, 1868.—The axle is secured to the under side of levers attached to two hangers near the front end of the frame, and between each of the levers and the frame is a spring, consisting of a perforated gum-elastic cylinder held between two disks.

Claim.—1. In combination with the axle and frame of a carriage, the lever D, having its fulcrum at *a*, and the gum-elastic spring G.

2. In combination with the above, the cross levers D′, with their gum-elastic springs, arranged substantially as and for the purposes set forth.

84,447.—C. W. Wailey, New Orleans, La., assignor to New Orleans Pneumatic Propelling Company, same place.—*Pneumatic Street Railway Car.*—November 24, 1868.

Claim.—The combination of a street railroad car with a pneumatic engine, when the latter is operated by compressed air, that is contained in tanks, composed of paper or its equivalent, and which are carried on the car, substantially as herein described, for the purpose set forth.

84,448.—B. F. Watson and Albert Shepard, Bridgeport, Ill.—*Curtain Clasp.*—November 24, 1868.—The clasp is placed upon the rolled portion of the curtain, and holds the latter at any desired height.

Claim.—The metallic band *a*, open at the top, forming small rolls, C C, from which project the handles *c c*, for operating it, all as herein shown and described.

84,449.—Seth Way, La Porte, Ind.—*Cultivator.*—November 24, 1868.—The swiveling joint permits lateral motion to the rear end of the plow beams, a two-armed lever is secured to the tongue, and serves to raise the plows, a portion of the weight of the plows, when raised, resting on the long arm of the lever to prevent displacement when the machine is transported from place to place. The divergence of the plow beams is regulated by metal clasps or stirrups.

Claim.—1. The swiveling joint 2 8, secured to the tongue of the carriage, substantially as and for the purpose described.

2. The construction of the lever 1, and its combination with the plow beams, substantially as shown and described.

3. The arrangement of the stirrups 4, with reference to the two diverging portions of the plow beams, substantially as and for the purpose described.

4. The socket 3, and its combination with the axle 7 and tongue A, substantially as shown and described.

84,450.—Theophilus Weaver, Harrisburg, Pa.—*Safety Horse Hitch.*—November 24, 1868; antedated September 22, 1868.—The base or bed plate consists of a flat bar provided with a cavity on its under side, in which is a trunnion which, in connection with two cylindrical bars in a holder, causes a strap to be firmly clamped.

Claim.—1. The base R R′, substantially as herein set forth.

2. The holder F, with tread *h l*, and bars *s t u*, substantially as shown and described.

3. The arrangement of the base R R′ and holder F, for the purposes specified.

4. Inserting a hitching strap, plicated to form a release hitch, substantially in the manner herein set forth.

84,451.—MILO WEBB, Chenango Forks, N. Y.—*Mechanical Movement.*—November 24, 1868.—In the upper part of a frame is a cylinder near one end of which is attached a chain which is wound around a cylinder in the lower part of the frame. A spring is secured to the said shaft and to the frame so that when the upper shaft is turned the spring is wound up and by its own force unwinds the chain from one cylinder and rewinds it on the other.

Claim.—The arrangement of the frame A with the cylinder C, chain D, cylinder E, spring H, wheels F I, shaft G, dogs *o o*, bar *h*, shaft *i*, spring *m*, regulator R and its screw S, wheel N, bar L, and rod O, all, with their various parts, constructed and operating substantially as herein set forth.

84,452.—HENRY W. WEISS, Quakertown, Pa.—*Dung Drag and Hook.*—November 24, 1868.—To the rear end of a V-shaped frame is hinged a transverse bar, provided with teeth, which may be raised from the ground and held in an elevated position as required.

Claim.—The improved dung drag, consisting of the rolling bar D, with teeth *a*, and standard E, the pivoted stop bar F, lever G, guard *d*, frame A B B′ C C′, and swiveled roller H *f*, all constructed and arranged to operate substantially as herein described.

84,453.—E. R. WHITNEY, Plattsburg, N. Y.—*Cover for Hay and Grain Cocks.*—November 24, 1868.

Claim.—As a new article of manufacture, the herein described cover for grain and hay stacks and cocks, when the same is constructed of water-proof paper, and provided with holes for the guys, substantially as and for the purposes herein set forth.

84,454.—ELIHU WILDER and JOHN CRANDELL, Chicopee, Mass.—*Hemmer for Sewing Machine.*—November 24, 1868.—An upper plate slides on a lower one so that a part of the curved surfaces which turn and form the hem are formed upon one plate, and a part upon the other, so as to make a hem of any desired width. An adjustable guide on the hemmer is fastened to the work plate by the same binding screw with hemmer, so that the cloth is automatically and accurately guided to the hemmer.

Claim.—1. A hemming attachment for sewing machines, composed of the stationary plate B and the slotted sliding plate A, having the curved surfaces *b* and *c′* for forming the folds, substantially as described, and the whole constituting an adjustable hemmer, as set forth.

2. The movable plate A of an adjustable hemmer, having thereon lips *b c′* and the elongated loop *a*, constructed and applied substantially as set forth.

3. The slotted and jointed guide G G′, in combination with a hemming attachment for sewing machines, and constructed substantially as set forth.

84,455.—JOSEPH S. WILLIAMS, Cinnaminson, N. J.—*Manufacture of Alcoholic Spirits from Tomatoes.*—November 24, 1868.

Claim.—The process, herein described, of producing spirits by first separating the juice of tomatoes from the pulp, then mixing molasses or other saccharine matter, and yeast, and afterward fermenting and distilling the compound liquid thus obtained.

84,456.—WILLIAM M. WILLIAMS, St. Louis, Mo.—*Coffee Pot.*—November 24, 1868.—Conically-shaped chambers open at the bottom, and extending up into the vessel, serve to increase the heating surface. The lid forms a receptacle for cold water, the bottom acting as a condensing surface for the ascending vapor.

Claim.—The vessel A, with tubes *a′*, strainer B, and condenser lid C, the strainer being located centrally in regard to the tubes, and the whole being combined and arranged as and for the purpose set forth.

84,457.—GEORGE L. WITSIL, Philadelphia, Pa.—*Umbrella.*—November 24, 1868.—A tip of rubber is attached to the end of a curved handle so as to retain the same in position when suspended upon a smooth surface.

Claim.—An elastic tip, in combination with the handle of an umbrella or cane, substantially as shown and described.

84,458.—WILLIAM C. WOOD, Washington, D. C.—*Construction of Ice Pitchers.*—November 24, 1868.—A weighted valve is arranged to close an air vent when the pitcher is in an upright position, but when the pitcher is turned the vent is opened and at the same time a bolt is operated to fasten the cover.

Claim.—1. A self-operating vent valve, substantially as shown and described, for the purpose specified.

2. A self-operating bolt, arranged and operating substantially as described, for the purpose specified.

3. The combination of a self-operating vent valve and sliding bolt or latch, arranged and operating substantially as described, for the purposes specified.

84,459.—ANDREW WYLEY, Birmingham, England.—*Breech-loading Fire-arm.*—November 24, 1868; patented in England, March 25, 1867.—The plunger is made to carry a transverse bolt capable of sliding vertically in the plunger, which also carries a pin or striker, to explode the cartridge. The plunger is locked by the bolt, the stem being slit and retained in place by the striker.

Claim.—The combination of a longitudinal plunger with a locking bolt of T-form, which, when raised, acts as a handle for manipulating the said plunger, while performing its various functions of ramming and drawing the cartridge, (where the cartridge requires to be drawn,) and of cocking the lock, the whole constructed and operating substantially as herein set forth.

84,460.—E. HALL COVEL, and WILLIAM H. COVEL, New York, N. Y.—*Gas Machine.*—November 24, 1868.—Two meter drums are mounted on the same shaft, one driven by the gas and causing the other to revolve so as to draw in air. Devices are employed for increasing and diminishing the relative amount of air and gas, and also for heating the entering air.

Claim.—1. Mixing atmospheric air and any of the inflammable gases, and then adding to the mixture certain further proportions of the gas, before passing the same over or through the carbon-supplying materials.

2. Mixing atmospheric air and any of the inflammable gases, and then adding to the mixture certain further proportions of the gas, after the said mixture has been passed over or through the carbon-supplying materials.

3. Pumps A and B, in combination with an inclosed space or carbonizer, I, fluid or chemical tank L, and feed pipe or opening N, or their equivalents, when used to add new constituents to the mixture of air and gas produced by the action of pumps A and B, and to keep up the supply of such new constituents.

4. Pump A, pump B, tank L, feed pipe N, ventilating pipe or pipes O, and inclosed space I, or their equivalents, with the usual couplings and connections known in the business, when combined for the purpose of mixing air and gas, supplying new constituents to such mixture, and keeping up, automatically, the supply of such new constituents.

5. The combination of filling pipe M, feed pipe N, ventilating pipe or pipes O, and tank L, with inclosed space I, constructed and operating substantially as and for the purpose hereinbefore described.

6. Pump A, pipe E, and carbonizer or inclosed space I, or their equivalents, in combination with a lamp, or any other heating device, operating substantially as and for the purpose described.

7. The pumps A and B, in case C, tank L, and an inclosed space or carbonizer, as arranged.

8. Pump A, pump B, pipe H, and an inclosed

space or carbonizer, combined with a regulator, valve, cock, or other device for checking or regulating pressure, or their equivalents, operating substantially as and for the purpose hereinbefore described.

9. Pump A and pipe E, or their equivalents, combined with a regulator, valve, cock, or other device, placed in or upon pipe E, when so constructed that, either automatically or otherwise, pipe E shall or may be closed, when the pump A is not in action, for the purposes hereinbefore described.

10. Pump A and pipe E, or their equivalents, and lamp W, or other heating device, combined with a regulator, valve, cock, or other closing device, placed in or upon pipe E, when so constructed that, either automatically or otherwise, pipe E shall or may be closed, when the pump A is not in action, and the hot air generated by the heating device W, or its equivalent, instead of passing up pipe E, shall be forced to discharge itself into the air.

11. Pump A and pipe E, or their equivalents, in combination with a heating device, operating substantially as and for the purpose hereinbefore set forth.

12. Gas-service pipe X, pump A, pump B, pipe D, and their equivalents, in combination with a regulator, valve, cock, or other device for checking or regulating pressure, and space G, for the purpose of adding a further supply of gas to that already furnished by pump B, and controlling proportions of gas and air in space G.

13. Gas-service pipe X, having in or upon it a regulator, valve, cock or other device for checking or regulating pressure, in combination with pipe H, and carbonizer or inclosed space I, for the purpose of controlling proportions of gas and air caused to enter the inclosed space or carbonizer I.

14. The combination of gas-service pipe D, gas-supply pipe K, and cross-pipe R, having in or upon it a regulator, cock, valve, or other device for checking or controlling pressure, or their equivalents, when substantially constructed and arranged as described, and for the purpose set forth.

15. Forming channels and bisecting the same, within the carbonizer or inclosed space I, by means of partitions and sheets of porous substance, when constructed and arranged substantially as shown and described, and for the purpose set forth.

16. The combination of the pumps A and B, pipe H, tank L, pipe N, pipe O, heating device W, pipe E, and a carbonizer or inclosed space, or their equivalents, when arranged to substantially operate in the manner and for the purpose hereinbefore described and set forth.

17. The improvement in combination gas machines, constructed and operating substantially as hereinbefore described and set forth.

84,461.—George F. Fessenden, Arlington, Mass.—*Toy Target.*—November 24, 1868.—A small ball is attached to a miniature target by an elastic cord, so that by drawing the ball back and releasing it, it will be driven against the target.

Claim.—A toy target, constructed to operate substantially as described.

84,462.—William C. Whitmore, Macon City, Mo., assignor to Abijah Richardson, Boston, Mass. —*Horseshoe.*—November 24, 1868.—On the under surface of the shoe is a groove with a rib around it projecting from the groove, and formed on its inner side with a concave slope or bevel. The rib serves as a calk, causing the hoof to take an even bearing upon the shoe.

Claim.—1. An improved horseshoe, constructed with the single continuous rib *c*, one or more bevels or inclined inner faces, *d e*, a continuous groove *b*, and nail holes *a*, arranged as described, the rib *c*, under such arrangement, being made to project down below the groove *b*, or the part in which such groove is made, the whole being substantially as specified.

2. Further, a horseshoe having a continuous groove, in which are the nail holes, and surrounding a single continuous rib or calk, when constructed in the manner substantially as described.

84,463.—Henry Anderson, Shepherdstown, Pa.—*Wagon Brake.*—December 1, 1868.—A series of devices so arranged as to be readily changed from a rear to a side brake and *vice versa*.

Claim.—The metallic semicircular ratchet D D, the bar E, and the lever F joined thereto by the pin G, the small upright post H H, passing through the end and forming the fulcrum of the lever F, the bar I, the rubber blocks J J, the part K, the rubber bar L L, and the bar M, all constructed and combined, in the manner and for the purpose herein set forth.

84,464.—Emery Andrews and William Tucker, Portland, Maine, assignors to Star Match Corporation, same place.—*Match Machine.*—December 1, 1868.—Designed for cutting veneers, or match cards, in the usual way, and then stacking the same in form for handling, instead of scattering them on the floor, as is usually done.

Claim.—1. The combination of the cams *d d* with the receivers and conductors *m m*, in the receiving box H, as and for the purposes specified.

2. The combination and arrangement of the slides *o* and grooves *i*, on the wheel B, and the spring *h*, in connection with the receivers and conductors *m m*, in the receiving box H, substantially as and for the described purposes.

84,465.—J. D. M. Armbrust, Apolloborough, Pa.—*Car Coupling.*—December 1, 1868.—Within an ordinary drawhead is arranged a series of springs so as to grasp the link and hold it in a horizontal position. An additional spring is also connected with the bearing plate, which spring operates the keeper plate that retains the pin in an elevated position when required.

Claim.—1. Arranging within a drawhead, A, a series of springs, C and C′, D and D′, when the same are secured by a single bolt, H, at the rear of the same, thus leaving their forward opening or mouth entirely free, substantially as described, as and for the purpose specified.

2. The combination of the keeper F, spring G, plate B, and bolt H, when the former is secured to and works upon the spring C, substantially as described, as and for the purpose specified.

84,466.—Derk Arnaud, Boston, Mass.—*Bureau Bedstead.*—December 1, 1868.—The bedstead is attached to the case so as to be swung out like a door, and the case is provided with drawers and boxes for holding wash bowl, &c., and with a sliding mirror.

Claim.—1. A folding bedstead, hinged to the bottom of the door of a case, when the side of the door is hinged to the case, so that the bedstead can be swung out to any angle, substantially as described,

2. The arrangement of the wash stand G and box E with a bureau bedstead, substantially as described,

3. The arrangement of the several parts, A, B, C, D, E, G, S, and M, in one piece of furniture, substantially as described.

84,467.—David Arter, Ashland, Ohio, assignor to himself and J. J. Kauffman, same place.—*Eaves-trough Hanger.*—December 1, 1868.—A button is attached to the cross piece that sustains the upright part of the hanger, so that the troughs can be readily taken down.

Claim.—The button E, in combination with the cross piece D and trough A, in the manner as and for the purpose set forth.

84,468.—Phineas E. Austin, New Haven, Conn.—*Method of Holding and Adjusting Dies and Punches.*—December 1, 1868.—Two or more dies are acted upon separately by a series of clamps and wedges, so that the dies may be nicely adjusted in any direction. The dies are held together by means of a connecting block, which is dovetailed into each.

Claim.—1. The arrangement of the several dies, clamps, wedges, and screws with the frame, as described, and for the purpose specified.

2. The spring gauge pin F, in combination with the dies, in the manner and for the purpose specified.

3. Arranging the punches in the punch stock, and confining them to one another by means of the block H, and the stock by means of the dovetailed tenons fitting into the dovetailed groove in the stock, and the wedge, all substantially as described.

4. The connecting block H, placed between the two punches or male dies, for the purpose of holding them together, substantially in the manner and for the purpose specified.

84,469.—A. P. Baldwin, Newark, N. J.—*Bridle Bit.*—December 1, 1868; antedated November 21, 1868.—The two mouth pieces are so connected with the cheek pieces as to vibrate endwise one upon or in the other, and cause a vicious horse to release the bit, when seized by the teeth.

Claim.—Pivoting the two mouth pieces *a* and *b* to the cheek pieces C, the pivots of the one being at a distance from the other greater than that of the mouth pieces, substantially as described and shown.

84,470.—Rufus P. Burnett, Charles P. Purinton, and Nicholas Seibert, Nevada, Cal.—*Anti-friction Bearing for Vertical Shafts.*—December 1, 1868.—The end of the shaft rests upon three or more hard, metallic balls, which rest in turn upon a self-adjusting plate, so constructed as to keep them all in contact with the shaft.

Claim.—1. In combination with the balls H, and their guide I, the universal joint formed by the convex surface G, and the upper concave surface of D, substantially as described.

2. In combination with the balls H and the above-claimed joint, the screw E, to adjust the same to the required elevation beneath the shaft.

84,471.—Sigismund Beer, New York, N. Y.—*Process of Recovering and Reworking Borax from Solutions Used in Treating Wood.*—December 1, 1868.—The liquor drawn off after the lumber has been impregnated with a solution of borax is mixed with a solution of alum, when the albuminous matter will settle, and the clear liquid is alkalized with soda.

Claim.—Utilizing the liquids employed in the process of Boerizing, seasoning, or preserving wood by precipitation, substantially as and for the purposes specified.

84,472.—Dana Bickford, Boston, Mass.—*Needle for Knitting Machine.*—December 1, 1868.—

Claim.—1. A knitting machine latch needle made from a wire, and having a swell, *b*, thereon, as and for the purpose set forth, formed by giving a bend to the wire, and without cutting away or reducing the same.

2. A knitting machine latch needle, having a swell, *a*, thereon, located between the latch and the end projection, and whose elevation is on the same side with the hook, as and for the purpose set forth.

84,473.—Dana Bickford, Boston, Mass.—*Process of Knitting Pile Fabric.*—December 1, 1868.—

Claim.—1. The process herein described of knitting tufted or piled fabric, the same consisting in laying between the regular courses of stitches, after a course has first been knitted, a course of loose loops, formed from a continuous yarn, and then binding this last course in place by a succeeding course of regular stitches.

2. As a new article of manufacture, a knitted fabric, in which, after a course of stitches is knitted, a course of loops, formed from a continuous yarn, is next deposited upon this row of stitches, and then another course of stitches, knitted over the same, to bind and hold to place the loops or tufts.

84,474.—J. S. Birch, New York, N. Y.—*Annunciator.*—December 1, 1868; antedated November 14, 1868.—The combination of two indicators, formed of an inclosing case, movable tablet, or check table, and weighted sliding rod, placed, one at or near a billiard or other table, and the other at the cashier's desk, and connected by a cord, or other flexible connection, so as to communicate the amount of indebtedness of the players.

Claim.—The arrangement of the table boxes A, having doors, *a'*, the sliding tablets C, operated by the weighted rods B, the cashier's box A, having a series of tablets, C, operated by the weighted rod, extended to connect with the bell hammer H, each of said table tablets connected with the cashier's tablet by means of the cords D, and all operating in the manner described for the purpose specified.

84,475.—George E. Burt and Stanley B. Hildreth, Harvard, Massachusetts.—*Ratchet Attachment for Harvesters.*—December 1, 1868; antedated June 2, 1868.—As the machine moves in a curve, one of the propelling wheels will revolve faster than the other, and the link which connects the pawl with the friction band is silently disengaged from the teeth of the outside case. When the machine turns a curve in the opposite direction, the pawl is made to engage with the teeth in a quiet but positive manner.

Claim.—1. A loose collar or ring, in combination with the pawl, when the pawl is connected to the collar or ring in such a manner as to be operated in and out of the surrounding or covering internal ratchet gear, by the resistance arising from the inertia or friction of the collar or ring, operating substantially as described, for the purpose set forth.

2. The bolt *e* and tightening nut *f*, in combination with the friction band I and hub *d*, when said friction band is used to operate the pawl in and out of cog, substantially as described.

3. The combination of the pawl A, the pivot ears *i i'*, the link *n*, and the friction band I, substantially as described, for the purpose set forth.

84,476.—Edmund Augistin Chameroy, Paris, France.—*Fluid Meter.*—December 1, 1868.—Designed to be so constructed as to dispense with ordinary mechanisms, such as pistons, cork, turbines, and wheels, and to determine by means of a varied movement, arising from the uniform oscillation of a pendulum or other motor, the different changes in the size of the opening through which the fluid passes.

Claim.—The combination, with the tapering valve chamber, the weighted valve, and valve rod, connected with the counter weight O, as described, and the pinion M and disk P, mounted upon the shaft I of said counter weight, of the registering mechanism and the rotary plate R, actuated by clock-work, under the arrangement and for operation as herein shown and set forth.

84,477.—Alonzo M. Chenry and Handley B. Kimball, Charlotte, Mich.—*Horse Hay Fork.*—December 1, 1868.—The tines are fastened to the foot of the bent fork shank by a corrugated clamping bar having rectangular grooves, and by steady pins; the clamping bar being held over the ends of the tines by eye bolts, and the forks of the stay bar.

Claim.—1. The bent fork shank B, broadened at its lower extremity, *b*, for the connection of the bail, stay bar C, and overlapping detachable tines A A A, substantially as described.

2. The pivoting of the bail D to the bent fork shank B, so that the axis of revolution of the fork within the bail shall be underneath the load, substantially as described.

3. The attachment of the detachable bent fork tines A A A to the bent fork shank B, at the foot *b*, by the corrugated clamping bar H, fastened by the shouldered, threaded, and nutted eye bolts *n n*, and forks of the stay bar *f f*, substantially as described.

84,478.—James Chittock, Chicago, Ill.—*Rein Holder.*—December 1, 1868.—The device consists of two jaws which form a clamp, joined together by a spring at the lower end, and attached to the vehicle by a spur or pin on the lower part of the inner jaw.

Claim.—A clamp, for fastening lines, consisting of the parts A A', spring C, hook B, and pin H, as and for the purpose set forth.

84,479.—Henry G. Dayton, Maysville, and James Christie, Atlanta, Ill.—*Apparatus for Condensing, in Distilling Spirits and other Liquids.*—December 1, 1868.—This invention consists in the substitution, for the ordinary worm used in the refrigeratory or tub in distillation, of two or more vapor chambers of copper, so constructed as to present a greater amount of surface for the action of cold water upon the said chambers.

Claim.—1. The alternate chambers for water and vapor, which may be continued or repeated indefinitely, thus securing much greater surface for the action of water in cooling.

2. The concave surface of the bottom of the outer vapor chamber, which permits the flow of water,

striking it at or near the center, to spread in every direction from the point of contact, thus cooling the entire bottom of said vapor chamber.

3. The creation of a partial vacuum in the vapor chamber by our superior means of cooling, which causes the vapor from the retort to flow promptly and readily into the vapor chambers, substantially as described.

4. The tubes H H, I I, K K, L L, M, &c., for their various purposes and uses, in the manner substantially as set forth.

84,480.—Henry James Dickerson, Appleton, Wis.—*Method of Working Steel and Iron.*—December 1, 1868.—The steel is first heated and subjected successively to the compounds as follows: The first compound consists of borax, table salt, copperas, sal-ammoniac, prussiate of potash, resin, and rain-water, to be dried and then pulverized. The second compound consists of prussiate of potash, tallow, resin, sal-ammoniac and bone dust. The third is composed of rain-water, saltpeter, alum, sulphate of iron, oxalic acid, and prussiate of potash.

Claim.—1. The working of steel and similar substances, more readily and with better results, by the assistance of the above first-described compound, applied for the purpose substantially as described.

2. The refinement of steel and similar substances, by the application of the second compound, in the manner and substantially as described.

3. The refinement and hardening of steel and similar substances, by the application of the third compound, in the manner, and for the purpose, and substantially as described.

4. The accurate attainment of the desired quality in many articles at once, by the use of the receptacle and instruments above described, in the manner and substantially as set forth.

84,481.—Julius Edmund Dotch, M. D., Washington, D. C.—*Preserving Meat.*—December 1, 1868.

Claim.—The preserving of the body of animals, or parts thereof, by the use of aldehyde, in the gaseous or liquid state, or mixtures of aldehyde in glycerine and phospho-glyceric acid, or acetate of soda and glycerine, or simply phospho-glyceric acid.

84,482.—Nicholas Downes, Syracuse, N. Y.—*Filter and Cooler.*—December 1, 1868.—The ice-chamber is surrounded by the filtered water, and the unfiltered water passes from an upper tank, through a pipe, to the bottom of the case, and upward through a filtering medium.

Claim.—As an improved article of manufacture, the combined water cooler and filter, consisting of the ice chamber B, with the rack G and separate cover *e*, the perforated chamber D, connected with the chamber B by pipe C, and having an outlet, *h*, and the casing A, having covers *f f* and cock H, when said parts are all constructed and arranged to operate as herein shown and described.

84,483.—John Earnshaw, East Greenwich, R. I.—*Machine for Finishing Cloth.*—December 1, 1868.—Consists in a means for automatically raising or turning the nap of fabrics, so as to form varied designs of raised figures upon their surface, and also in coloring, fitting, and napping or shearing the said portions.

Claim.—1. An endless flexible stencil belt, in combination with a nap-raising device, substantially as and for the purpose set forth.

2. A nap-raising device, convex supporting bed, and continuous stencil plate substantially as described, arranged for conjoint operation, as and for the purpose set forth.

3. The combination of a heated work-supporting surface, a stencil plate, and a nap-raising mechanism, substantially as and for the purpose set forth.

4. The combination of a supporting bed, a stencil plate, and a shearing device, substantially as herein described.

5. Devices, substantially as described, for applying moisture, in combination with a continuous stencil plate, arranged and operating substantially as set forth.

6. Devices for applying coloring matter to the cloth, in combination with mechanism for working and teaseling the same, substantially as herein set forth.

7. The devices for applying the coloring matter, combined with the device for steaming or moistening the same, as herein set forth.

8. The combination of the supporting bed, stencil plate, and nap-raising device, with the shearing device, as herein described.

9. The adjustable tension rollers, in combination with the stencil belt and the supporting bed, substantially as described.

84,484.—Monroe B. Foote, Northampton, assignor to himself, William M. Gaylord, and E. N. Foote, New England Village, Mass.—*Door Lock.*—December 1, 1868.—A cylindrical case contains a slotted bolt, having a rib and a triangular-shaped stop, against which latter a spring catch bears from the rear, and pivoted to the stop is a lever for depressing the catch.

Claim.—The combination and arrangement of the lever *l* with the cam and stop *f*, the spring catch *k*, and with the slotted bolt and its case, substantially as described.

84,485.—George A. Frear, Chicago, Ill., assignor to Charles Holland, same place.—*Brick and Concrete Press.*—December 1, 1868.—An arrangement of devices for exerting a strong pressure upon clay or concrete in forming bricks. The separate devices are disclaimed.

Claim.—The combination and arrangement of the knee-jointed levers *c c*, plunger *d*, cam *g*, the segments and ratchets *f e* and *w x*, the bed piece *i*, and partitions *k k* of the mold box, all constructed as described, and to operate substantially in the manner and for the purpose set forth.

84,486.—Levi K. Fuller and Henry K. White, Brattleborough, Vt., assignors to J. Estey & Co., same place.—*Reed Musical Instrument.*—December 1, 1868.—The back valve is hinged along the lower edge of one side of the base of the chamber, by which means a quicker sound is produced. The front valve is connected with the back valve operative lever by means of a strip of cloth.

Claim.—1. The improved arrangement of the valve hinge, viz, along the side of the valve, instead of at one end of it, as heretofore practiced.

2. The combination of the strip of leather L, with the front valve C, its spring C′, the back valve G, and its lever D.

84,487.—Lewis Granger, Memphis, Mich.—*Wash Boiler.*—December 1, 1868.—Slides provided with vertical ribs are fitted in the ends of a boiler, and in the bottom of the boiler is a slotted grate, which supports the clothes. The boiling water passes up through the spaces between the ribs and upon and through the clothes.

Claim.—1. The slides C, provided with ribs D, or their equivalents, when constructed and operating substantially as and for the purposes herein set forth.

2. The combination of the slides C, slotted grate F, and hooks I, in connection with any suitable boiler, and the flanged projection H, in connection with any suitable cover, when arranged and operating substantially as and for the purposes herein described.

84,488.—Thomas M. Hart, New Bedford, Mass.—*Wooden Washer for Carriages.*—December 1, 1868.

Claim.—A wooden washer, made of two or more thicknesses of board fastened together by glue or any adhesive compound, in such manner that the grain of one shall cross the grain of the other, to prevent splitting, as herein specified.

84,489.—George Hawxhurst, Somerville, Cal.—*Mode of Preventing Corrosion of Boiler Tubes in Sea-going Vessels.*—December 1, 1868.—A solution of lime in water.

Claim.—A protection from corrosion, for the boilers of steamers using surface condensers, consisting of the solution herein described, and used substantially as set forth.

84,490.—John Hirst, Jamaica, N. Y. assignor to himself and Henry A. Dirkes, New York City.—*Car Brake.*—December 1, 1868; antedated November 13, 1868.—A vertically adjustable block is suspended from an oscillating horizontal shaft, so as to be forced down upon the rails. Brake shoes are also arranged on both sides of the wheel, so as to be drawn simultaneously toward the axis of the wheel.

Claim.—1. The rail brake shoe H, attached by the connecting bar *e* to the crank *d* of the weighted shaft D, hung in spring bearings *a*, said shoe being supported in a horizontal position, by means of the cords *f*, all constructed, arranged, and operating as described, for the purpose specified.

2. The combination of the brakes G G, heads F F′, crank shaft D, weight I, cords or chains *b c*, rail brake shoe H, connecting bar *e*, and supporting cords or chains *f*, all constructed and arranged to operate as herein described, for the purpose specified.

84,491.—L. H. Hubbard, Canton, Ohio.—*Washing Machine.*—December 1, 1868.—For raising the frame of the rollers and rubber, together with the rollers and rubbers themselves, in the wash-box, so as to maintain the same in proper position with respect to the suds in the wash-box.

Claim.—The peculiar arrangement and combination of the sliding boxes I I, with ratchet dials *k k* secured thereto, the lifting levers J J, with spring pawls *j j* and geared heads *g g* thereon, and the frame standards H H, with cog pins *q q*, the several parts being constructed, arranged and operating substantially in the manner and for the purpose herein specified.

84,492.—John Ingraham, New York, N. Y., assignor to himself and Charles E. L. Holmes, same place, assignors to Charles E. L. Holmes.—*Clasp for Hoop Skirts.*—December 1, 1868.—The clasp is cut out of a compound sheet of metal formed of alternate layers of tin and zinc.

Claim.—A clasp for skeleton skirts, cut out of a compound sheet of metal, formed of zinc and tin, in the manner described.

84,493.—William F. Jenkins, Indianapolis, Ind., assignor to himself and James M. Myers.—*Wash Boiler.*—December 1, 1868.—An adjustable interior bottom for wash boilers, consisting of four pieces held together by rivets in one part which slip in adjusting slots in a corresponding part.

Claim.—The rivets *a′*, *b′*, *c′*, *d′*, *f′*, *g′*, and *h′*, and the adjusting slots *a*, *b*, *c*, *d*, *e*, *f*, and *h*, when constructed and used in the manner and for the purpose substantially as set forth.

84,494.—Edward Kaylor, Perrysville, Pa.—*Machine for Making Nuts.*—December 1, 1868.

Claim.—In a machine for making nuts from hot bars of iron, a die box, either solid or made in separate pieces, with apertures and grooves for the admission and flow of water along the inner or working face of the die box, or of the separate dies of which it may be composed, substantially as hereinbefore set forth.

84,495.—Robert C. Kelly, West Meriden, Conn.—*Coat Support.*—December 1, 1868.—Two arms of wire bent to a proper shape are connected together at their inner ends by a slotted support, into which they are slipped.

Claim.—The within described coat supporter, as a new article of manufacture, consisting of the arms A and B, and the slotted connection C.

84,496.—John Kennedy, Chicago, Ill.—*Hoisting Machine.*—December 1, 1868—A two-part spring band passes over a wheel on the main drum, and is operated by a rack lever, which is held in place when the band is braking the wheel, by a weighted pawl, the said lever being operated by ropes or cords passing over pulleys pivoted to a cross-tree.

Claim.—The combination of the weighted pawl P, cross tree B, pulleys D, rack lever N, weighted rope W, ropes *b* Z, friction wheel E, and band H J, the whole being arranged as and for the purpose set forth.

84,497.—Guido Kustel, San Francisco, Cal.—*Mode of Working Gold and Silver Ores.*—December 1868.—The ore is charged in a wooden box having a false bottom provided with a cork. After the ore has been charged, hot water, containing sulphuric acid, is conveyed into the box; the cock is then opened and sufficient water is admitted to keep the ore covered by it.

Claim.—The ingredients or agents above enumerated, added to the ores in the manner and in about the proportions herein specified, for the purpose set forth.

84,498.—J. R. Little, West Roxbury, Mass.—*Stay for Shirt Bosom.*—December 1, 1868.—The hook is formed with an oblong eye having an opening between the extremity and one end of the eye piece, so as to admit of its ready attachment to a shirt bosom.

Claim.—1. The new article of manufacture, or shirt bosom stay, as composed of the button-holed strap A and the hook or attachment C, as specified, the whole being substantially as and for the purpose set forth.

2. The double hook attachment C, made as and for the purpose above explained.

84,499.—Calvin Lobdell, Fort Hill, Ill.—*Cultivator and Seeder.*—December 1, 1868.—An adjustable leveler is arranged to run between the shovels of an adjustable cultivator, so as to smooth the surface of the soil, and gauge the depths of the shovels in the ground.

Claim.—1. The leveler K K L, arranged to operate substantially as and for the purpose herein specified.

2. The combination of the leveler K K L, arms I, wings B, rods M G, and curved plate R, the whole being constructed and arranged substantially as and for the purpose set forth.

84,500.—John Maley, Middletown, Ohio, assignor to himself and Martin Dowd, same place.—*Machine for Crozing Barrels.*—December 1, 1868.—The front of the machine is curved to fit the inner surface of the barrel at its chine, so that the latter will come in contact with a feed and guide roll, and a planing tool.

Claim.—The curved frame A B D, and vertical guide rolls *o l*, in combination with the feed rolls *i j*, and tools *e f g*, for planing, crozing, and chamfering barrels, arranged and operating conjointly by means of the system of gearing, substantially as and for the purpose described.

84,501.—George Humphrys Mathews, New York, N. Y.—*Envelope.*—December 1, 1868; antedated November 16, 1868.—Melted sealing wax is placed over the mark, and the flap of the envelope is pressed down, a portion of the wax filling up the opening in the flap, upon which a seal or stamp is then pressed.

Claim.—An envelope or wrapper having one or more openings cut in the flap, and having marks on that portion of the body of the envelope beneath the flap, substantially as and for the purpose set forth.

84,502.—Henry McGann, Cleveland, Ohio.—*Float for Boilers.*—December 1, 1868—A globular frame is placed on the inside of the shell of the float, so as to prevent the latter from collapsing from the pressure of the steam.

Claim.—The globular frame C, in combination with the shell A, substantially as herein specified.

84,503.—Jasper P. Moore, Boston, Mass., assignor to Andrew B. Uline, and said Uline assignor to himself and Gardenir G. Kidder.—*Seal Bolt for Railway Cars.*—December 1, 1868.—The bolt is made with a slotted shank, and at its end is pivoted a pointed tongue, which closes within the shank. After insertion in the staple, the tongue is turned out and has a leaden seal inserted in a hole in the same.

Claim.—1. The combination of a bolt, and a tongue pivoted to such bolt, the same having one or more holes to receive a seal for the purpose of holding the tongue at any angle with the bolt.

2. The combination and arrangement of the shouldered head with the bolt and tongue pivoted to-

gether, and having one or more holes, as described, to receive a seal for the purpose as set forth.

84,504.—John Obreiter, Lancaster, Pa., assignor to himself and Andrew Leibly, same place. —*Sash-holder.*—December 1, 1868.—Within a slotted bearing plate, of peculiar form, is pivoted a drop latch, which serves as a sash supporter and lock.

Claim.—The construction and arrangement of the sash-holder plate A, with its open slot *b*, and curved bearings *c*, in combination with the drop latch B, bifid head *e*, fulcrum arms *d*, and side lever *f*, substantially in the manner and for the purpose specified.

84,505.—Leverett H. Olmsted, Brooklyn, N. Y.—*Paper File.*—December 1, 1868.—Two clamps, made of wire, are attached to a plate and are actuated by springs to hold the papers in place.

Claim.—The combination of plate A with the clamps B B, which said clamps are actuated by means of springs, substantially as shown and described, and for the purpose set forth.

84,506.—William H. Palmer, Jr., Middletown, Conn. — *Cord-covering Machine.*—December 1, 1868.—Designed more especially for the manufacture of picture cord, or ornamental cord, in which the strands are wound or served with silk or worsted, to impart an ornamental finish.

Claim.—1. The within-described arrangement of the belts M and N, so as to turn the several bobbins G^4 and H^4, or their equivalents, by pulleys carried on the shaft B, from pulleys mounted concentrically within the mechanism, substantially as and for the purpose herein set forth.

2. The covering bobbins H^4, mounted on horizontal axes, the revolving ears H^3, or their equivalents, and the open-based eyes D^2, carried on the frame D, all combined and arranged substantially as and for the purposes herein specified.

3. The bevel gears B^1 C^1 D^1, the revolving frame D, and guides D^2, the twisting spindles G, and covering devices H^4, in combination with the concentric shaft B, revolving in the direction opposite to the revolutions of the frame D, and arranged to impart opposite motions to the twisting and covering mechanism, all substantially as and for the purposes herein set forth.

84,507.—L. F. Parker, Davenport, Iowa.—*Harvester.*—December 1, 1868.—By means of cords secured to opposite sides of the main frame, and attached to a windlass near the operator, the machine can be more readily turned, the pole being so attached as to have a lateral movement. The pole is allowed to slide vertically within a yoke, so as to admit of adjustment of the sickle to cut higher or lower. The rake is mounted in rear of the sickle in a frame composed of two endless chains. A grain-receiving reel projects from the right hand corner of the machine.

Claim.—1. The pole C, pivoted at the rear end of the main frame, and having its front end arranged to move laterally in a guide bar, D, located in front of the wheels, in combination with the cords *n o*, pulley *s*, and windlass *n*, substantially as described.

2. The yoke J, attached to the main frame A, and having the pole C, provided with the sliding bolt *f*, working therein, and operated by the cord *p*, arranged substantially as set forth.

3. The rake R, carried by the chains K, and having the arm *w* working in the groove *x*, and against the guides *k* and *l*, when said parts are arranged as shown and described.

4. The combination of the grain-receiving reel I, the rock shaft b', with its arm b'', to be operated by the rake R and the locking bar a'', all constructed and arranged to operate as herein described.

5. So arranging the rake R as to impart to it a lateral movement from the sickle as it passes from the upper side of the platform, and a return movement toward the sickle as it rises to the top of the platform, substantially as described.

84,508.—James Pickering, New Hope, Pa.—*Bench Vise.*—December 1, 1868.—The upper one of two inclined planes or slides is attached to the movable jaw of the vise, and passes through the fixed jaw, and also through a connecting bar or slide, to which the lower inclined plane is attached, so as to maintain the parallelism of the jaws.

Claim.—The two inclined planes or slides, when combined and arranged in the manner and for the purpose substantially as herein described and set forth.

84,509.—Owen Redmond, Rochester, N. Y.—*Machine for Rounding Barrel Heads.*—December 1, 1868; antedated November 19, 1868.—An arrangement of mechanism for retaining the wood to be cut against the saw until the wood has performed more than a complete revolution, and afterwards withdrawing it from the saw, so that the parts will be in proper position for the adjustment of a new head.

Claim.—The combination of the loop or staple c^3 and lever c^4 with the spring latch F, when arranged and operating substantially as described, for the purpose of causing more than a complete revolution of the clamps c c^1 to be made during the time that each barrel head is being sawed.

84,510.—E. J. Riker, Lewiston, Me.—*Grappling Hook.*—December 1, 1868. —A holding rod passes loosely through a cross bar and has pivoted at its lower end two cross arms, which are also pivoted to curved or hooked arms, so that as the latter grasp an article, the rod and cross arms form a toggle and at once securely hold the article.

Claim.—The grappling hook, as described, combining the rod *c*, cross bar *a*, arms *h h*, hooked arms *f f*, all arranged to operate as described.

84,511.—Isaac N. Ross, Worcester, Mass.—*Heating Stove.*—December 1, 1868.—To the lower end of the magazine is affixed a hollow annulus, perforated on its under side, and concentrically with the same is another annulus attached to the top of the fire-pot, and provided with an air induction pipe, and a series of holes to discharge air into a concentric annular chamber, on the inner side of which is a ring of foraminous fire-brick.

Claim.—1. In a stove, in which the magazine is arranged with relation to the fire-pot, and combined with an annulus surrounding its lower end, and one or more air-supply pipes, leading from the top of the stove as described, the formation of the air-discharge apertures or perforations in the bottom, in contradistinction to the sides, of said annulus, substantially in the manner and for the purposes shown and set forth.

2. The combination and arrangement of the auxiliary annulus N, and its air-supply pipe, and discharge holes, with the fire-pot, the magazine, and the annulus L, and its air-supply pipe and discharge holes, the whole being in the case as specified.

3. The combination of the inner annular air-chamber P, and its foraminous fire-proof side, R, with the fire-pot and the hollow annulus L applied thereto, as and for the purpose specified.

84,512.—O. E. Seymour, Madison, Ind.—*Farm Gate.*—December 1, 1868; antedated September 18, 1868.—A series of levers is so arranged, in connection with a bell crank, that the gate may be opened by sliding it at right angles with the road-way, by a person on horseback or in a vehicle,

Claim.—The above described combination, consisting of the hand levers G G′, rods *s s′*, bars *a* and *c*, and lever *b*, used in connection with the triangular bell crank F, or its equivalent, substantially in the manner and for the purposes as set forth.

84,513.—Benjamin N. Shelley, Newark, N. J. —*Fastening for Whip Sockets.*—December 1, 1868.—The ring of the socket is provided with a hook which fits against the outer surface of the end of the dasher frame, and is secured to the same by means of screws.

Claim.—A whip socket, having connected with it a fastening consisting of the hook *a* and the screw *d*, constructed and operating substantially as and for the purpose specified.

84,514.—A. R. Silver, Salem, Ohio, assignor to himself and John Deming, same place.—*Saw*

Gummer.—December 1, 1868.—Upon one end of a sliding bar is formed a die-holding head, having a tapering socket adapted to receive and retain firmly in place a tapering die for gumming saws.

Claim.—The saw-gummer bar B, herein described, constructed with the head D, in which is a die socket *e*.

84,515.—T. S. Smith, Charlestown, assignor to Alfred B. Ely, Newton, Mass.—*Let-off Mechanism for Looms.*—December 1, 1868.—Upon the crank shaft is a projecting lug or finger having a set screw to adjust its position on the shaft circumferentially, and also having an adjustable plate with a set screw to regulate the length of its stroke. The lug or finger, as the shaft revolves, is made to actuate two lever arms that raise the brake from the wheel so as to allow the requisite delivery of yarn from the yarn beam.

Claim.—1. The combination of the brake or pawl J with the shaft and finger H, when the parts are constructed and arranged to operate together, substantially as described.

2. The adjustable lug or finger H *h* when arranged and operating in connection with the brake or pawl J, as a positive let-off to the yarn, substantially in the manner described.

3. The whip roll D, supported by sliding arms *d*, in combination with the spring *e* and adjustable collar *b*, constructed and arranged substantially as and for the purposes described.

4. The whip roll, supported in spring bearings, in combination, and arranged and operating in connection, with the brake or pawl J, so as to relieve the same, and let off the yarn by means of the tension thereof, substantially as described.

5. The whip roll supported in spring bearings, in combination or connection with the shaft and finger H, when the latter are arranged to operate with the pawl or brake J, substantially as described.

84,516.—Michael C. Taylor, Grass Valley, Cal.—*Pump-valve Chamber.*—December 1, 1868.—The valve chamber is divided by a diaphragm at its center, on each side of which is a valve, operated by levers on the outside of the pump, so that in case of accident either valve can be closed to cut off the water from that direction, and force it through the other valves.

Claim.—1. The diaphragm B, in a valve chamber, and the valves C C′, operated by the levers D D′, substantially as and for the purposes described.

2. A double valve chamber, having one ingress and egress pipe, constructed substantially as and for the purposes herein described.

84,517.—Silas B. Terry, Waterbury, Conn.—*Clock.*—December 1, 1868.—The pallets of a combined recoil and dead beat anchor escapement are so constructed that one is turned outward and the other inward, so as to allow the motive power of the wheel to aid the weight of the pendulum to overcome its momentum.

Claim.—The anchor escapement, constructed as described, with one pallet D, having a flange *d*, and the other pallet E bent out, whereby one pallet is made dead beat and the other recoil, for the purpose of equalizing the vibrations of larger or smaller pendulums, produced by unequal motive power, as herein shown and described.

84,518.—P. J. Torkey, Washington, D. C.—*Machine for Sawing Marble.*—December 1, 1868.—The saw frame is suspended upon endless chains, so as to prevent it from jumping when moving back. The saw is fed gradually downward by means of a shaft provided with a cog wheel, and a movable arm provided with a pivoted pawl.

Claim.—1. The shafts *a a*, with cog wheels B B and pulleys *b b*, in combination with the endless chains D D and pulleys *d d*, all constructed and arranged substantially as herein set forth.

2. The arrangement of the shaft I with pulleys J and L L, and pinion H, operating in combination with the pinion G and screw threads on the shaft C to raise or lower the saw frame, substantially as herein set forth.

3. The combination of the shaft I, cog wheel M, and arm N, the latter provided with a dog or pawl, O, and connected in a suitable manner with an engine for the purpose of feeding the saw while the machine is in operation, substantially as herein set forth.

84,519.—Edward P. Underhill, New York, N. Y.—*Device for Attaching Vines to Trellises.*—December 1, 1868.—The device is formed with a base piece provided with two arms or hooks, by which the vine may be readily attached to a wire.

Claim.—The vine lock herein described, as a new article of manufacture, the same being adapted to be applied upon the vine and the trellis wire, and to be secured by a simple movement thereon, substantially in the manner and for the purposes herein set forth.

84,520.—Charles H. Waters, Groton, Mass. *Machine for Painting Wire Cloth.*—December 1, 1868.—The wire cloth is passed through a trough containing paint, between pressure rollers, and under a rotating brush.

Claim.—1. The combined arrangement of wire cloth and mechanism, herein described, for painting wire cloth, consisting of a trough of paint in which the wire cloth is immersed, and adjustable pressure rollers, between which it is passed, and a mechanism, by which the cloth, after being painted, is drawn from the adjustable pressure rollers, substantially in the manner and for the purpose specified.

2. In connection with the combined arrangement of wire cloth and mechanism just described, the employment of a drying room, in which the cloth is suspended vertically while being dried, substantially as herein specified.

3. In combination with the adjustable rollers, which determine the quantity of paint applied to the wire cloth, the employment of a brush, by which the meshes are cleared, substantially as described.

84,521.—Charles H. Waters, Groton, Mass.—*Machine for Printing Figures on Wire Cloth.*—December 1, 1868.

Claim.—The combined arrangement of wire cloth and mechanism, herein described, for painting figures upon wire cloth, consisting of a roller having the figures to be painted engraved thereon, and a pressure roll, between which rollers the wire cloth is passed, a trough of paint, and the rolls by which the paint is applied to the engraved roll, and the mechanism by which the cloth is drawn away from said rollers after the figures are painted thereon, substantially as herein described and set forth.

84,522.—C. Joseph Wirth, Dansville, N. Y.—*Slate Frame.*—December 1, 1868; antedated November 25, 1868.—A rectangular box is attached to the edge of the slate frame, for the purpose of holding pencils, pens, rulers, &c.

Claim.—An attachment for school slate frames, consisting of a narrow oblong metallic box, C, the top of which, D, is hinged to the lower section, forming a cover therefor, said box being provided with narrow flanges for attaching the same to the outer edge of the slate frame, for the purposes set forth.

84,523.—Frederick A. Wood, Jersey City, N. J.—*Bit Brace.*—December 1, 1868; antedated November 19, 1868.—The thimble-shaped clamp is provided with a spiral slot, and connected with a ring outside by means of a pin or screw made fast to the inside of the outer ring.

Claim.—The thimble-shaped ring or clamp D, when provided with the spiral slot C and the longitudinal slot E, in combination with the ring H, for giving to it a longitudinal motion, when constructed and arranged substantially as and for the purpose set forth.

84,524.—John K. Wood, Alleghany City, and David H. Speer, Pittsburg, Pa.—*Churn.*—December 1, 1868.—To the upper portion of the hollow helical dasher is affixed a pipe, which projects through the lid, and at the lower end is an enlarged outlet, by which atmospheric air is forced into the cream.

Claim.—The vertical shaft C, with its operative mechanisms B, B^1, and B^2, and hollow helical dasher

C^1, of the form described, with its inlet pipe C^3 and outlet C^4, in combination with the frame D, when connected to the lid A^1, as described, when constructed, combined, arranged, and operating substantially as herein described and for the purpose set forth.

84,525.—Onofrio Abbruzzo, New York, N. Y.—*Ordnance and other Fire-arms.*—December 1, 1868; antedated November 20, 1868.—The explosive force of the charge is caused to act upon a piston sliding upon the barrel, and connected with and imparting its motion to a device moving within the barrel, and serving, in connection with the gas that acts directly upon the main portion of the base, to project the ball with increased power.

Claim.—1. The provision, in a fire-arm, of a piston, C, confined within a gun, which shall afford increased surface for the expanding gases to act upon, and which shall impel the projectile when the discharge takes place, substantially as described.

2. The combination of the connected piston C and tube C′ with the slit barrel A′, substantially as and for the purpose set forth.

3. The apertures *a a′*, in combination with the piston C and a projectile, F, constructed and operating in the manner and for the purpose explained.

4. The springs D, in combination with the piston C, substantially as and for the purpose explained.

84,526.—James M. Ackerson, La Fayette, N. J.—*Sled Brake.*—December 1, 1868.—A lever dog is pivoted to the sled and operated through a connecting rod by a lever attached to the tongue.

Claim.—The combination of the lever dog A, connecting rod D, and operating lever E, said parts being constructed, arranged, and operating substantially as herein shown and described, and for the purpose set forth.

84,527.—Albert B. Bean, New Haven, Conn., assignor to himself and J. H. Booth, same place.—*Reversible Ratchet Feed.*—December 1, 1868.—A cam bears upon the head of the double pawl so that as the lever is turned in one direction, one end of the pawl will operate upon the ratchet, and, upon reversing the lever, the pawl will be reversed.

Claim.—The double-ended pawl, constructed with the head F, in combination with the lever G, having the cam H arranged therein, so as to operate to reverse the action of the pawl, substantially in the manner herein set forth.

84,528.—Richard Beaumont and William Clarke, Jr., Albany, N. Y.—*Apparatus for Grooming Horses, &c.*—December 1, 1868.—A handled gas burner is connected by a flexible tube to a gas pipe, and is provided with a perforated cross-head pipe, and also with a comb, between which and the cross head is a space for the passage of a current of cool air.

Claim.—In combination with a handled-encased conduct pipe, A, the cross-head pipe F, perforated with the escape holes *a a*, placed as described, and combined with the comb G, in such a manner as to leave the air space *c* between the said cross head F and the comb G, and all constructed and arranged in the manner specified, for the purposes set forth.

84,529.—Byron Boardman, Norwich, Conn.—*Handle for Files.*—December 1, 1868.—A metallic socket or furrule projects from the end of the handle, into which socket a "plug" of wood is inserted, for securing the shank of the instrument.

Claim.—The cylindrical ferrule B, handle A, and plug C, when each part is constructed and arranged, with relation to the others, to operate in the manner and for the purpose substantially as described.

84,530.—James Boyd, Mamaroneck, N. Y., assignor to himself and N. C. Garretson, New York City.—*Window-blind Slat Holder.*—December 1, 1868.—A crank arbor is connected with the slat rod, and provided with a lever pressed against the edge of a notched or corrugated plate, so that both the arbor and slats will be locked in the desired position.

Claim.—The slat-fastening device, consisting of the sliding-crank arbor G, held in the ears E and F, and combined with the lever H, spring I, and notched ridge *c*, all made and operating substantially as herein shown and described.

84,531.—Frederick Bremerman, Indianapolis, Ind.—*Coupling for the Hounds and Poles of Wagons.*—December 1, 1868.—The segment-shaped piece supports the weight of the hounds and tongue, which latter is received by a hinged bed or chamber, for the purpose of relieving the animal's neck of the weight.

Claim.—The device composed of the segment E, bed or chamber F, with flanges H, when constructed and arranged substantially in the manner and for the purposes set forth.

84,532.—A. P. Bryson, Prospect, Pa.—*Churn.*—December 1, 1868.—The dasher is concave on its under side. Its base is of polygonal form, and is provided with a series of oblique wings for imparting a rotary, reciprocating motion to the dasher.

Claim.—The combination and arrangement of the oblique wings *a a*, and concave, perforated revolving dasher, A, substantially as and for the purpose herein specified.

84,533.—Isaac Carey, Warwick, N. Y.—*Water Meter.*—December 1, 1868.—A tilting measure is so arranged in connection with valves and a water supply and discharge tubes, as to be operated by the gravity of the water as the latter passes through it.

Claim.—1. The tilting box B, divided into two compartments, D D′, with the boxes F F′, fitted within said compartments, and provided with valves G G, the boxes F F′ communicating with the tube C by the pipes *d d′*, in connection with the tilting bars or valves I I′, arranged in relation with the discharge pipes *c c′*, to operate in the manner substantially as and for the purpose set forth.

2. The mercury tubes J J′, applied to the tilting bars or valves I I′, substantially as and for the purpose specified.

84,534.—Alanson Carey, New York, N. Y.—*Furnace for Desulphurizing Steel and other Wire.*—December 1, 1868.—The desulphurizing chamber is placed directly above the combustion chamber, and the two communicate by means of valves. The door to the oven is raised and lowered by chains, so that when partially raised it may be turned back to a horizontal position.

Claim.—1. A furnace for desulphurizing wire or other articles or substances, constructed with valve openings between the combustion and desulphurizing chambers, whereby the heat of the fuel has direct access to the wire or article to be desulphurized, substantially as described.

2. The chambers A and B, with valve openings between them, substantially as described.

3. The door H, when the same is hung and operated substantially as described.

84,535.—O. Case and D. B. Evans, Columbus, Ohio.—*Street Lamp.*—December 1, 1868.—Designed for burning benzine. A reservoir is arranged in the frame of the lamp and surrounded by a perforated casing, into which cold air is introduced by suitably arranged pipes.

Claim.—1. The arrangement of the reservoir B and perforated shield B, in the frame of the lamp, substantially as and for the purpose described.

2. The combination, with the reservoir B, arranged within an air chamber, of the pipes F, communicating with the exterior of the lamp, substantially as and for the purpose described.

84,536.—John Q. Crosby, Northborough, Mass.—*Lifting Jack.*—December 1, 1868.—The lever is provided with rollers forming a movable fulcrum, so as to maintain the slide or lifting bar in a vertical position.

Claim.—The rollers G, in combination with the lever F, substantially as described for the purpose specified.

84,537.—Stephen Culver, Newark, N. J.—*Base-burning Stove.*—December 1, 1868.—A current of air is supplied to the lower end of the magazine for the purpose of cooling the same, and also to more perfectly consume the fuel.

Claim.—1. The air chamber *f*, in shape of a frustum of a cone, surrounding the magazine, and provided with air inlet passages from the base of the stove, and a narrow throat between its lower end and the mouth of the magazine, substantially as and for the purposes set forth.

2. Operating the cover of the hopper, through which the magazine is supplied, by means of the concealed hinge, herein described, constructed and arranged substantially as specified.

3. Communicating to the fire grate both a rotary and horizontal movement, by means of the divided axle, herein described, constructed and operated as specified.

84,538.—Henry Thomas Davis, New Cross, Great Britain.—*Damping Trough.*—December 1, 1868.—Consists of a trough or receptacle to hold a damping brush, combined with an atmospheric reservoir.

Claim.—An apparatus for supporting and moistening the damper or brush of a letter-copying press, when constructed and arranged substantially as herein set forth.

84,539.—J. G. Dreher, M. D., Pine Grove, Pa.—*Cheese Cutter.*—December 1, 1868.—The cheese rests upon rollers so that it may be easily turned, and is cut by a hinged knife passing through a radial slot in the table.

Claim.—1. A cheese-cutting apparatus, consisting of a circular or other formed table, A, provided with the slots and rollers and a knife H, substantially as and for the purpose described.

2. The combination with the table of the pins D or O, guides P, and vibrating hand pawl E, all substantially as and for the purpose described.

3. The arrangement, with the knife, pivoted on the stud K, of the guide M, substantially as and for the purpose described.

4. The combination, with the table A and the knife, of the stop N, when all arranged substantially as and for the purpose specified.

84,540.—Roland S. Frame, Washington, Ohio.—*Horse Hay Fork.*.—December 1, 1868.—The lifting blades are connected to a rod which is pivoted at its upper end to a cross lever attached to a tripping lever.

Claim.—The levers E D, in combination with the plates A and connecting rod B, arranged and operating as described, for the purpose specified.

84,541.—Daniel Fuller and Delose Swain, Oakwood, Mich.—*Land Roller.*—December 1, 1868.—The central roller is journaled in the ends of two levers, and independently of the outer rollers, so as to be elevated when desirable, and allow the machine to be easily turned.

Claim.—The arrangement of the rollers C E D, lever *e*, arms *f* and *i*, levers *b b*, and brake *h*, in the manner set forth, and constructed and operating substantially as specified.

84,542.—Frank H. Fuller and Oren S. Severance, South Boston, Mass.—*Lamp-wick Tube.*—December 1, 1868.—The wick tube is lined with isinglass, as being a non-conductor of heat, and is designed to prevent the generation of gas.

Claim.—The combination, with the lamp-wick tube, of isinglass lining, substantially as and for the purpose described.

84,543.—Robert Gidly, Freedom Plains, N. Y.—*Rock-drilling Machine.*—December 1, 1868.—The frame is so constructed as to admit of adjustment to bring the drill into any desired position. The drill has a reciprocating and also an intermittent rotary motion.

Claim.—1. The frame C D E F of a rock-drilling machine, when such frame is made adjustable around the axis of the beam C, and around the pivot *g*, substantially as herein shown and described.

2. The legs B, pivoted by the pin *b* to the side of the frame A, the outer end of said pin having an eye, *a*, in which the legs are adjusted vertically, as herein described, for the purpose specified.

3. The combination of the winged wheel I with the up-and-down as well as with the laterally-movable bar M, from which latter the pins *l* and *m* project, as set forth.

4. The up-and-down as well as the sideways-moving bar M, in combination with the lever J, spring L, rod N, rack *o*, and ratchet wheel *p*, all made and operating substantially as herein shown and described.

5. Imparting an intermittent, rotary motion to the drill shaft N, by means of the sliding pinion *p*, horizontal rack *o*, and vibrating bar M, arranged and operating as herein shown and described.

84,544.—J. A. Glenn, West Middlesex, Pa.—*Horse Hay Fork.*—December 1, 1868.—The elevating cutter is pivoted to two bars, one of which slides, so that by moving one of the bars the cutter will be in proper position for raising the hay.

Claim.—1. The arrangement of the elongated draught bar A and its hook B, bar E and hook D, with lever G, bar F and rope H, all constructed and operating as herein shown and described.

2. The arrangement of the lever G, rope H, handle C, pulley *d*, and slotted and curved bar F, all substantially as herein set forth.

84,545.—Albert W. Ham, Stockport, N. Y.—*Shifting Jack for Carriage Thills.*—December 1, 1868.—A projecting bar is attached to the axletree by clips, and is slotted to receive the jack, so that shafts or tongues of different widths may be readily fitted to the vehicle.

Claim.—The forwardly-projecting holders D D′, supporting the single-shank jacks C C′, as arranged with the separated clips B B′, as and for the purpose described.

84,546.—Hugh Hanna, Pittsburg, Pa.—*Threshing Machine.*—December 1, 1868.—The cylinder is so arranged as to be made reversible in position, to adapt it to threshing either grain or clover, timothy, &c. The concave is also made adjustable toward or from the cylinder, and the sections composing the concave are adapted for detachment, so that their number may be increased or diminished in order to admit of sections bearing projections suited for special kinds of work.

Claim.—1. A cylinder or threshing reel, B, having beaters *b b′* arranged transversely in pairs, and one beater of a pair to project beyond its partner, substantially as and for the purpose set forth.

2. The adjustable concave C, constructed of sections or bars C′, bent plates N, removable blocks *n*, projection *c*, plates c^2, wires c^1, rod J, and bolts K K^1 K^2, combined and adapted to operate as and for the purpose set forth.

3. The retarding and separating roller H *h*, applied and operating substantially as described.

4. The combination of the cylinder B, the adjustable concave C, the retarding roller H *h*, and the feed roller F *f*, all arranged within the frame or casing A, as herein described and represented.

84,547.—C. Hanson, Owatonna, Mc.—*Harrow.*—December 1, 1868.—The side beams are curved and connected together by cross bars and braces, in which are set teeth of peculiar form.

Claim.—An improved harrow frame, formed by the combination of the curved side bars A, brace straps B, cross bars C, teeth E, and brace straps D, with each other, substantially as herein shown and described and for the purpose set forth.

84,548.—Charles H. Holdredge, Westerly, R. I.—*Box for Carriage Wheels.*—December 1, 1868.—The box is constructed with transverse notches or grooves near its outer end, to receive keys or wedges, so as to secure the box against longitudinal movement. On the inner flange is a series of wedge-shaped projections adapted to enter corresponding recesses in the end of the wooden hub, to prevent the latter from turning upon the box.

Claim.—1. The box C, of uniform exterior diameter, provided with the transverse notches or grooves *a*, and the radial wedge-shaped projections G, formed upon the flange E, substantially as described, for the purpose specified.

2. The box C, secured within the hub A by means of the transverse notches *a* and keys *b*, and prevented from turning therein by means of the wedge-shaped projections G, fitting within recesses in the end of said hub, substantially as herein shown and described.

3. The combination of the box C, wedge-shaped projections G, and the transverse keys *b* with the hub A, substantially as described, for the purpose specified.

84,549.—OPHELIA C. HOTCHKISS, Cortlandville, N. Y.—*Ironing Table.*—December 1, 1868.—The bed of the table is formed of two tapering pieces joined together by dowels, so that one piece can readily be detached from the other, and from the frame.

Claim.—The combination of the beds *a* and B with the frame *c c'* and dowels *d d*, arranged and operating as and for the purposes specified.

84,550.—J. S. HOUGHTON, Philadelphia, Pa.—*Compound for Coating the Outside Walls of Buildings.*—December 1, 1868.—Composed of scarlet calcareous paint, brown calcareous paint, oxide of iron, mineral black, hydraulic lime, and water.

Claim.—The chemical compound, consisting of the above-mentioned ingredients, and variable proportions of the same ingredients, to be applied with a brush, for coating and coloring the exterior brick, stone, and mortar walls of buildings, substantially as above described.

84,551.—A. B. JOHNSON, Washington, Ind.—*Horse Rake.*—December 1, 1868.—Adjustable stirrups enable the frame to be adapted to wagon wheels of different sizes. A toothed wheel and a hooked pawl serve to turn the rake head over, in connection with a lever.

Claim.—1. Hanging the wheels B B to adjustable stirrups, *a a*, fastened on the middle of the side framing A, arranged as and for the purpose specified.

2. The combination of the toothed wheel *d*, the pawl *h*, and the lever *g*, arranged substantially as and for the purpose herein described.

3. The rod *h*, combined with the slide *k* and the spring *m*, arranged and operating as and for the purpose set forth.

84,552.—A. C. KAISER, Vienna, Mo.—*Knife Cleaner.*—December 1, 1868.—The handles of the knives are secured to a reciprocating bed-plate, so as to throw the blades forward and backward, between a set of cushioned rollers coated with some scouring substance.

Claim.—1. The combination of the bed-plate B, its seats *b*, with cushioned rollers D, when arranged and operated substantially as described and set forth.

2. The bed plate B, in combination with the driving shaft C, resting in adjustable pillar blocks A^1, and connecting-rod attachments B^2 b^1 b^2, substantially as and for the purpose set forth.

84,553.—HENRY KIME, Marshalltown, Iowa.—*Calk Sharpener.*—December 1, 1868.—A nib plate is pivoted within the recess of one of the handles of the instrument, and so arranged in relation to the other handle that the heel of the latter will actuate the lever extension of the nib plate, so as to cut the calk with a tapering cut.

Claim.—An instrument for cutting off the points of horseshoe calks, constructed substantially as shown and described, consisting of the nib plate E, having the lever extension *d*, and point *f*, in combination with the recessed handle B, and operated upon by the lever D, substantially as set forth.

84,554.—MARTIN V. B. KNOWLES, Wakefield, R. I.—*Chalk-line Reel.*—December 1, 1868.—A spring is made to wind up the chalk line when the latter has been drawn out, and it is also made to pass through a chalk receptacle for the purpose of chalking it.

Claim.—1. The combination of the spring *a*, reel *x*, chalk line *z*, and chalk box D, through which the line passes, substantially as and for the purpose set forth.

2. The hook, composed of the forked bar *f*, tongue *q*, and spring *v*, substantially as described, and for the purpose set forth.

84,555.—JOSEPH KOBEELE, St. Louis, Mo.—*Button.*—December 1, 1868.—Folding wings, operated by suitable mechanism within the head of the button or stud, are folded so that the button shaft will easily pass into the button hole or other slot, and then spread so as to prevent the return of the wings, or release of the button, except upon proper operation by the wearer.

Claim.—1. Unfolding and folding the wings G, by a thumb piece B or pressure slide *c*, from the outer button surface, substantially as set forth.

2. The lever C, operating in the lock slot *e* of the plate E by the tappet c^2, substantially as and for the purpose set forth.

3. The plate E, its tappet c^2, the plate *f*, its slots f^1, and shaft F, operating the teeth f^2 and wings G, substantially as set forth.

84,556.—THOMAS LANGSTON, Brooklyn, N. Y.—*Lantern.*—December 1, 1868.

Claim.—Fastening the upper and lower parts of a lantern together by means of clasps D D, pivoted to the flange *a* on the base, and working over said flange, and over the ring *d* on the upper part, said ring having the guards *c c* attached thereto, and setting inside the rim *b* on the flange *a*, substantially as herein set forth.

84,557.—ELIJAH LINDSLEY, Neenah, Wis.—*Threshing Machine.*—December 1, 1868.—The sieve is open at both ends, and is provided on the inside with a number of bent teeth. Under the sieve is an inclined board upon which the separated grain falls. A spout, to which a reciprocating motion is imparted, carries off the shuck, &c.

Claim.—1. The cylindrical sieve D, provided with bent teeth *i i* along its ribs, and resting on four rollers C C, which are placed one near each end of the two shafts B B, and one of said shafts being turned, imparts the necessary rotary motion to the sieve, substantially as herein set forth.

2. The arrangement of the frame A, sieve D, and inclined board J, as and for the purposes set forth.

3. The wind boards H H, arranged as described, between the fan and the sieve, for the purpose of regulating the draught to the latter, substantially as herein set forth.

4. The arrangement of the spout K, rod *f*, and wheel L, constructed and operating substantially as and for the purposes herein set forth.

84,558.—WILLIAM LINDON, New Haven, Conn.—*Watch Key.*—December 1, 1868.—A spring or plate is arranged outside of the key barrel so as to keep it closed when not in use.

Claim.—In combination with the key A, the plate B, pivoted to the key, and bent so as to cover the barrel, and arranged thereon so as to be turned to and from the barrel, as and for the purpose specified.

84,559.—ABRAHAM W. LOZIER, New York, N. Y.—*Horse Hay Fork.*—December 1, 1868.—To the main bar are secured two curved tines of different lengths, and a straight tine, which latter is retained in place while the fork is being elevated by a spring catch; and is also provided with slots and a plate, which act as a gauge to regulate the quantity of hay to be taken up, according to the power used.

Claim.—1. The combination and arrangement, with the bar A and rigid tine B, of the movable tine C and tripping lever E, the whole constructed and operating substantially as described, and for the purpose set forth.

2. The horizontal bar A, rigid tine B, movable tine C, and tripping lever E, in combination with the lever handle F, the whole constructed and operating substantially as described.

3. The combination of the bar A and tines B and C with the supplementary tine D, for holding the load of hay with greater security, substantially as described, and for the purpose specified.

4. So constructing the supplementary tine D that it may be used as a gauge for taking up the desired quantity of hay, substantially as described and specified.

5. The projecting pivot *f*, in combination with the tine C and bar A, substantially as described, and for the purpose set forth.

84,560.—Abraham W. Lozier, New York, N. Y.—*Hay Loader.*—December 1, 1868.—The crane is secured to an upright, and has attached to it a hinged arm, on the under side of which is secured a plate which turns on a pivot, and is held between two catches, by detaching one of which latter, the crane is allowed to swing around.

Claim.—1. The combination, with the upright standard A, of the arm B, connecting arm C, and the hook F, the whole constructed and operating substantially as described.

2. The combination, with the upright standard A and arm B, provided with the arm C, of the mechanism for holding the arm in place on and releasing it from the upright while loading and discharging the load, substantially as described and specified.

3. The combination, with the upright A, and the arms, constructed substantially as described, of the pin-clevis wheel, for elevating the load, substantially as described and specified.

84,561.—Louis F. Lannay, Indianapolis, Ind., and William F. Parks, Baltimore, Md.—*Combined Bristle Washing and Combing Machine.*—December 1, 1868.—Relates to an improvement upon a machine patented to L. F. Lannay, May 19, 1868, and consists in combining therewith a combing apparatus, whereby the two operations of combing and washing may be accomplished at once.

Claim.—1. The combination, with the washing apparatus A C, of the combs E, substantially as and for the purpose described.

2. The combination of the same, when the combs are arranged to have the longitudinal and oscillatory movements, or either separately, substantially as and for the purpose described.

3. The combination, with the reciprocating frame A, of the pawl lever O, pawl N, wheel M, levers H G, and the combs, all substantially as and for the purpose described.

4. The combination, with the combs E, of the arms S, and springs R, substantially as and for the purpose described.

84,562.—Wesley Malick, Tidioute, Pa.—*Machine for Pointing Hooks, Staples, &c.*—December 1, 1868.—The rollers are provided respectively with a male and female die. The unfinished staples are placed in the hopper so that the bow end shall pass through the same first, when they are drawn between the rollers and finished.

Claim.—The frames M M and F, the sliding boxes L L, and the set screws N N, in combination with the wheels E and C, the rollers D^1 and D^2, the adjustable hopper A, and the male and female dies H and P, when the same are constructed and arranged as described, and in the aforesaid combination.

84,563.—George W. Marsh, Clinton, N. C.—*Plow.*—December 1, 1868.—The upper portion of the moldboard is dispensed with so as to admit of the application of a harrow attachment.

Claim.—The combination, with a plow A, of a harrow attachment, arranged and operating substantially as herein described and represented.

84,564.—Lucienne G. Matthews, New Albany, Ind.—*Book Binding.*—December 1, 1868.—To one side of the back is attached a paper tuck to receive blank paper or pages of a book.

Claim.—The combination of the book A with the cover B, when the same are connected together by one or more pockets and tucks, substantially as and for the purpose described.

84,565.—Edmond P. McCarthy and James Johnston, San Francisco, Cal.—*Anchor.*—December 1, 1868.—Two sets of arms and flukes are arranged at right angles to each other, and in the center of one of the arms is formed a cam, operated by the other arms, so that when the strain is applied to the cable, and one of the flukes enters the bottom, it causes the others to enter also.

Claim.—The arm G, having the cam I, in combination with the arm D, with its flukes J J, and the projections *c c*, or an equivalent device, operating the arm G by means of the cam, the whole constructed and arranged substantially as herein described.

84,566.—Isaac M. Milbank, Greenfield Hill, Conn.—*Breech-loading Fire-arm.*—December 1, 1868.—The object is to cock the hammer as a preliminary operation in opening the breech, and to effect the opening of the breech by a continuation of the motion that cocked the hammer. The trigger is locked so that the piece cannot be accidentally discharged, and the hammer is used as a means for locking the breech block in place.

Claim.—1. The lever *g*, actuating the firing pin as the breech is opened, in combination with the sliding hammer and bolt, substantially as and for the purposes set forth.

2. The movable block *m*, in combination with the hammer *h*, bolt *h′*, and spring *k*, as and for the purposes set forth.

3. The trigger lock, formed of the spring *t′*, swinging block *t*, and projection *u*, in combination with the trigger *d*, for the purposes and as set forth.

84,567.—James Moody, Harwich, Mass.—*Wagon Jack.*—December 1, 1868.

Claim.—The wagon-jack, constructed as described, of the base block a^2, parallel side bars a^1, provided with vertical slots, and carrying the notched block *b′*, the intermediate parallel bars B, slotted vertically, the interior parallel bars C, having the curved slots, the fixed pin E, sliding pin F, and lever D, all operating as described, whereby, as the bars B C and pin F are raised by the depression of the lever, the bars C are thrown rearward, locking the lever D in position, for the purpose specified.

84,568.—Q. R. Moor, Peter Moor, and E. L. Patrick, Forest Hill, Ind.—*Corn Planter.*—December 1, 1868.—The parts are so arranged as that two rows of corn can be planted at the same time, and the machine is easily adjusted to suit any kind of ground or depth of plowing desired.

Claim.—1. The arrangement of the boxes E E, grain boxes F F, and the slides G G, all constructed as described, and operating substantially as and for the purposes set forth.

2. The wheels H H, constructed as described and held on the driving wheels B B by means of the slotted blocks I I, and provided with a series of rounded blocks, J J, on their inner sides, for the purpose of operating the slides G G, substantially as herein set forth.

3. The arrangement of the lever *n*, rods *m m*, and springs *l l*, for the purpose of throwing the slides G G in and out of gear, to be operated or not by the wheels H H, as may be desired, substantially as herein set forth.

84,569.—Thomas J. Murphy, Rochester, N. Y.—*Automatic Gate.*—December 1, 1868; antedated November 18, 1868.—The gates are opened and closed by the weight of a vehicle, the front wheels of which pass over levers operating to raise and lower slides on which the gates are hung.

Claim.—1. The swinging lever E, in combination with the slide D, elbow levers C, rod B, and lever A, substantially as and for the purpose described.

2. The swinging lever E, in combination with loops F H, elbow levers G I N, rods K M, and levers L O, substantially as and for the purpose described.

84,570.—Daniel Neff, Amsterdam, N. Y.—*Road Scraper.*—December 1, 1868.—The edge of the scraper is made to conform to the surface of the ground over which it is moving without regard to the position of the carriage or axle by which the scraper is drawn.

Claim.—The self-adjusting reach, having a swivelled metal bolt embedded horizontally therein, to be used as a connection for and in combination with a scraper, *d d d*, and carriage *a a a a*, constructed substantially the same as described in the foregoing specification.

84,571.—James Nevison, Morgan, Ohio.—*Corn Dropper.*—December 1, 1868.—The case is attached to a sack which is secured to the waist by the operator, and by pushing the slide a certain number of seeds will drop into the hand.

Claim.—The case A, slide C, springs G, as arranged in combination with the sack or bag I, as and for the purpose specified.

84,572.—Solomon Oppenheimer, Peru, Ind.—*Milk Pail.*—December 1, 1868; antedated November 30, 1868.—A valve on the lower part of the hopper is kept open by a lever operated by a rod as the latter rests on the ground. In case the pail is upset, the valve is automatically closed so that no milk can escape.

Claim—1. The lever C, having movable swivel hinges, as shown at L, for the purpose specified.

2. The rod O, when constructed as shown, having shoulder *z* and cap *x*, for the purpose shown and explained.

3. A handle on the milk pail, for the rod to pass through, having a pipe connected with it, in a manner as shown.

4. The combination of all the above described parts, when constructed as shown, and used and applied on a milk pail.

84,573.—William B. Pardee, New Haven, Conn.—*Top Prop for Carriages.*—December 1, 1868.—A sleeve is placed over the bolt, and over this the brace, so as to bind the parts firmly together. The form of the head prevents the bolt from turning while the nut is being screwed down.

Claim.—1. A top-prop bolt, constructed with the T-shaped head D, so as to be secured upon the bow by the ends of the said T, substantially as set forth.

2. In a top-prop, in which a sleeve, E, is passed over the bolt, the nut F, arranged so as to secure the parts substantially in the manner and for the purpose specified.

84,574.—Edward Payne, London, England, assignor to himself, and Edward Chaplin, Montreal, Canada.—*Composition for Cattle Food.*—December 1, 1868.

Claim.—1. The improved composition for cattle food, by mixing refuse of grain, either before or after distillation, or other pulp, the residuum of analogous processes, with linseed meal, pease meal, bran, or other farinaceous and aromatic substances, substatially in the manner and proportions described.

2. The use of the refuse matter, when treated in the same manner, but without the addition of the other substances.

84,575.—S. G. Peabody, Champaign, Ill.—*Cultivator.*—December 1, 1868.—To a swiveled shaft or arm, near one wheel, is attached a geared segment which meshes with a similar segment upon another swiveled shaft, so arranged that by moving the rear ends of the beam in either direction the direction of the wheels will be instantly changed.

Claim.—1. An arrangement of mechanism by means of which the direction of the wheels F may be changed by the lateral movement of the plow beams H, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the bushes or tubes C, swiveled shaft or axle E, gear wheels or segments of gear wheels J K, and swiveled shaft G, with each other, and with the wheel F, cross-bar B, and plow beams H, substantially as herein shown and described, and for the purpose set forth.

84,576.—George Phillips, Cadet, Mo.—*Rock Drill.*—December 1, 1868.—The drill is actuated by a cylinder and piston in which steam or compressed air is employed, in combination with devices for controlling and regulating the operation of the drill.

Claim.—1. The slide bar H, with its diagonal slot *a*, and the lever V, with a slotted head, P, both constructed and operated substantially as shown and described, in combination with the stud *n*, for the purpose of operating the valve of a drilling machine by the piston rod of the same, all as set forth.

2. The ratchet pinion O, in combination with the ratchet rod M, slide plate H, lever V, and piston rod F, of a drilling machine, all operating substantially as shown and described, to rotate the drill G of a drilling machine, in the manner set forth.

3. The projections *h* and *g*, of the plates I and N, substantially as shown and described, and for the purpose of forming guides for the guide rod L′, all as set forth.

4. The plate I and uprights U U of a drilling machine, in combination with the cylinder A of the same, substantially as and for the purpose shown and described.

84,577.—Jonathan Pickering, Stockton-on-Tees, England.—*Apparatus for Raising Weights.*—December 1, 1868.—On one side of a chain pulley is fixed a crank pin or eccentric having a toothed wheel which revolves loosely upon the said crank pin, and is made to revolve with the chain pulley also. The toothed wheel is surrounded by two internal-toothed wheels of the size of the orbit of the former, and provided with one or more teeth different in number. One of the said orbit wheels is fixed to the framework and the other is loose upon the axle.

Claim.—1. An apparatus for raising weights and for other purposes, consisting of a frame, *h*, having mounted therein, on an axle or shaft, *i*, a chain pulley, *c*, provided with an eccentric or pin, *e*, having a planet wheel, *d*, thereon, gearing into and rotated by a stationary wheel, *f*, and also gearing into and turning a loose wheel, *g*, the stationary wheel acting as a fulcrum for the planet wheel in giving motion to the loose wheel, all constructed and arranged to operate as herein described.

2. The chain pulley *c*, with its eccentric, *e*, having mounted thereon a planet wheel, *d*, in combination with a fixed wheel, *f*, or their equivalents, for giving motion to a loose wheel, *g*, or its equivalent, when constructed and arranged to operate as herein described, and for the purposes set forth.

84,578.—Joseph H. Raynard, Lynn, Mass.—*Machine for Manufacturing Parceling.*—December 1, 1868.—The tank is divided at or near its center by a transverse movable partition or slide, so as to be raised or lowered as occasion requires.

Claim.—1. In the manufacture of parceling or tarred-canvas covering for ropes, seams, &c., in vessels, the employment of a machine, substantially as herein described; that is to say, consisting of cutting and drawing and pressure rolls, in combination with an interposed tank for the tar in which the material is immersed, and bobbins or spools upon which the prepared canvas is wound in rolls, the said parts being constructed and arranged for joint operation, as shown and set forth.

2. The combination of the tank *c* and slide *n*, constructed as described, with the pressure and cutting rolls, in the manner and for the purposes specified.

84,579.—L. G. Rice, Montague, Mass.—*Device for Measuring Skirts.*—December 1, 1868.—A skeleton frame is enveloped with a covering in the form of a skirt, and adjusted to a position corresponding to the height of the waist of a person to be fitted.

Claim.—The combination of the cords I, or equivalent, the spring F, and hoop H, with the base B, frame A, and cover G, whereby, as the waist E is adjusted upon the frame, the tension of the cover is preserved, substantially as described, for the purpose specified.

84,580.—Sarah Rueger, Kansas City, Mo.—*Mammalial Liniment.*—December 1, 1868.—Composed of tea and whisky boiled in water, and after being strained the decoction is again boiled down.

Claim.—The combination of the materials in the proportions and in the manner herein described, and for the purpose set forth.

84,581.—Hiram Russell and Myron S. Fuller, Nashville, Mich.—*Spring Bed Bottom.*—December 1, 1868.—The bed-bottom slats are hung on elastic bands, so that they may be free to turn, the bands being fastened by screws or nails.

Claim.—The journal slats A supported in bearing blocks *b*, in combination with the elastic webbing *w*, and recesses and keys D in the cross-bars C, substantially as and for the purpose specified.

84,582.—William H. Salisbury, Lawrence, Mass.—*Process for the Preparation of Woolen Cloths for Dyeing.*—December 1, 1868.—The cloth is wound upon two cylinders, placed at a short distance apart and covered with water heated to the proper temperature, or exposed to steam.

Claim.—In the preparation of cloth for dyeing by boiling, the exposure of both surfaces of the cloth, while in a state of tension and submerged in a suitable vessel, freely and equally to the action of boiling water or steam, in the manner above described, or by any equivalent means of producing that result.

84,583.—Robert Saylor and Eli T. Rhodes, Marshall, Mich. —*Anvil for Forming Horseshoe Calks.*—December 1, 1868.—In a steel-faced plate is sunk a vertical groove, and the faces on each side of the groove are inclined, so as to give the proper taper to the inner sides of the calk when the horseshoe is placed within the groove.

Claim.—The double-inclined anvil plate A, having a transverse groove and slot, *e*, in combination with the standard B, substantially as and for the purpose set forth.

84,584. — Thomas Sargeant, Williamsburg, N. Y.—*Stair Rod.*—December 1, 1868.—The rod is held in hollow sockets by a movable knob and bayonet fastening.

Claim.—The fastening device, consisting of the slotted socket C and the movable knob G, having its pin *h*, in combination with the stair rod A and socket B, all arranged as described, for the purpose specified.

84,585.—J. B. Sargent, New Haven, Conn.—*Blind Staple.*—December 1, 1868.

Claim.—As an improved article of manufacture, the herein-described staple, constructed with the corrugations extending from or near the base of the point *f*, and increasing in depth, and so as to spread the metal from the point, and with or without the indentation *d*, as set forth and described.

84,586.—Joseph Shackleton, Rahway, N. J. —*Steam Exhaust Regulator.*—December 1, 1868.—The valve is adjusted to the pressure of the steam by compressing or relaxing the spring held within the tube, by means of a disk secured to the end of the spindle, the object being to utilize the exhaust steam.

Claim.—The arrangement of the valve D with its conical cup-seat C, the stem E, cap F, projection G, tube H, spring I, disk J, screw K, and check-nut L, substantially as herein set forth.

84,587.—George V. Sloat, Morrisania, N. Y. — *Boiler-flue Cleaner.* — December 1, 1868. — Consists of a set of tools adapted by their particular shape to operate on the scale deposited on different parts of the flue, and on flues in different situations.

Claim.—The chipping head A, with one or more cutting edges B, on either side of head B, when arranged in reference to the shank C and cross-piece D, substantially as described.

84,588.—A. B. Spies, Sterling, Ill., assignor to John K. Journey, same place.—*Cultivator.*—December 1, 1868.—An arrangement of devices for facilitating the lateral movement of the plow beams, and raising them from the ground.

Claim.—1. Connecting the frame E to the axle A by means of the roller I, link H, yoke J, and clevis *e*, all arranged as and for the purpose set forth.

2. The lever K, applied to the frame E and axle A, in the manner substantially as and for the purpose set forth.

3. The curved bar L, attached to the axle A, swivel pulley M, clevis *e*, rope or chain N, and bar O, all combined and arranged to operate in the manner substantially as and for the purpose set forth.

84,589.—Jonathan Sprague, Ann Arbor, and Alva T. Hill, Pontiac, Mich.—*Sewing Machine.*—December 1, 1868.—The needle holder is so arranged as to be vibrated automatically, to change the position of the needle at each downward motion, in order to adapt the machine to button-hole stitching, felling, &c.

Claim. — 1. The combination, with the sliding holder *b*, of the vibrating lever *e*, slide *l*, and cam-grooved plate *f*, provided with the spring K, substantially as and for the purpose described.

2. The combination, with the cam-grooved plate *f*, of the elliptical spring K, substantially as and for the purpose described.

84,590.—Thomas Starr, New Lisbon, Ohio.—*Animal Power.*—December 1, 1868.—Designed for operating churns, grindstones, and for similar domestic purposes, and is made adjustable to adapt it for animals of different weights and sizes.

Claim.—1. The web C, consisting of the strips or belts *r*, having the slats *b*, and beveled blocks *m* connected thereto, and arranged as described.

2. Adjusting the rear end of the frame B vertically, by changing the position of its supporting pin in the holes C of the frame A, substantially as herein described, for the purpose of giving any desired incline to the web C, as set forth.

3. The adjustable roller *h*, and notches *o*, of the frame B, when constructed and arranged substantially as described, to compensate for the stretching of the web C, as set forth.

84,591.—Canceled.

84,592. —William Tell Street, Frankford, Pa. —*Life Line for Sea Bathing.*—December 1, 1868.—A series of lines is suspended from stays attached at one end to masts and at the other end to anchors, for the use and safety of bathers.

Claim.—The combination of the masts A, gaffs D, stays G, life lines J, piles H, and anchors and buoys I K, either or both, and cork lines L M, with each other, substantially as herein shown and described, and for the purpose set forth.

84,593. —Robert Taylor and Frederick Strow, Philadelphia, Pa.—*Apparatus for Molding Pots and Crucibles*—December 1, 1868.—The vertical bar to which the former is attached is made to slide in guides, to which latter a horizontal motion is imparted by means of a rack and lever. The motion of the sliding bar and horizontal slides is limited by means of adjustable collars.

Claim.—The arrangement, herein described, of the rack and pinion with the vertical and horizontal slides, and their adjustable collars, all in relative connection with the rotating mold, substantially as shown and set forth.

84,594.—Francis Van Doren, Adrian, Mich. —*Corn Planter.*—December 1, 1868.—An adjustable slide in the seed chamber enables the latter to be made larger or smaller to accommodate a greater or less quantity of seed to be dropped from the hopper of a hand seed planter when it is deposited in the ground by a plunger.

Claim.—The recessed shuttle E, in combination with the adjustable slide *a*, seed chamber C, and plunger A, all constructed in the manner substantially as set forth and described.

84,595.—Francis Van Doren, Adrian, Mich. —*Shingle Stool.*—December 1, 1868.—Four wheels provided with sharp teeth are attached to bars of unequal length for each two wheels, and provided with a seat, to form a wheeled stool for a workman to sit upon while laying shingles upon a roof.

Claim.—The combination of the seat S, the metallic bars *m n*, bent to form legs of unequal length, and the four serrated wheels *a a′ b b′*, all constructed, arranged, and employed in the manner and for the purpose herein specified.

84,596.—William M. Warren and Charles A. Warren, Watertown, Conn., assignors to the Warren Manufacturing Company, same place.—*Sash Fastener.* — December 1, 1868. — A toothed pinion in the window case meshes in a rack secured to the window sash, and is fastened by a pin provided with trunnions, which work in helical slots in a tube through which the locking pin passes. A detachable winding apparatus is also used when necessary to set the pinions in balancing the sash.

Claim.—1. The combination, with the locking pinion C, of the locking pin F, arranged to be withdrawn, and held by means of inclined grooves K and L, when a rotary movement is communicated to it, as arranged and shown, and for the purpose described.

2. The combination, with a spring-actuated balancing pinion for sash fastening, of a detachable winding apparatus, with its hook D, pin Q, and frame, arranged as and for the purpose described.

84,597.—Le Roy B. Wheeler, Madison, Wis.—*Washing Machine.*—December 1, 1868.—The surface of the cylinder is composed of a series of triangular pieces or stops, with one side smaller than the other, and is used in connection with a set of rollers in a hinged band resting on the cylinder, and provided with a string and button for holding and alternating the clothes.

Claim.—The cylinder P, with the stops or triangular pieces *a b*, constructed as described, and provided with a string and button, for holding and alternating the clothes, so as to wash them on both sides, in combination with the concave or rollers E E, all constructed, arranged, and operated in the manner and for the purpose set forth.

84,598.—Luke Wheelock, New Haven, Conn., assignor to Winchester Repeating Arms Company, same place.—*Magazine Fire-arm.*—December 1, 1868.—An auxiliary sear is so arranged that when the trigger guard is depressed, it will catch the hammer when at full cock, and be thrown out from the hammer when the guard is returned to its place; but while the same is supporting the hammer, the principal sear cannot release the hammer, and can only do so when the auxiliary sear is removed by the return of the guard.

Claim.—The auxiliary sear *d*, combined with the hammer and trigger guard, and principal sear, so as to operate substantially in the manner herein set forth.

84,599.—Milton D. Whipple, Cambridge, Mass.—*Felting Hats.*—December 1, 1868.—A flat circular piece of felting material is shaped into a hat form by means of a former, which is gradually forced into a mold, while the rim is at the same time properly formed by being passed between two condensing rollers and two manipulators, so as to lubricate and compact together the felting fibers.

Claim.—1. The process herein described of forming hats, by felting the same into proper shape from a flat circular piece of suitable material, by a continuous automatic operation, substantially as set forth.

2. The combination of the manipulators r r' with the conical rollers, as and for the purpose described.

3. The combination, with the conical rollers, of the mold *b* and movable disk *c*, substantially as and for the purpose set forth.

4. The combination of the disk *c*, rod *e*, and spring e' with the cam *f*, substantially as and for the purpose described.

84,600.—August Wilhelms, St. Petersburgh, Russia.—*Chimney.*—December 1, 1868.—The "rectificator" consists of a central portion of cylindrical form with an upper and lower part of a double conical form, and inclosing the upper end of a tube provided with curved arms which support a biconical deflector; the object being to cause the consumption of smoke in furnaces and fire chambers.

Claim.—The rectificator A, with the biconical deflector C at the lower part of the chimney, in connection with the deflector F and spherical frame E, covered with an iron grating *d* on the top of the chimney, all constructed and arranged substantially as and for the purpose set forth.

84,601.—Alonzo S. Woodward, Pepperell, Mass.—*Wagon Hub.*—December 1, 1868.—The hub is made of cast metal, in three parts, held together by longitudinal bolts.

Claim.—1. The hollow cast metal hub, composed of the parts A, C, and B, the latter having the box cast thereon, and the whole fitted together as described, and held by bolts *a*, all as set forth.

2. The packing rings *e* and *f*, and packing strips *k*, substantially as described, in combination with the hollow cast metal hub, as above set forth.

3. The part B of the hub, provided with the inclined lubricating hole *n*, when said hole is closed by the perforated cap *p* and the elastic packing disk *q*, as herein described, for the purpose specified.

84,602.—Albert F. Yardell, San Francisco, Cal.—*Propulsion of Vessels.*—December 1, 1868.—A box or tank loaded with freight or ballast is suspended above the keelson, so that the action of the ship as it is pitched by the sea will impart motion to the box and actuate a propeller suitably attached to the stern of the vessel.

Claim.—1. The bar or tank C, capable of containing cargo, arranged and operating substantially as described, for the purpose of communicating motion to the propeller of a vessel.

2. In combination with the tank C, the rod I, segment J, pinion K, gears L L^1 L^2, ratchets P, and pawls P', arranged and operating substantially as described, to give a rotary motion to the shaft M.

3. Interposing a coiled spring, S, between the power shaft and the propeller shaft, for the purpose of equalizing or continuing the action of the power upon the propeller, substantially as described.

84,603.—Charles W. Aiken, Decatur, Ill.—*Wagon Seat.*—December 1, 1868.—The springs incline toward and meet at the center, their inner ends being formed of wedge-shaped blocks, which are secured to slotted beams by means of bolts, so as to be readily adjusted to wagons of different sizes.

Claim.—1. The springs C, with triangular blocks *c* formed at their lower ends, in combination with a wagon seat, substantially as and for the purposes described.

2. The device for adjusting a wagon seat to any sized wagon, consisting of the slotted beams D, bolts *b*, nuts *e*, and side pieces E, substantially as and for the purposes set forth.

84,604.—J. M. Allison, Cranberry, Pa.—*Corn Planter.*—December 1, 1868.—The machine is so constructed as to plant three or four rows of corn at the same time.

Claim.—A corn planter having marking plows A, rollers B, D, and E, with pins *a*, covering plows *b*, castors *c*, lever *d*, rods *e* and *g*, and their duplicates, as described, and springs and pins *h*, operating with slides at the bottoms of the seed-boxes, all constructed, arranged, and operating substantially as herein specified.

84,605.—William Baxter, Newark, N. J., assignor to himself and William D. Russell, same place.—*Wrench.*—December 1, 1868.

Claim.—1. An adjustable S-wrench, composed of two parts, mortised and tenoned together in the manner and for the purposes described.

2. The combination, with the two mortised and tenoned parts of the S-wrench, of a right and left-hand screw, and thumb-piece to operate it, substantially as and for the purposes set forth.

3. The construction and combination of the two parts composing the S-wrench, each being provided with a tenon and mortise, arranged on opposite ends, so that the plane of movement of the two parts shall be in the direction of the length of the wrench, and at right angles or transversely to the jaws, as set forth.

4. The combination, in an adjustable S-wrench, as described, of scales upon the divided wrench shank, with the right and left-hand screw and thumb-piece, arranged within a recess formed in the two parts of the said shank, as and for the purposes set forth.

5. The tenons formed upon and at right angles to the inner jaws, in combination with the corresponding mortises in the heads of the outer jaws, substan-

tially as and for the purposes herein shown and set forth.

6. The construction and arrangement of the larger and smaller jaws of the wrench, so that, when the smaller jaws are completely closed, the larger will be open to the maximum extent of the former, as and for the purposes set forth.

7. The formation of the mortise and tenon in the body of the divided shank of an adjustable wrench, and upon that side of the division line between the two parts of the shank nearest the jaws, substantially as and for the purposes set forth.

84.606.—Sigismund Beer, New York, N. Y.—*Mode of Preventing the Counterfeiting of Bank Notes, &c.*—December 1, 1868.—The material is first made inimitable by the use of surface plates on which designs have been, in whole or in part, produced by nature, in the structural formation of the fiber of plants, as a piece of grained walnut, ash, &c., cut of the size of the note wanted.

Claim.—Making a bank note or other printed article inimitable, substantially in the manner and by the means described.

84,607.—George W. Blake, New York, N. Y.—*Steam Generator.*—December 1, 1868.—At the end of a series of tubes, which are bent at a right angle, or nearly so, are arranged chambers, by which intermediate joints are dispensed with and increased facility afforded for the contraction and expansion of the tubes.

Claim.—1. The arrangement of the hollow headers G and F with the pipes M, bent as described.

2. The hollow headers G and F, of corrugated construction on their sides, to admit of the alternate triangular arrangement of the pipes, and to form a close joint with the adjacent header, as shown and described.

84,608.—George W. Blake, New York, N. Y. *Ventilation.*—December 1, 1868.—Each of the separate room flues is provided with a radiator, so that each room shall have an independent supply of heated air separately heated.

Claim.—1. The arrangement of radiators within the room flues, substantially as and for the purpose or purposes herein set forth.

2. The combination, with the fresh air shaft, and radiators arranged within the room flues, as described, of a valve, operating automatically, to prevent an upward current being established through said shaft, but freely admitting of a downward one through the same, essentially as specified.

84,609.—Louis Brauer, Washington, D. C.—*Apparatus for Making Extracts and Decoctions from Coffee and other Substances.*—December 1, 1868.—Water is introduced into the outer chamber through a funnel-shaped tube, and, as it becomes heated, passes up through a central tube upon the coffee or other substance in the upper chamber, and thence into the lower chamber.

Claim.—1. The apparatus herein described, composed of the two vessels *a* and *b*, the outer vessel *a*, surrounding the bottom and sides, or lower portion, of the vessel *b*, substantially as described.

2. The vessels *a* and *b*, united by means of flanges or their equivalent, so as to be united or detached at will, substantially as described.

3. The funnel-shaped mouth piece *h*, with closely fitting stopper, in combination with the vessels *a* and *b*, substantially as described.

84,610.—James A. Caldwell, Horseheads, N. Y.—*Corn Sheller.*—December 1, 1868.—A toothed drum with a convex surface is arranged within a toothed concave sectional shell, below which is suspended a vibrating sieve. Springs are placed between portions of the concave, to admit of their yielding to large-sized ears of corn.

Claim.—The corn sheller, as composed of the drum F, with convex surface and armed with teeth; the concave sectional shell K^1, K^2, K^{10}, also armed with teeth, and perforated between the teeth; the springs *s s*; the sieve T T, with the attachment for shaking the same; the fan P; all constructed for the purpose as specified.

84,611.—Isaac H. Chappell and James Montgomery, Decatur, Ill.—*Cultivator.*—December 1, 1868.—The draught pole is pivoted laterally on a pin passing through a slot in the seat bar, so as to allow of a lateral movement of the plow frame, while a horizontal movement is also given to it by the said slot.

Claim.—1. A cultivator, the draught pole and plow frame of which are pivoted on the seat bar, substantially as and for the purposes set forth.

2. The attachment of the draught pole to the seat bar by means of the pin *a* pivoted in slot *c* and nut *d*, substantially as and for the purposes set forth.

84,612.—Felix Chillingworth, Springfield, Mass.—*Scabbard for Trowel Bayonet.*—December 1, 1868.—The scabbard is provided with a spring for closing its mouth, to exclude rain and snow.

Claim.—A scabbard for trowel-shaped bayonets, constructed and arranged as described.

84,613.—Isaac H. Clark, Boston, Mass.—*Application of Carbonic Acid in Fire Engines.*—December 1, 1868; antedated November 27, 1868.

Claim.—1. Combining with the discharge water of a force pump or fire engine a stream, jet, or flowage of carbonic acid gas, for the purpose and to produce results before stated.

2. As one mode of producing and applying the said gas, the employment of the furnace constructed as before explained, and combined with the air pump and discharge water of the engine, essentially as herein shown and described.

3. The combination with a force pump or engine, otherwise of ordinary or well-known construction, of an air pump for introducing or ejecting carbonic acid gas into the discharge water of such engine after such water may have left the pump cylinders, or the purposes substantially as before explained.

84,614.—Samuel H. Halstead, Godfrey, Ill., administrator of the estate of Jesse R. Clough, deceased.—*Windmill.*—December 1, 1868.—The vanes are so constructed as to cause the wing to act twice upon each one, first upon impact against the outer faces, and then upon the inner faces on the side of the wheel opposite the place of entrance.

Claim.—The triangular vanes L, arranged substantially as described, so that their narrow faces, P, are exposed to the direct action of the wind on entering the wheel, and the adjoining faces, Q, are exposed to its action when leaving the wheel.

84,615.—Joseph Crampton, New York, N. Y.—*Steam Engine Valve Gear.*—December 1, 1868.—The valve gear is attached to a reversing arm or lever, arranged, in swinging it, to cross to opposite sides of the cylinder trunnions, so that, as the said lever is thrown to one side or the other, the valve is shifted to reverse the action of the engine.

Claim.—The combination of the reversing lever G, link F, and valve-operating beam E, the whole arranged relatively to each other, and to the cylinder trunnion and valve, substantially as and for the purpose herein specified.

84,616.—Silas Crispin, New York, N. Y.—*Cartridge Box.*—December 1, 1868.—The carrier block is detachable, and perforated above and below for the reception of cartridges, so as to be inverted when the first tier of cartridges is exhausted, and is provided with a leather flap to hold the cartridges in place. The ends of the block are supported upon ledges or battens in the corners of the box.

Claim.—1. The removable carrier block B, when provided with its own flap, and adapted to fit an outer case or cartridge box, substantially as and for the purposes described.

2. In combination with the cartridge-carrier block B and the outer case or cartridge box, the ledges or battens *a′*, applied in the manner and for the purpose described.

84,617.—W. H. De Valin, Sacramento, Cal.—*Steam, Gas, and Water Stop Cock.*—December 1, 1868.—Designed to allow the valve and other working parts to accommodate themselves to the wear in the direction of the pressure, without cramping or interfering with each other.

Claim.—1. In a stop-cock, in which the valve or plug is arranged within the case, in the manner described, the combination of the valve with a disconnected flanged valve stem, having its seat or bearing against the cap by which the valve chamber is closed, and held in place by means of a handle, arranged and operating substantially as herein described.

2. The combination and arrangement of the valve stem and cap for closing the valve chamber, with the handle for operating the stem, and the cap and spring for retaining the handle in place, and holding said stem up in its seat, substantially as herein specified.

3. A stop cock, such as described, having the valve stem, formed in two parts, hinged together above the point where the stem bears or fits against the cap, for closing the valve chamber.

4. The recessed and grooved handle and knob, and the flanged or winged cap, in combination with the valve-operating stem, said parts being constructed and arranged to operate, as herein shown and specified.

84,618.—JEAN CHARLES DROUHARD and ADOLPHE LEWIS ROYÉ, New York, N. Y.—*Table.*—December 1, 1868.—The table is so constructed as to be made convertible at pleasure into a center table, two console tables, or two card tables.

Claim.—1. The divided center pillar C, so constructed and combined with the legs *a* as to form the central support of a center table, one of the three legs of two console tables, and two of the four legs of two card tables, substantially as herein described.

2. The combination of the jointed brace G, hinged arms *d′*, fixed legs *a a*, and movable legs or divisions *c c*, of the divided center pillar, substantially as and for the purpose herein set forth.

84,619.—SAMUEL S. ELDER, Springfield, Ill.—*Churn.*—December 1, 1868.—The agitators are so placed upon the arms as to cause their greatest surface to strike forcibly upon the cream.

Claim.—1. The within-described construction and arrangement of agitators F.

2. The combination of the driving mechanism, arranged as described, with the agitators F and C.

84,620. — W. L. EPPERSON, Louisville, Ky.—*Mortising Machine.* — December 1, 1868. — An increased leverage, when it is principally needed, is given to the short arm of the treadle by the addition of a toothed segment, moving in the slotted cross piece, in connection with a cogged lever. The tool carrier is attached to a rod connected with the treadle, and the chisel is secured in place by means of a screw.

Claim.—1. A treadle, or lever, for operating a mortising machine, the short arm of which is lengthened automatically as the lever is moved to operate the machine.

2. The combination of the cogged lever F, and the segment E, and connecting rod H, substantially as shown and described.

3. The arrangement of the adjustable tool carrier A^4, screw O, and connecting rod H, substantially as shown and described.

84,621. — MAX EYTH, New York, N. Y.—*Rope Bearing Attachment in Machines for Steam Culture.* —December 1, 1868. — Projecting from the sides of the cultivator are two arms curved upward, and extending to such a height above the ground as to pass over the growing crops.

Claim.—Curving the arms or "outstrippers" *a a′* upward, so that the same will clear the growing crops, as herein shown and described.

84,622. — JOSHUA GARSED, Frankford, Pa.—*Steam-engine Register.* — December 1, 1868. — For regulating the speed and indicating the number of revolutions of a steam engine, and is especially adapted to cotton or woolen mills, to indicate the amount of work done in a given time.

Claim.—1. The disk M D, cross piece C P, arms A and A′, shaft S, and worm W, flange F L, wheel T W, cap C, and its boss R B, lever L and its pawl P, shaft U S, wheel T W′ and worm W′, shaft S′, and worm W″, wheel T W″, and hand H, all arranged, constructed, and combined, in the manner and for the purposes herein set forth.

2. A register for steam engines, or other purposes, arranged and operating substantially in the manner herein specified.

84,623.—JOHN GIBBS, Brooklyn, E. D., N. Y.—*Lamp.*—December 1, 1868.—A movable roller is furnished with an operating sliding stem, and so combined with a wick tube and the feed roller as to more readily raise the wick.

Claim.—The pressure roller or rollers *d*, supported in slots *c′*, when operated by the sliding stem *e*, in combination with the feed roller C, substantially as shown and described.

84,624.—HENRY H. GRAY, Haverstraw, N. Y., assignor to himself and MOSES B. PARDEE, Norwalk, Conn.—*Brick Machine.*—December 1, 1868.—By adjusting the stops, the throw of the plunger can be changed, and a positive unyielding motion is imparted to the plunger in whatever position the said stops may be brought. A yielding bar is made to impart motion to the pusher bar of the mold, so that in case of obstruction the pitman will be automatically disengaged.

Claim.—1. The stair-shaped stops *j*, in combination with standard *l*, cross bar *e*, and plunger F, substantially as and for the purpose set forth.

2. The yielding latch *b′*, in combination with the pusher bar *r*, substantially as and for the purpose described.

84,625. — W. D. GRIMSHAW, Newark, N. J.—*Stamp and Die for Sheet Metal.*—December 1, 1868. —Consists in arranging and adapting several cylinders with pistons, to give varied pressures upon the sheet, required for the production of sunken work, which shall be as smooth and perfect on the sides as on the bottom.

Claim.—1. The employment of four cylinders, y^1 y^2 y^3 y^4, combined with the main cylinder F, to equalize the pressure upon the four corners of the guide plate H, Fig. 4, when descending on the four guide posts z^1 z^2 z^3 z^4, constructed, adapted and arranged substantially as set forth.

2. The top plate C, with circular passages *x*, *w*, and *v*, in combination with the five cylinders, as specified and shown.

3. The levers *o m n l*, and the treadles *p* and *q*, when combined with the five cylinders for graduating the pressure upon the plate H, Fig. 4.

84,626.—ELIZABETH HAWKS, Vineland, N. J.—*Heating Stove.*—December 1, 1868.—The base is provided with a double bottom, and the upper part is divided into two chambers, in the partition between which are holes provided with slides, by opening or closing which, the base can be heated or not, at will.

Claim.—1. The base, A, constructed as described, with a partition B, dividing it into two chambers, and which partition is provided with holes *b b*, and slides L L, substantially as and for the purposes herein set forth.

2. The arrangement of the cylinders D and E, and upright plates F F, forming a flue for the passage of the smoke, &c., and leaving the balance of the chamber between said cylinders for hot air, substantially as herein set forth.

84,627. — RICHARD M. HOE and STEPHEN D. TUCKER, New York, N. Y.—*Printing Press.*—December 1, 1868.—The sheets, as they come from the printing mechanism, are directed alternately on opposite sides, so as to be delivered in two piles, either by two separate "fly" frames or a double-acting "fly" frame. The plates are clamped directly to the surface of the type cylinder, so as to dispense with the use of blocks and iron frames commonly used.

Claim.—1. The combination of two feeding tables with the means described, or the equivalent thereof, for taking the sheets of paper alternately from the opposite feeding tables, and conducting them to the impression cylinder, substantially as and for the purpose described.

2. Separating the sheets by mechanism, substantially as described, so that they will be delivered in files, substantially as set forth and specified.

3. The means, substantially as herein described, for clamping stereotype or other printing plates directly to the surface of a type cylinder, as set forth.

84,628.—ROBERT HUNTER, New York, N. Y.—*Toy Fish.*—December 1, 1868.—A vibrating tail is made of thin elastic material, and operated by a coil spring and ordinary gearing.

Claim.—The application of the vibrating tail as a propeller for mechanical fish, toy boats, &c., substantially as and for the purpose stated.

84,629.—F. C. JACKSON, Peru, Ind.—*Boot Crimper.*—December 1, 1868.—When the slide is lowered the frames are made to close upon the outer edges of the crimping board.

Claim.—The slide B, provided with two triangular frames, projecting inward, and operated as specified, to cause an equal pressure on the board D, as herein shown and described.

84,630.—GEORGE A. JENKS, Chicago, Ill., assignor to himself and JAMES MAGUIRE, same place.—*Butt Hinge.*—December 1, 1868.—When the wing is applied to a door, it may be lifted without detachment, and still be detachable by stopping in the proper position.

Claim.—The arrangement and construction of the two wings of the butt, with their pivots, on the upper and lower bowl, pointing toward the center, with a recess for the other bowl c, by which the hinge or butt can be adjusted, substantially as shown and described.

84,631.—WILLIAM C. JOSLIN, Putnam, Conn.—*Machine for Reducing Leather.*—December 1, 1868.—Relates to a machine described in a patent to the same inventor of September 24, 1867, and consists in combining with the receiving and delivering rolls and bed in the said machine, a flat reciprocating knife, instead of a cylindrical and rotating one.

Claim.—The combination, with the receiving and delivering rolls B B, C C, bed D, and reciprocating knife or reducer E, of the sliding blocks I I, and cranks or eccentrics, with their pitmen or rods H H, arranged for operation together, essentially as specified.

84,632.—MORITZ LAEMMEL, Bay Ridge, N. Y.—*Mechanical Movement.*—December 1, 1868.—By adjusting the shaft nearer to or further from the peripheries of the lever segments, the leverage of the segments may be increased or diminished at pleasure. The lever segment may be turned in one direction or the other by a dog and friction strap, so as to bind or release the pulley.

Claim.—The arrangement of an adjustable shaft B, in combination with the lever segments C, operated alternately by treadles or hand levers, and connected to the shaft B by clutch pulleys, or other equivalent mechanism, substantially in the manner and for the purpose shown and described.

2. The arrangement of a dog E, and friction strap i, in combination with a pulley, b, lever segment C, and shaft B, substantially as and for the purpose set forth.

84,633.—P. A. LA FRANCE, Elmira, N. Y., assignor to himself and OLIVER B. GRAY, New York City.—*Wash Pounder.*—December 1, 1868.—To the under side of an ordinary pounder for cleansing clothing is secured a rubber bottom or pad to render it less injurious in operation.

Claim.—A rubber shield or pad attachment to a wash pounder, in general form and device substantially as and for the purposes described.

84,634.—JAMES B. LOGAN, Richview, Ill.—*Gang Plow.*—December 1, 1868.—The plows are arranged to be raised and lowered in a vertical, instead of a curved line.

Claim.—The combination and arrangement of the beams H, swinging beams O and G, the hangers F, and lever E, the arrangement being such that the plows are drawn by the levers O, which are attached to the forward ends of the levers thereof, substantially as shown and described.

84,635.—JACOB LONG, Shaver's Creek, Pa.—*Explosive Projectile.*—December 1, 1868.—A shell is loaded with a number of bands or tubes, each containing five musket charges of powder and balls, and provided with fuses, which shall ignite from the explosion of the shell.

Claim.—The combination of a loaded shell with the barrels A, each containing several charges of powder and ball, arranged so as to discharge their contents in succession after the bursting of the shell, substantially as described.

84,636.—CHARLES B. LOVELESS, Syracuse, N. Y.—*Manufacture of Illuminating Gas.*—December 1, 1868.—Hydrogen gas is carbureted with the light oils of petroleum for illuminating purposes. Oxygen gas is used in connection with hydrogen gas, for manufacturing purposes, by the aid of the oxy-hydrogen blowpipe.

Claim.—1. The combination of the battery h as constructed with the oil reservoir a' containing perforated lead pipe n, and gasometer a, and float b, for generating hydrocarbon gas, as herein set forth.

2. The combination of the pipe k', lead pipe n, with perforations, pipes l, and t, and o, with gasometer, and descending gas pipe r with gasometer, and pipe d with gas burner, also the rod q q' with pipe g, for guiding the float in the gasometer.

3. The perforated lead pipe n, with oil reservoir a', as described and for the purposes set forth.

4. The heater g, constructed substantially as described, and operating as and for the purposes set forth.

5. The combination of the pipes k and k'', as described, and for the purposes of an oxy-hydrogen blowpipe, as set forth.

84,637.—JOHN N. LYMAN, New York, N. Y.—*Revolving Stay Log for Cutting Veneers.*—December 1, 1868.—The stay log is adjustable relatively to its journals, so that the peripheral surface of the log or section of timber may revolve at a more uniform distance from the knife or cutting edge.

Claim.—A revolving stay log, constructed as described, and for the purpose herein set forth.

84,638.—E. V. MACHETTE, Jr., and E. M. CRARY, Philadelphia, Pa.—*Cement.*—December 1, 1868.—To be used in place of putty. Consists of whiting, and china, porcelain, or kaolin clay, incorporated with linseed oil.

Claim.—A cement, composed of the above-named ingredients in or about the proportions aforesaid, for the purpose specified.

84,639.—JOHN MALTPRESS, Edgerton, Wis.—*Grate for Brick Kilns.*—December 1, 1868.—There are as many dampers and levers as there are sections of the grate; the draught is controlled at each section irrespective of the others, and the sections may be sifted from one kiln to another.

Claim.—The movable grates B B, constructed as described, in sections, and provided with dampers a a, said dampers being operated by levers b b, for the purpose of increasing or diminishing the heat in the whole or part of a brick kiln, substantially as and for the purposes herein set forth.

84,640.—HENRY MARX, Pikesville, Md.—*Apparatus for Reducing Wood to Paper Pulp.*—December 1, 1868.—The blocks of wood are held against the grindstone by a chain, partially surrounding the chain and blocks and kept tense by a pendent weight. After being coarsely ground, the wood particles pass between the lower surface of the same grindstone and a stationary stone, and are thus comminuted.

Claim.—1. The stone, O, employed for regrinding fragments separated from the blocks by the stone, B, substantially as and for the purpose explained.

2. The chain E, employed to hold or press the blocks to the surface of the stone B, substantially as explained.

3. The counter chain H, for retracting the chain D, for the insertion of fresh blocks.

84,641.—L. H. Maudelbaum, New York, N. Y. —*Fluted Trimming.*—December 1, 1868.—The row or rows of large flutes are bounded on either side by parallel rows of small flutes which have marginal, flattened borders.

Claim.—The within described compound fluting, made of muslin or other suitable material, and composed of large, regularly formed flutes *c c*, divided by straight-line depressions *e e*, and bounded on either side by more numerous and smaller flutes *b b* having flattened borders *a a* exterior to them, substantially as shown and described.

84,642.—Henry McGann, Cleveland, Ohio.—*Automatic Boiler Feeder.*—December 1, 1868.—The water in the shell rises and falls with that in the boiler, and owing to the consequent ascent and descent of the float therein, the arm is vibrated and the valve shifted so as to shut off and admit the feed water.

Claim.—1. The combination of the slide valve F with the arm D, shaft *a*, float B, case A, and chest C, substantially as specified.

2. The supplementary chest C, in combination with the shell A, as set forth.

84,643.—Patrick J. McGuiness, New York, N. Y.—*Martingale.*—December 1, 1868.—The martingale consists of a leather strap and a rubber strap riveted together, and having loops at their free ends. These ends are respectively attached to the surcingle, and a fancy chain hooked to the bit ring, the horse's head being allowed free motion while the martingale preserves its standing character.

Claim.—As a new article of manufacture, an ornamental elastic standing martingale, consisting of the leather loop A, rubber-elastic strap D, metallic flat-tube chains H, and swiveled snap hooks I, all constructed and arranged as herein described.

84,644.—James Myers, Jr., Brooklyn, N. Y., assignor to Barron's Steel Manufacturing Company.—*Mode of Producing Steel.*—December 1, 1868.—The carbon of refuse cast iron is eliminated by heat, to convert the material into malleable cast iron, which, together with additional malleable cast iron, is subjected to a high degree of heat, while carbon, in the form of gas, or liquid hydrocarbon, is applied. The heat being properly maintained, the iron is gradually converted into steel.

Claim.—1. The conversion of cast iron into steel, by the combination of the two processes of decarburation and recarburation above described, in the manner and for the purpose substantially as above stated.

2. The conversion of articles of malleable cast iron, produced by any known process, into steel, by the application of gases produced from any solid or liquid carbonaceous substances, in the manner substantially as described.

3. The production of cast steel, by remelting steel formed from malleable cast iron, when made in the manner above described.

84,645.—William Potts, Handsworth, England.—*Hook and Cornice for Suspending Pictures.*—December 1, 1868.

Claim.—A metallic picture rail, that is to say, a metallic strip or bar, whose lower or inner edge is turned upward, so as to constitute a rail upon which the picture-supporting hooks can freely slide, provided with an ornamental covering or casing of a metallic or non-metallic substance, as described, and attached to the wall of the room by means of screws or staples, in the manner shown and set forth.

84,646.—John W. Richards, Newark, N. J.—*Low-water Indicator.*—December 1, 1868.—The tube in which the valve is seated communicates with the boiler, and is occupied by water so long as the water does not fall too low; but in that event steam takes the place of water in the tube, and, by reason of the consequent expansion thereof, the valve is opened, and steam is conducted through its hollow stem to a whistle.

Claim.—The fixed valve E, constructed of a tubular character, as described, and hung so as to be capable of expansion away from its seat, for action in concert with the tube D, substantially as described.

84,647.—Seelye Richmond, Annapolis, Md.—*Last-block Elevator and Instep Stretcher.*—December 1, 1868.—The nut, through which the operating screw passes, plays freely in the recess of the last block. The block may be elevated by a short screw taking into a nut in the last, or by a long screw resting upon a bearing screwed into said nut.

Claim.—1. The inclining slot *b*, in the rear part of the last block B, in combination with the nut D, substantially as and for the purpose set forth.

2. The combination of the slot *b*, nut D, short screw C, and nut F, when operating as a last-block elevator, substantially as described.

3. The screw socket H, when constructed as described and shown, and operating in a last, substantially as and for the purpose set forth.

84,648.—Ephraim Russell, Waynesburg, assignor to himself and Reynard Yost, Honey Brook, Pa.—*Car Coupling.*—December 1, 1868.—The entire coupling may be detached and carried away for safe-keeping. When the device is held up by the handle the ends of the link can be dropped into the respective slots of the adjacent draw-heads, and the link may be as readily lifted to effect the disengagement.

Claim.—The open link A, and the sliding handle B, in combination with a slotted draw-head, all constructed and operating together, substantially as and for the purpose described.

84,649.—Roger Sandiford, Joliet, Ill.—*Cultivator.*—December 1, 1868.—Provision is made for the vertical and lateral adjustment of the plow-beam; for relieving from draught strain the pin that couples the beam to the clevis; for uniting the ends of the frame timbers without using mortise and tenon joints, and for supporting the plows when the machine is traveling, but not operating.

Claim.—1. The segmental oscillating coupling-clevis, shown in Figs. 1 and 2, consisting of the parts *a d n*, and the part *o*, shown in Fig. 3, when applied to a cultivator in the manner and for the purposes set forth.

3. The metal cross-piece A, in combination with the post or frame *c* and supporting arms B B, constructed and arranged in the manner described.

84,650.—Frederick M. Shepard, New York, N. Y.—*Water-proof Shoe.*—December 1, 1868.—Consists in inserting within an India-rubber sole a plate of metal, or other material, which will resist the vulcanizing heat, and to which, after vulcanization, is applied an outer sole of leather or other material suitable to resist the cutting action of sharp stones, shells, &c., when the shoes are in use.

Claim.—A boot, shoe, or other such like article, made of vulcanized India-rubber or allied gum, with a plate, or sections of a plate, or the equivalent thereof, made of metal or equivalent material, imbedded in the India-rubber sole while in the green or plastic state, to which, after vulcanization, an outer sole can be secured, substantially as and for the purpose specified.

84,651.—James S. Smith, Brooklyn, N. Y.—*Cartridge Holder.*—December 1, 1868.—The cartridges are retained in holes, corresponding approximately to the diameters of the cartridges, the holding springs being part of the top and bottom pieces, which are formed of reed metal, or the brass made for the tongues of reed instruments.

Claim.—The casing or holder herein described, adapted to receive cartridges, and to support them with firmness by the springs *n*, formed of the same metal as the respective pieces B and C, substantially as and for the purposes herein set forth.

84,652.—Andrew Smith, Portland, Oregon, assignor to T. J. Carter and W. P. Watson, same place.—*Gang Plow.*—December 1, 1868.—Relates to the mode of attaching the plow to the beam, attaching and supporting the forward end of the plow beams; also to the construction of the supporting frame, and a novel ratchet apparatus for elevating the plows.

Claim.—1. The combination of the lever O, having the offset *o*, with the ratchet P, rod R, having the tooth or shoulder *r*, and lever T, the whole operating substantially as and for the purpose described.

2. The arrangement of such frame, when constructed as herein described, in combination with a downward-bent axle D, the box strap *e*, the braces H H, the draught pole G, and the wheels F F.

3. The arrangement of the clevis K, braces H H′, king bolt C, cross bar A^3, and axle D, the axle being behind the king bolt, and the latter being supported by the braces and the cross bar, substantially as herein described.

4. The braces *u* and *v*, attached at their lower ends, respectively, to the moldboard and standard, and at their upper ends provided with screw threads, upon which are fitted, above and below the plow beam, through which the braces pass, adjusting screw nuts, substantially as and for the purpose specified.

84,653.—BYRON SNYDER, Clinton, Wis.—*Farm Gate.*—December 1, 1868.—The outer end of the latch bar is pivoted to the vibrating end of the eccentric lever, so that when the endless band is put in motion, by rotating the pulleys in opening the gate, the latch bar is drawn backward, so as to disengage from the latch, the gate being opened by said motion, and held open by a self-acting latch provided for the purpose.

Claim.—The rigid lever E, eccentric lever D, and latch bar F, in combination with the pulleys I I, cranks *i i*, endless band or chain K K, clasps *a a*, gate A A, posts B C *c″* H H, and latches *f* and *g*, when constructed substantially as described, to operate as specified.

84,654.—DANIEL E. SOMES, Washington, D. C.—*Construction of Rubber and other Elastic Springs.*—December 1, 1868.—The effective elasticity of the spring increases in proportion to the pressure or weight it is called upon to sustain.

Claim.—1. A spring, composed of a series of elastic tubes, one within another, substantially as set forth.

2. A spring, composed of a series of elastic spheres' one within another, and either air-tight or perforated' substantially as set forth.

3. A spring, composed of elastic tubes or spheres, surrounded by elastic bands or rings, substantially as set forth.

84,655.—NATHAN THOMPSON, Brooklyn, E. D., N. Y.—*Box to contain Cigars, Money, &c.*—December 1, 1868.—The mouth or opening of the box is formed by the removal of a peripheral portion, covered by the lid, and concentric with the pivots upon which the lid turns.

Claim.—The combination, with the box or shell A, of the lid or cover B, pivoted, by or through side arms *b b*, to the sides of the box, for operation in relation to the mouth thereof, substantially as shown and described.

84,656.—WILLIAM R. TOBY, Nunda, and BYRON J. BARCALO, Mount Morris, N. Y.—*Revolving Harrow.*—December 1, 1868.—The revolving motion of the harrow is produced by a weighty roller resting upon one side. This roller is journaled upon an arm attached to the beam by a universal joint, and is held in any desired position by the attachment of said arm to a slack chain, which admits of the free, vertical movement of the roller passing over the rough ground. The roller may be shifted from side to side. The draught rod has a point of attachment behind as well as in front of the center, and is adjustable, to avoid undue friction upon the roller at the rear.

Claim.—1. The combination of the slack chain *d* with the weighted rollers D, arm *b*, and beam B, arranged as described,, and operating substantially as and for the purpose described.

2. The draught rod *g* and gauge bearing *h*, in combination with the beam B and friction roller *i*, arranged and operating substantially as and for the purpose herein set forth.

84,657.—CHARLES L. TUCKER, Chicago, Ill.—*Box for Lard, Butter, and Similar Substances.*—December 1, 1868.—The coating composition is impervious to and insoluble in the oleaginous substances which the boxes contain. It is proposed to add to the compound such substances as terra-alba, kaoline, or gypsum.

Claim.—1. As a new article of manufacture, a box for packing lard, butter, and other similar substances, made by coating wood, pasteboard, or other suitable material, with a stiffening cement of glue and starch, with or without earthy materials, substantially as described.

2. A cement for preparing boxes composed of glue or gelatine, combined with starch or its equivalent, with or without the addition of earthy materials, as described.

84,658.—WILLIAM B. TUCKER, Columbus, Ohio.—*Churn.*—December 1, 1868.—The vertical bars of the dasher are diamond-shaped in transverse section.

Claim.—A churn dasher of a diamond form, as herein shown and described, as an improvement on my letters-patent bearing date March 12, 1868.

84,659.—A. B. VANDEMARK, Phelps, N. Y.—*Combination Lock.*—December 1, 1868.—The tumblers have spring bearings cut out of and struck up from the surface. The arrangement of cams on the spindle is such that when the spindle is pressed out, the cams engage with two of the tumblers, by turning in opposite directions, and when drawn in they engage with the other two in the same manner.

Claim.—The combination and arrangement, with the disk tumblers E E^1 E^2 E^3, provided with spring bearings *k k* of the cams D D on the spindle, having an end motion to engage in one position with two of the tumblers, and in opposite position, with the other two, said tumblers, by twos, being set by the reverse turns of the spindle, as herein set forth.

84,660.—W. W. VANDERBILT, New York, N. Y.—*Operating Capstan.*—December 1, 1868.—The connections between the pumping engines and the pumps may be readily uncoupled, and the capstan thrown into gear with said engines. A regulating screw is combined with the friction clutch, which throws the capstan into gear with the engines, so that the effect of said clutch, respecting the power or speed of the capstan, may be varied.

Claim.—1. The arrangement and combination of the engines A A, couplings *a a*, pumps C C, gear-wheels *f g i*, capstan E, and friction cone *j*, all constructed and operating substantially as and for the purpose herein set forth.

2. The regulating screw *s*, in combination with the lever *q*, friction cone *j*, cog wheels *f g*, and capstan E, substantially as and for the purpose described.

3. The arrangement of the back gear *m o*, in combination with the cog wheel *l*, bevel wheels *f g*, capstan E, crank shaft D, and engines A A, all as and for the purpose shown and described.

84,661.—FREDERIC VEAZIE, Worcester, Mass.—*Blind Fastener.*—December 1, 1868.—The cavity in the bed plate receives the spring, and the raised portion being sunk into the bottom of the shutter, the top plate, to which the levers are attached, protects the spring from moisture, and the shoulders on the same having raised points, curved so as to receive the catch pin on the sill, the shutter is prevented from striking said pin.

Claim.—The construction and arrangement of the blind fastener, having the raised surface *d*, the shoulder *g*, and cavity B, to hold the spring E and notches and shoulders on the bed piece, when constructed and operating in the manner and for the purposes above set forth and described.

84,662.—WILLIAM T. WARD, Indianapolis, Ind.—*Wagon Brake.*—December 1, 1868.—The weights are on the ends of arms projecting rearward from the cross bar, which carries cam-shaped brakes at its ends, said brakes being applied to the wheels by the partial rotation of the cross bar produced by the unrestrained gravitation of the weights. A chain attached to the sliding draught evener is drawn tense to rotate the brake bar, and take off the brakes when the wagon starts. The slack condition of the chain may be maintained by means of a pin, to prevent the brakes from being taken off by the forward movement of the wagon when the team is unattended.

Claim.—1. The application of one or more weights H, by whose specific gravity the cams or rubbers F are kept to the periphery of the wheels, substantially in the manner and for the purposes specified.

2. The strap L, provided with the holes n n, and bolt or pin O, as and for the purposes set forth.

84,663.—F. Washbourne, New York, N. Y.—*Screw.*—December 1, 1868.—In turning the screw with the screwdriver, the instrument takes hold of the slot in the shank, avoiding the liability of wrenching off the head.

Claim.—In a screw, the head and shank of which are made in separate pieces, extending the slot D in the head of the screw downward into the shank, substantially as described.

84,664.—Jarvis B. White, Detroit, Mich.—*Combination Lock.*—December 1, 1868.—The positions of the dials on the drawer must be made to correspond with the known positions in which the disks on the frame or casing are fixed, in order to admit of the passage of the projections on the rods through, and their withdrawal from, the slots in said disks, the locking and unlocking being thereby effected.

Claim.—1. The projections d d' on the rods C C′, in combination with the series of holes and the slots e e' on disks f f', substantially as and for the purposes set forth.

2. The combination lock, consisting of the rods C C′, provided with projections c c' and d d', and with dials a a', and knobs b b', attached to and passing through the drawer, and engaging with the slotted revolving disks f f' secured by rims h h', over recesses j, in the back wall of the casing, all arranged constructed, and operating substantially as and for the purposes set forth.

84,665.—Jarvis B. White, Detroit, Mich.—*Carriage Jack.*—December 1, 1868.—When the lever is depressed, the strap is wound upon its circular end and made to act on the lifting bar.

Claim.—The carriage jack, consisting of the side pieces A A′, lifting-bar C, straps D, arranged and operating substantially as described.

84,666.—Albert Windeck, Peoria, Ill.—*Corn Planter.*—December 1, 1868.—The sliding parts are guided on the ribs, and hence they are not liable to bind or jam. The corn falls through the holes in the slides and is retained upon the plate below till the slide makes a succeeding movement, when it falls into the tube and is retained therein by the valve; a reverse movement of the valve liberates it and it then falls to the ground. The form of the cut-off teeth gives them a free, unobstructed movement among the corn.

Claim.—1. The slides a a, with forks m, for operating the valves k, in combination with plates R, having ribs j j, fitting the grooves, and gauges b, substantially in the manner and for the purpose as herein set forth.

2. The valves k, in combination with the slides a a, when constructed and operated substantially as set forth.

3. The construction of the valves k, curved straight across at their bottom ends outwardly, and divided in the middle, at their upper ends, and curved outwardly in reverse directions, substantially as and for the purpose set forth.

4. The construction of the plate d, with diamond-shaped teeth, for cut-offs, in the bottom of the seed boxes, substantially in the manner and for the purpose as set forth.

84,667.—J. L. Winslow, Portland, Me.—*Lubricating Axle.*—December 1, 1868.—The journal may belong to either a rotating shaft, or a carriage axle. In the one case the rotary motion, and in the other the jar of travel, causes the movable pins to slide forth and back in their holes, and the lubricating material is consequently allowed to ooze or work its way out of the journal to the inner side of the box. The collar, in conjunction with the cavities of the journal, forms the oil reservoir.

Claim.—The hollow journal, having the parts d h, collar k, and sliding pieces e e, as and for the purposes set forth.

84,668.—Frederick Whitton, South Carrollton, Ky.—*Churn.*—December 1, 1868.—The notched and perforated wings are fixed to the dasher rod so as to slightly decline; and the upper pair is fixed sufficiently above the lower pair to permit the milk to pass freely between them.

Claim.—The churn dasher, composed of the piston A and the four pieces B B B B, arranged together, and constructed as and for the purpose set forth as described.

84,669.—Samuel Warren Henlon, Selma, Ala.—*Suspender.*—December 1, 1868; antedated June 1, 1868.—Each suspender has two straps united at the ends by pieces of leather (called attaching straps) having the button holes in them. The object it to more comfortably support the garment, and give the suspenders the function of shoulder braces.

Claim.—The suspender, or shoulder brace, composed of two single straps C C, each passing from its attaching strap at the one side, over the shoulder, to the attaching strap on the other side of the body, substantially as herein stated.

84,670.—John Annear, Philadelphia, Pa.—*Punching Machine for Tin and Sheet Metal.*—December 8, 1868.—A horizontal rotary bed plate carries and supports the dies, and is combined with a punch and a "former," so constructed and arranged as to punch out and turn the edge, and discharge the finished disk of sheet metal during each rotary motion of the actuating shaft.

Claim.—The rotary bed plate C, the punch D d', and the "former" E e', the same being constructed and arranged to be operated together, in any suitable frame, A B, substantially as and for the purpose described.

84,671.—Robert Breckenridge Baker and Charles James Adolphus Dick, Paris, France, assignors to the American Anti-Incrustation Company.—*Device for Preventing Incrustation in Steam Generators.*—December 8, 1868.—Designed as an improvement upon patents granted to A. F. Porter and to G. T. Parry, October 31, 1865. In this invention carbon is substituted in place of magnetic points in the instruments used.

Claim.—An insulated mass or block of carbonaceous matter, suspended within a boiler, near one end of the same, but connected by a wire to the shell of the boiler, near the opposite end of the latter, all substantially as set forth.

84,672.—Charles Bennitt, Bristol Station, Ill.—*Shaft Coupling.*—December 8, 1868.—Consists in the application of rollers or "pulleys" to the inner periphery of the coupling band, to relieve the friction of the jaws of the tumbling rods.

Claim.—The combination of the band H, journal G, pulleys E E, jaws C and D, with the rods B B, as and for the purpose herein specified and shown.

84,673.—George B. Brayton, Providence, R. I.—*Machine for Cutting Eyelets.*—December 8, 1868.—Pressing against the edges of a series of revolving cutters is a metallic tube, which lies in a groove made upon a slightly spiral line in a jacket or casing which surrounds the cutters, so that each tube is brought to bear in succession against the surface of a pressure cylinder revolving in a contrary direction to the cutters.

Claim.—1. An apparatus for cutting tubing into sections, for eyelet blanks or other purposes, consisting of a series of revolving cutters, a a, a surrounding revolving jacket B, for holding and conveying the tubing, and a pressure cylinder, C, all in combination, substantially as described, for the purposes specified.

2. Making the openings D in the jacket or casing B, for holding and conveying the tubing inclined to the axis of the series of cutters a a, as herein set forth, for the purposes specified.

84,674.—Moses P. Breckenridge, Meriden, Conn.—*Self-regulating Air Valve for Steam Heaters.*—December 8, 1868.—The cylinder is cast in one piece and cored in the center for the reception of a frame, in which a spring is securely held at one end.

Claim.—Inserting the frame B, which holds the spring C, into the case or cylinder A, by this means allowing the said cylinder to be constructed in one piece, and thereby doing away entirely with the use of packing.

84,675.—Julius Brönner, Frankfort on the Main, Prussia.—*Gas Burner.*—December 8, 1868.—The burner head is made concave or sunken, and is provided with a slit by which the gas is made to flow from both ends of the slit toward the middle, so as to produce a flame at a right angle to the slit.

Claim.—1. The use of a slit, as aperture to a gas-burner, the top exterior surface of the head of which is concave or funnel-shaped, substantially as and for the purposes set forth.

2. The combination of two gas-burners thus made, in other words, of two fish-tail-slit burners, to form a compound economic or double burner, or of one such fish-tail-slit burner, with an ordinary burner, substantially as described.

3. The use of the fish-tail-slit burner head or insertion *c*, constructed and applied substantially as herein set forth.

84,676.—Reuben Brooks, Jr., and William N. Manning, Rockport, Mass.—*Ruffling Device for Sewing Machines.*—December 8, 1868.—To the tension-bar, which is attached to the bed of the machine, is pivoted a slotted plate, by turning which the presser is relieved from contact with the tension-plate. A spring guide secured to the under side of the tension plate, permits the adjustment of the latter, so as to bear upon the cloth at any angle required.

Claim.—1. The combination of the bar B, slotted plate H, and screw G, all constructed substantially as described, and for the purpose set forth.

2. The rubber presser D, combined with the bar B and tension plate E, substantially as specified.

3. The adjustable spring guide F, in combination with the tension plate E and presser D, as specified

84,677.—Hiram Brown, Burton, Ohio.—*Fastener for Lasts.*—December 8, 1868.—For securing the instep block to the last without nailing, as in the usual way.

Claim.—The slide D, so arranged in such relation to the last, B′, that the lower end of said slide is received directly into the last, in the manner as and for the purpose set forth.

84,678.—A. R. Buffington, United States Army.—*Mechanical Movement.*—December 8, 1868.

Claim.—The improved mechanical movement, consisting of devices herein described, by means of which angular motion may be transmitted from one body to another, increased in velocity to twice, or reduced to one-half, the power varying, but the motion uniform, according as the one from which the initial motion proceeds acts upon the other, by means of surfaces on which slide or roll parts connected with this other body, or through the intervention of projections, axles, hubs, or pins simply, or these with blocks or wheels fitted on them, sliding, rolling, or moving in contact with surfaces of said other body, as substantially herein described.

84,679.—Mills L. Callender, New York, assignor to himself and Sidney L. Holdredge, Greenburg, N. Y.—*Gas Retort.*—December 8, 1868.—The retort is divided by a partition into two chambers used in connection one with the other, whereby one chamber may be charged at different intervals from the other, so that the high temperature of the partially spent charge may be used to communicate with the adjoining chamber, and the vapors and gases of the first chamber be conducted through the second chamber, and vice versa, alternately.

Claim.—A double retort, made, arranged, and operated in the manner and for the purposes substantially as described.

84,680.—Elijah Carpenter, Carbondale, Pa.—*Weather Strip.*—December 8, 1868.—A metallic plate is secured in a rebate in the threshold, and is provided with projections fitting in recesses, and operated by levers to raise or lower one edge of the plate or strip as the door opens and closes.

Claim.—1. The arrangement of the weather strip A, having the two projections *a a′*, with the slots *e e′* in the plates E E, attached to the jamb, or in the jamb itself, substantially as herein described and shown.

2. The combination of the strip A, levers B D, and door, when the several parts are constructed and arranged to operate in the manner described and shown, and for the purposes specified.

84,681.—Andrew B. Clemons, Ansonia, Conn.—*Friction Clutch Pulley.*—December 8, 1868.—Upon the friction plate are placed two levers which are opened and closed by means of a slide, their jaws fitting upon a corresponding screw upon the hub of the pulley, so that the two parts may be forcibly drawn together by the revolution of the pulley.

Claim.—1. The screw-threaded levers E and E′, in combination with the friction plate D and threaded hub C, of the pulley, for the purpose of drawing the two parts together, substantially in the manner and for the purpose specified.

2. The slide F, in combination with the levers E and E′, and pins *a a*, for the purpose of operating the said levers upon the hub C of the pulley, substantially as herein set forth.

84,682.—N. A. De Long, New Scotland, N. Y.—*Wagon Tongue Support.*—December 8, 1868.—Underneath the axle and bolted to the king bolt is a plate spring, extending upward over the tongue, and slotted at its forward end, through which slot passes a standard having a series of holes, in one of which is placed a pin to regulate the tension of the spring.

Claim.—The combination of the tongue and axle with the slotted adjustable plate spring, embracing the standard F, and having four points of support, as and for the purpose set forth.

84,683.—Edwin B. Dewey, Pontiac, Mich.—*Lever Grapnel.*—December 8, 1868.—A bearing lever provided with a hook, to which the tackle is hitched, is attached to the extended shorter arm of one of the main levers, so as to bear forcibly upon the other lever in raising the weight.

Claim—The bearing lever F, provided with suitable hook G, when connected with curved and pointed levers A and B, and constructed and operating substantially as and for the purposes herein set forth and described.

84,684.—Fordick W. Edison. Port Huron, Mich.—*Horseshoe.*—December 8, 1868.—The shoe is made in two sections, hinged to the toe-piece, to which latter are attached springs which are designed to lie between the frog of the foot and the shell of the hoof.

Claim.—The arrangement of the expanding springs C C on the toe piece B, to which the wings A A are pivoted, substantially as and for the purposes set forth.

84,685.—Warren R. Evans, Thomaston, Me.—*Magazine Gun.*—December 8, 1868.—A fluted shaft rests upon the inner edge of a spiral thread or partition attached to the inside of the tube in the gun stock, to facilitate the passage of the cartridge.

Claim.—The combination of the fluted shaft D, which contains one or more flutes, with the fixed spiral thread or partition B, substantially as specified.

84,686.—Henry S. Firman, New York, N. Y.—*Apparatus for Deodorizing, Desiccating and Mixing Manures.*—December 8, 1868.—The apparatus consists of a furnace set within a brick chamber, and over which is an air-tight vessel forming a desiccating and mixing pan. Surmounting the mixing pan is a hopper fitted with sloping bottoms provided with valves. Connected with the mixing pan by a tube is a box provided with a false bottom, charged with some suitable absorbent and into which the unabsorbed gases are conducted.

Claim.—1. Arranging a close desiccating and mixing pan, constructed substantially in the manner described, and provided with mixers, as set forth, in a close heating chamber, over a furnace or heating flue fitted with dampers, and constructed substantially as described.

2. The combination of the supply hopper, constructed substantially as described, with a close desiccating pan, for the purpose of introducing the material to be treated in the pan, as set forth.

3. Combining, with a close desiccating and mixing pan, a deodorizing or absorbing chamber, for the purpose of utilizing the offensive gases, and avoiding the nuisance occasioned by their escape from the pan.

4. Creating a circulation of the air and gas in the desiccating pan by means of an air pump affixed thereto, through the agency of pipes arranged substantially as described.

84,687.—JAMES P. FORCE and JOHN E. FORCE, Constantine, Mich.—*Fastening for Horse Collars.*—December 8, 1868; antedated November 21, 1868.—A flexible metallic strap or latch, and a catch, of sheet metal, are attached to the respective ends of a horse collar.

Claim.—The combination, with the collar A A′ A″, of the flexible straps or latches B and catches C, constructed and employed as and for the purpose described.

84,688.—PERRY G. GARDINER, New York, N. Y.—*Car Spring.*—December 8, 1868.—A solid India-rubber spring is surrounded by one or more flat steel springs, against the outside of which latter three or more India-rubber solid springs are placed, the whole being inclosed in a suitable casing, a plunger acting on the central spring.

Claim.—The arrangement of an India-rubber spring, H, surrounded by steel spring rings, *n*, *m* and *w*, and India-rubber springs J, inclosed in a suitable casing, E, in combination with a plunger, P, acting upon the central India-rubber spring H, the whole being combined and operating together, in the manner and for the purpose substantially as described.

84, 689.—E. P. GLEASON, New York, N. Y.—*Gas-lighting Device.*—December 8, 1868.—An elastic receptacle is placed within a metallic case, and filled with gas, which latter is expelled, as desired, through an exit pipe, by the contraction of a spring acting on the elastic receptacle.

Claim.—1. Charging or filling an elastic gas-tight receptacle with gas, and then supplying the same to a burner connected thereto, for lighting purposes, whether the same shall be accomplished in the precise manner shown, or in an equivalent manner.

2. The combination, with an elastic gas-tight reservoir, B, of a suitable case, A, and an exit-pipe, D, constructed and operating substantially as described, for the purposes specified.

3. The combination of an elastic gas-tight reservoir or receptacle, B, case A, and exit-pipe D, with a spring, G, placed either within or beneath the receptacle B, for the purposes fully described.

4. The combination of the case A, receptacle B, exit pipe D, and spring G, with the cord E, for the purposes set forth.

84, 690.—WILLIAM C. GRISWOLD, Brooklyn, N. Y.—*Machine for Stretching Hat Bodies.*—December 8, 1868.—Above the upper cross-bar is an adjustable ring containing in its interior six or more curved arms, and to the lower side of the said cross-bar is secured a ring provided with a number of inclined radiating bars. On a vertical sliding rod is a circular plate provided with radiating expanding arms. On the upper end of the said vertical rod is a stud which carries a star, the arms of which intervene with the above named curved arms, when the rod is raised.

Claim.—The combination of the tip-stretching mechanism, consisting of the spokes *c′* and star *m*, with the brim-stretching mechanism, consisting of the inclined stationary arms *d′*, and the expansible or spreading arms *i*, all constructed, arranged, and operating substantially as herein specified.

84,691.—MICHAEL STOLL and HENRY GROSS, Middletown, Pa., assignors to HENRY GROSS.—*Manure Hook.*—December 8, 1868.—As the machine is drawn across a stable floor the manure is gathered and carried off. By disengaging the lever and raising the handles the rake is relieved of its load.

Claim.—1. The handles A, provided with the slots *i i*, and the stops *p p*, in combination with the beam B and hook C, substantially as described, and for the purposes set forth.

2. The lever *e*, to act in conjunction with the slot *j*, as and for the purposes specified.

84,692.—W. H. HALLECK, Ann Arbor, Mich.—*Implement for Trenching around Plants, to Prevent the approach of Worms.*—December 8, 1868.—A circular stamp made of metal having a sharp lower edge, having its interior surface inclining toward the center, and with a flaring exterior, so that when pressed into the earth and drawn out, it will leave a wedge-shaped circular trench.

Claim.—The invention of an implement to prevent the cut or wire worm from destroying corn and plants, using for that purpose the aforesaid stamp, (circular, rolling, square, sliding,) or any shape substantially the same, for the same purpose as herein set forth.

84,693.—VIRGIL HAYES, CAMPBELL G. WALDO, and HARLAN A. MAIN, Tekonsha, Mich.—*Grain Binder.*—December 8, 1868.—The grain is carried by an endless belt to a rack which feeds the binding attachment, the latter consisting of a hollow arm through which the wire is run, and as the arm passes around the grain, the wire is drawn by a small hook to the twisting device and then to the cutter, after which the hook is brought to the proper position to receive the wire for binding another sheaf. The sheaf, when bound, is dropped by a rack attached to the rear of the binding attachment.

Claim.—1. The stationary apron J and the tilting rack K, with its disengaging lever T, the bracket M, and stationary rod N, provided with rests O, spool pulley P, with its spool Q, pin X, and hollow arm R, with its opening S, or their equivalents, when arranged and operating substantially as and for the purposes specified.

2. The clutch pulley V, provided with inclined plane 2, clutch lever W, shifter Y, clutch 1, shaft 3, the pulley Z, provided with wrist pin 7, and hook 8, spur wheel 4, pinion 5, ratchet wheel 6, hinged binding apron U, spring latch 10, closing spring 12, provided with wire or rod 11, and the knife 9, or their equivalents, when arranged and operating substantially as and for the purposes set forth.

84,694.—ISRAEL HOGELAND, Indianapolis, Ind.—*Clothes Rack.*—December 8, 1868.—So constructed as to render the parts readily detachable, and capable of being compactly folded.

Claim.—In a rectangular clothes frame, the two rigid stays or cross-bars B B, pivoted, at one end, to one of the side pieces A A, and having the end which is not pivoted attached to the opposite side piece, in such a manner that it is easily detachable, substantially as described, and for the purpose specified.

84,695.—SAMUEL W. HUNTINGDON, Augusta, Me.—*Shearing Machine.*—December 8, 1868.—A movable blade is pivoted to a stationary blade, and operated by a lever which, in turn, is pivoted at its front end to a standard or goose neck making a part of the stationary blade. The two blades are also provided with short auxiliary jaws or blades for cutting wire, &c.

Claim.—1. The construction and arrangement of the fixed blade *a*, the post *c*, and goose neck *e*, the lever *i*, attached to and moving in the slot formed in said goose neck, and the movable shear blade, connected with both the post *c* and lever *i*, as herein shown and set forth.

2. In conjunction with the fixed and movable blades *a* and *f*, and the lever *i*, arranged as specified, the auxiliary cutting blades *d* and *g*, formed in rear of the pivotal point *a′*, the one upon the post *c*, and the other upon the prolongation of the shear *f*, as herein shown and described.

84,696.—Anthony Iske, Lancaster, Pa., assignor to himself and Benjamin Mishler, same place.—*Burglar Alarm and Table Bell.*—December 8, 1868.—An ordinary call bell is combined with a portable burglar alarm, which may be connected by a pin and thread with any door or window, so that if either be opened an alarm will be sounded.

Claim.—The combination and arrangement of the base V, with its chambers for the affixed key U, and the spiral spring T, gearing, and bell attachment, all constructed and operating substantially in the manner and for the purpose specified.

84,697.—Jacob O. Joyce, Dayton, Ohio.—*Device for Cutting Out Sections of Annular Cylinders.*—December 8, 1868.—The tool post, which is set in the circular outer end of the bed, is provided with an adjustable cutter, and also with a gear wheel which engages with a worm gear on a horizontal shaft attached to the head of the bed, by which the cutter is turned slowly around to plane out the interior of an annular semi-cylinder.

Claim.—The combination and arrangement of the bed plate A, tool post G, and cutter I, with the gear wheel C, shaft E, and worm D, all substantially as and for the purposes specified.

84,698.—Anson Judson, Brooklyn, N. Y.—*Lathe Chuck.*—December 8, 1868.—The nuts by which the screws operate the jaws are made in separate pieces, which interlock with the jaws by dovetailed tenons arranged at right angles to the axes of the screws, so that as the inclined surfaces on the tenons slide upon the inclined grooves in the jaws the latter will be more closely drawn against the face plate.

Claim.—Making the jaw C and the nut B, or its equivalent, in two or more parts, instead of in a single piece, as has formerly been done, and so combining these parts that the action of the part B upon the part C shall draw the latter snugly to the face-plate or bed, substantially as hereinbefore set forth.

84,699.—Handly B. Kimball, Charlotte, Mich.—*Mode of Applying Crystal Frosting to Glass.*—December 8, 1868.

Claim.—As a new article of manufacture, the "crystal frosting" on window glass, produced by flowing one side with any suitable efflorescing solution, and protecting the efflorescence, when fully dry, with copal or other suitable varnish, substantially in the manner and for the purpose herein specified.

84,700.—Charles Kohler, Galena, Ill.—*Car Coupling.*—December 8, 1868.—The coupling pin is pivoted to a lever, so as to have a vertical movement to engage with the coupling link, and is thrown back to its place by means of a spring.

Claim.—The combination of the lever *a*, pivoted pin *h*, with a buffer head, which has cavities *i* and *j* therein, when constructed and arranged to operate in connection with a spring *k*, substantially as described, as and for the purpose specified.

84,701.—G. W. Lewis, Dansville, N. Y.—*Bolt Trimmer.*—December 8, 1868.—An adjustable fulcrum is combined with the cutter so as to compensate for the wear of the cutting edge. The cutter is thrown forward by means of a cam, and the reaction is produced by a spring.

Claim.—1. The curved handle *d*, cast with the stock A, in combination with the independent screw *l*, the cam lever *g d'*, fulcrum *i*, and the cutters *b e*, substantially as described, for the purpose specified.

2. In combination with the above, the spring *h*, substantially as and for the purpose described.

84,702.—John A. Moffitt, Boston, Mass.—*Water-proof Paint.*—December 8, 1868; antedated November 25, 1868.

Claim.—1. The combination of either India-rubber, gutta percha, or balatta, with benzine or naphtha, and either arsenic, arsenic acid, or the "universal deodorising powder," as driers, in manner and for the purposes hereinbefore described.

2. The combination of either India-rubber, gutta-percha, or balatta, with benzine or naptha, and either of said driers, arsenic, arsenic acid, or the "universal deodorizing powder," with oils and pigments, in the manner and for the purposes hereinbefore described.

3. The application of arsenic, arsenic acid, or the "universal deodorizing powder," as driers for India-rubber, gutta percha, or balatta.

84,703.—Mary A. Moore, Lisbon, Ill.—*Child's Diaper.*—December 8, 1868; antedated November 23, 1868.—The diaper is secured to the body by elastic straps passing over the shoulders and across the hips.

Claim.—The combination of the diaper A with the elastic straps B C D, constructed and arranged substantially as set forth.

84,704.—W. T. Munger, Branford, assignor to P. and F. Corbin, New Britain, Conn.—*Reversible Latch.*—December 8, 1868.—The lever stop is so constructed as to hold the shank of the latch in its recess in the swinging link, to prevent the latch from being withdrawn, and also to allow of the removal of the shank from the swinging link, in order to reverse the position of the inclination at the end, to make a right or left hand lock.

Claim.—The lever *a*, acting as a stop, and also retaining the reversible latch, substantially as specified.

84,705.—S. E. Oviatt, Richfield, Ohio.—*Grain Separator.*—December 8, 1868.—To an endless apron are attached a series of cross bars provided with fingers, which are moved by an arm as they pass over rollers, to agitate the straw.

Claim.—1. The finger bar D and conveyer C, in combination with the roller H or its equivalent, to operate substantially as set forth, for the purpose specified.

2. So hanging the finger bar D of the conveyer to the endless belt, chain, or apron, as to allow the said finger bar to receive a turning or tipping motion, to throw or agitate the straw when it is being conveyed from the threshing cylinder, substantially as and for the purpose described.

84,706.—S. E. Oviatt, Richfield, Ohio.—*Threshing Machine.*—December 8, 1868.—Attached to the lower end of the stacker are brackets provided with hollow journals, which form bearings for the shaft of the carrier rollers. Attached to the shoe is a hinged tail board and screen.

Claim.—1. The metallic bracket C, when attached to and forming a support for the lower end of the stacker B, and having its pivot or journal hollow, forming a box or bearing for the carrier shaft E.

2. The metallic bracket C, so connected with the stacker B and frame of the thresher as to form a pivot and support for the lower end of the stacker, substantially as set forth.

3. The hinged tail board H and tail screen I, in combination with the shoe G of the thresher, substantially as and for the purpose set forth.

4. The hinged chute K, cut-off L, and shoe G, arranged in the manner and for the purpose as set forth.

84,707.—Cyrus Peabody and Patrick H. Delaney, Detroit, Mich.—*Advertising Device.*—December 8, 1868.—The clock work is made to operate a bell, which is continuously rung to call the attention of passers by to the advertising board.

Claim.—The combination, with an advertising board or frame, of a bell-striking clock work, substantially as and for the purposes set forth.

84,708.—Cullen W. Reed, Chagrin Falls, Ohio.—*Horse Hay Fork.*—December 8, 1868.—In a slotted cross head is arranged a hinged dog, so adjusted as to catch the free end of an independent tine pivoted at the end of the cross head, the tine being connected with an arm or lever, which enters the snap catch of the dog.

Claim.—The cross head A, when the same is slotted its entire length, the pivoted hinged tines B and C, when the former is provided with a lever arm, B^1, in combination with a dog, E, and the whole is so arranged as to operate substantially as described, and for the purpose specified.

84,709.—C. W. ROBERTS, Austin, Ill.—*Repeating Clock.*—December 8, 1868; antedated November 21, 1868.—The parts are so arranged as to cause the clock to strike, at certain intervals, the same number as the previous hour.

Claim.—1. The combination of the bell spring J, bell I, and standards *a*, *b*, *c*, &c., substantially as set forth.

2. The combination of bell I, spring J, slide G, cams M, N, and levers D, B, as and for the purpose set forth.

84,710.—WILLIAM ASPLEY ROBINSON, Auburn, N. Y.—*Steam Graduator.*—December 8, 1868.—To the reversing lever is attached an additional lever or graduator, supplied with a graduating quadrant, and so connected with the reversing lever and its connecting rod that the smallest movement of connecting rod can be very minutely adjusted.

Claim.—The arrangement of the graduating lever B with the reversing lever A, quadrant C, and joint E, as shown and described.

84,711.—JOHN C. ROGERS, Alden, N. Y.—*Gate Latch.*—December 8, 1868.—An armed catch is hinged to the gate post so as to oscillate laterally in the direction in which the gate swings, and is provided with a notch which engages with a rigid bolt in the end of the gate.

Claim.—The oscillating catch C, hinged to the gate post, and provided with notch *e* and socket *f*, in combination with the rigid pin *g* and bolt *i*, operating substantially in the manner and for the purpose set forth.

84,712.—E. G. DORCHESTER and URI SCOTT, Geneva, N. Y.—*Hay Fork.*—December 8, 1868.—The tines are secured in a ferrule by a wedge held in place by a screw, so that a new tine may be inserted at any time when necessary.

Claim.—The tines A, when constructed as herein shown and described, and wedge B, and screw *e*, or its equivalents, in combination with the ferrule C, all acting conjointly, as and for the purpose set forth.

84,713.—EDWIN SEELY, Elkhart, Ind.—*Machine for Sacking Potatoes.*—December 8, 1868; antedated November 23, 1868.—On one side of the bin is arranged a slide provided with pointed teeth below. The slide is opened to let out the potatoes.

Claim.—The hetchel slides C and D, bin B, the whole constructed, arranged, and operated substantially as and for the purpose set forth.

84,714.—AMOS SHEPARD, New Britain, Conn.—*Machine for Bending Sheet Metal.*—December 8, 1868.—A thin plate is suspended over the edges of two folding bars which are hinged at each end in such a manner that their inner edges are in the center of motion. The under side of each bar is provided with a stationary support, near its outer edge, while an opening is left under them, so that when the plate and center of the bars descend, the supports cause the bars to fold up either side of the plate.

Claim.—1. The combination of the plate C, bars A A, and supports L L, the whole connected and operating substantially as and for the purpose described.

2. The combination of the plate C, bars A A, slides B B, and set screws *c c*, the whole connected and operating substantially as and for the purpose described.

3. The combination of the plate C, bars A A, gauge *a*, and table K, arranged and operating substantially as and for the purpose described.

4. Hinging the plate C at one end so that the other end of plate C can be raised, substantially as and for the purpose described.

5. The combination of the bars A A and plate C, when arranged so that at each operation of the machine the plate C shall move edgewise toward the bars A A, and gripe the metal previous to any action or movement of the bars A A, substantially as and for the purpose described.

84,715.—M. W. STAPLES, Catskill, N. Y., assignor to himself and JOHN H. BURTIS, New York City.—*Wash Boiler.*—December 8, 1868.—A conical tube is affixed to a movable bottom, and water is ejected upon the clothes from perforations in the upper portion of the tube. The movable bottom is supported upon hollow legs having openings in their sides.

Claim.—The tubular legs *d*, supporting the removable bottom *c*, and provided with openings in their sides, near the lower ends, in combination with a tube, rising above the bottom *c*, through which the rising water circulates, substantially as set forth.

84,716.—O. S. ST. JOHN, Willoughby, Ohio.—*Car Coupling.*—December 8, 1868.—The coupling links are each provided with a hook pointing inwardly by which they are automatically locked together. The links are uncoupled by means of a cam acting on the under side of the draw bar.

Claim.—1. The link G, made with hook *b*, and guide shoulders C thereon, operating in the manner and for the purpose described.

2. In combination with the above, the cams K and L, chain N, and shaft I, arranged as described, and operated by the means, and in the manner, and for the purpose substantially as specified.

84,717.—J. E. STURDY, Augusta, Maine.—*Tack Holder and Carpet Stretcher.*—December 8, 1868.

Claim.—As a new article of manufacture, a combined carpet stretcher and tack holder, composed of two hinged jaws, notched upon either or both of their contiguous edges, so as to receive and hold the tack, and having their carpet-stretching teeth turned inwardly or toward the center, as set forth, either without or in combination with a spring of vulcanized rubber, or its equivalent, for holding said jaws together, substantially as and for the purposes described.

84,718.—DEWITT C. THOMPSON, Ischua, N. Y.—*Beef-steak Cutter and Mangler.*—December 8, 1868.—Two upright forks are secured to a platform upon which the steak is placed to be cut, after which, the cut pieces are passed between two rollers provided with knives or cutters.

Claim.—The combination of the forks A with the platform D, and rollers B, and sharp knives C, as above described, for the purpose specified.

84,719.—JOHN FINDLEY THOMPSON, Greenborough, Pa.—*Hydraulic Apparatus.*—December 8, 1868.

Claim.—1. A pair of upright stationary cylinders, having ports for the admission of water from the forebay, in combination with valves *a a'*, which open and close such ports, and pistons *e e'*, which operate inside the cylinders, and are attached to the opposite arms of a walking beam, substantially as and for the purposes above set forth.

2. A reciprocating shaft *l*, when used for actuating the valves of water-power cylinders *b b'*, and constructed with adjustable connections, *h* and *l'*, for securing an adjustable or variable cut-off, and giving any desirable lift to the valves, substantially as above set forth.

3. Imparting to the reciprocating shaft *l* a greater or less length of throw, by raising or lowering in a slot, *o'*, the forward or operating end of an eccentric rod, *f'*, the devices being constructed and operated substantially in the manner and for the purposes hereinbefore set forth.

4. The slotted levers *m m'*, when connected by supports *u u'* with the valve lifters *n n'*, in such way that the open port of one cylinder may be closed before the completion of the downward stroke of its piston, without opening the ports of the other cylinder till the upward stroke of its piston shall be nearly or quite complete, substantially as and for the purposes hereinbefore expressed.

5. The slotted arm *x*, on the walking beam C of a water power, and the slotted circular head *y'*, or its equivalent, connected together by a pitman, *x'*, adjustable at each end, the parts being arranged and operating substantially as and for the purposes hereinbefore set forth.

6. The upright cylinders b b', with valves, ports, and pistons, as a fluid meter, constructed and operated substantially as and for the purposes hereinbefore set forth.

84,720.—G. G. TOWNSEND, Rochester, N. Y.—*Metal Last.*—December 8, 1868.—A metallic last is mounted on a standard so that it can be turned around, and is designed for clinching the nails when driven in.

Claim.—The revolving metallic last B, when made as shown, so as to withstand a blow from the hammer on any portion or point of the face or sole, in combination with the conical-pointed standard A, for the purposes set forth.

84,721.—STEPHEN D. TUCKER, New York, N. Y.—*Machine for Grinding Circular Saws.*—December 8, 1868.—The carriage that supports the saw is made to move automatically in both directions. The circular arbor or bearing for the saw is so constructed as to permit the center of the saw to advance to the edge of the grindstone.

Claim.—1. Making the head adjustable on the carriage K, in combination with the rollers E' F', for driving the saw, whereby the machine can be readily adjusted to grind saws of any diameter, substantially as described and specified.

2. The movable rest h, for holding the saw at the point of grinding, whereby the saw may be automatically ground of a concave, convex, or plane surface, substantially as described and specified.

3. The rest h, screw l, provided with its arm M', and the grooved and slotted guide L', pivoted to the carriage, substantially as described and for the purpose specified.

4. The combination and arrangement of the clutch p', pulleys C' C', the worm V' on the shaft W', upright shaft N', with its spring y, and the adjustable stops d d on the carriage, for operating the carriage in both directions automatically, substantially as described and specified.

5. The rod N', provided with arm v and pin w, clutch p', and adjustable stops d d on the carriage, for reversing the travel of the carriage, substantially as described and specified.

6. The scroll gear G' and inclined rack I', on the carriage, for giving a differential movement to the carriage, substantially as described and specified.

7. The arbor or bearing q, center pin p, and cap o, substantially as described and specified.

84,722.—JOHN L. WARREN, Detroit, Mich.—*Saw.*—December 8, 1868.—For the purpose of cutting dovetails or other similar work.

Claim.—The construction of a saw, substantially as described, with two cutting edges, the one operating at any desired angle relative to the other.

84,723.—WARREN WRIGHT, St. Louis, Mo.—*Hominy and Smut Mill.*—December 8, 1868.—The mill consists of a double case, the inner shell of which is provided with semiannular plates or partitions. Within the said case is a revolving hollow scouring and blowing shaft, having an air-gathering cup or scoop upon one of its ends, and at the opposite end is a discharge spout and a blast passage. Roughened scouring and smooth conveying blades are set spirally around the hollow blowing shaft.

Claim.—1. The "double case," consisting of the divided end plates A B, A' B', the divided cylindrical shell C D, and the divided perforated scouring cylinder E F within and concentric with said shell C D, all said parts being arranged to operate substantially as herein described, for the purposes set forth.

2. In combination with the partitions H, the wedge-formed wings or cut-offs S, arranged upon a rotating shaft, in the manner set forth.

3. The longitudinally-adjustable scouring and blowing shaft O, constructed with the air-gathering cup or scoop P, and air discharges o, and armed with roughened blades R, wedge-formed wings or cut-offs S, and spiral discharge blades S', in combination with a horizontal, partitioned, and perforated cylinder, substantially as herein described, for the purposes specified.

4. The combined arrangement, with the descending grain-discharge spout T of the laterally-traversing and upturned blast passage U u u', substantially as described, for the purpose specified.

84,724.—JACOB H. BALLARD and EDWARD P. BOND, New Antioch, Ohio.—*Brick Machine.*—December 8, 1868.—The clay is forced into chambers, and then out of openings in the same upon rollers forming long slabs, and is afterward cut in proper lengths by wires.

Claim.—The frame A, shaft B, with wheel b, pug mill C, with openings c^2, and shaft C', having the wheel c^1, plungers D, shaft d', wheel E, chambers F, with openings G and wires H, the whole being combined, arranged, and operated in the manner described and for the purposes set forth.

84,725.—A. B. BARNARD, Worcester, Mass., assignor to THOMAS C. CRAVEN, Albany, N. Y.—*Hay Spreader.*—December 8, 1868.—Fixed to the thills are bent or curved screws, provided with coiled springs, and which extend upward and pass through openings in the cross piece of the reel frame, so as to allow the spreading device to yield to obstructions on the ground.

Claim.—The combination with the screw standard or standards F, provided with nuts, as shown, of coiled spring or springs K, substantially as and for the purposes set forth.

84,726.—P. G. BIGGS, H. A. BUTLER and H. GRANGER, Macon, Mo.—*Combined Band Cutter and Feeder for Threshing Machines.*—December 8, 1868.—A series of disks, set at an angle on a rotating shaft, spread the bundles as they are carried forward, and the bands are cut by circular knives on a pivoted shaft arranged at one end of an inclined platform.

Claim.—The spreader H I, constructed as described, in combination with the band cutter E G, carrier C D, and frame or box A, substantially as herein shown and described and for the purpose set forth.

84,727.—ELI S. BITNER, Lock Haven, Pa.—*Brick Machine.*—December 8, 1868.—The molds upon the endless chain are each hinged on one side, and provided with a crank pin, which is operated by an inclined plane to open the hinged side and deliver the clay upon a board, which is moved by contact with a corrugated roller. The end of the spiral screw is deflected and provided with a disk, so as to prevent the clay from choking the screw.

Claim.—1. The pressure rollers D D^1 in the movable frame A^5, chain of molds C, plank H, and corrugated feed roller E, constructed and arranged substantially as and for the purposes herein set forth.

2. The mold C, when provided with the movable side c, and crank pin c^1, operated by contact with the inclined planes I, and pressure roller D, substantially as and for the purposes herein described.

3. The combination of the feed screw F, when deflected at f, with the disk f^1 and feed box F^1, all constructed and operating substantially as and for the purposes set forth.

84,728.—JOHANN BONGARDT, New York, N. Y., assignor to himself and L. H. COHN, same place.—*Process and Composition for Printing the Grain of Wood.*—December 8, 1868.—The wood is soaked in variable proportions of linseed oil, brown japan, litharge, white soap, and water, and the impression is made as in ordinary surface printing.

Claim.—1. The method, herein described, of preparing wood to cause it to print its veneer or grain on paper or other material, as set forth.

2. The composition herein described for treating wood, for the purpose set forth.

84,729.—EDWARD BUCKMAN and ALEXANDER BUCKMAN, Greenbush, N. Y.—*Gate.*—December 8, 1868.—Two stops upon the gate are so arranged that when the gate is brought to a closed position, two latches on the supporting posts will drop at the inner ends of the stops, and prevent longitudinal movement of the gate, and lock the same.

Claim.—The combination and arrangement of the latches with the supporting posts and the stops upon the gate, substantially as and for the purpose specified.

84,730. — ORRIN H. BURDICK, Auburn, N. Y., assignor to himself and DAVID M. OSBORNE, same place. — *Harvester Rake.*—December 8, 1868.—The invention relates to the manner of driving and controlling a series of revolving and rising, and falling arms, one of which is a rake, and the others beaters for drawing in the grain to the cutters of a harvesting machine, while the rake delivers it, after it is cut, in a gavel on the ground.

Claim.—1. The adjustable camway *h*, in combination with the permanent camway *g*, for the purpose of raising the rake over the grain that may be on the platform, when it is desired to use the rake as a beater only, substantially as described.

2. The combination of the two adjustable camways G *h*, for controlling the action of the rake, substantially as herein described.

3. In combination with the fixed or permanent camways for guiding and controlling a series of rake and beater arms, in their rotation, the lever F, and movable camways, dog, and trigger, for allowing the driver from his seat to control the rake and throw it out of raking action, while the rake itself sets the parts for allowing it to go into raking action, substantially as described.

4. In combination with the rake and beater heads, the auxiliary arms P, and the three adjustable fastenings *u*, *v*, and *v'*, for giving such heads and arms the requisite inclinations upon their arms B, substantially as described.

84,731.— MAXIMILIAN LOUIS J. CHOLLET and CELESTE H. E. HAMILTON, Paris, France.—*Poultice Cloth.*—December 8, 1868.— The mucilaginous substances consist of decoctions of marsh mallow, flax seed, bran, or starch.

Claim.—An article of manufacture, consisting of a poultice, composed of leaves of canvas or muslin, impregnated with mucilaginous substances, substantially as herein described.

84,732.—Suspended.

84,733.—EBEN L. COWLING, Boston, Mass., assignor to JAMES P. BRIDGE.—*Preserving Wood.*—December 8, 1868.

Claim. — The employment of dry superheated steam, in combination with vaporized chemicals, for the preservation of wood, as set forth, the natural moisture of the wood being first absorbed by the use of the dry superheated steam without the chemicals, and the air expelled, substantially as described.

84,734.—NEEDHAM COX, Salem, Ill., assignor to himself, CHRISTOPHER M. HOUTS, and J. S. MOORE, same place. — *Tanning Composition.*—December 8, 1868.—The ingredients consist of tan bark, salt, sulphuric acid, salix root, terra japonica, and soap, in various proportions.

Claim.—The use of all of said ingredients, when applied in the proportions heretofore given, or their equivalents, substantially as and for the purposes set forth.

84,735.—ARNOLD DAVIDSOHN, St. Louis, Mo.—*Railroad Car Heater.*—December 8, 1868.—A box to be filled with hot sand is attached to the floor of a car, and is provided with an influent and an effluent hopper, for the reception of hot sand and discharge of the cooled sand, at suitable stations on the road.

Claim.—The car-heating device, composed of box D, slide *d'*, influent hopper E, valve *e*, and effluent hopper F, and discharge valve *f*, when constructed to operate as described and arranged, with relation to the vehicle, substantially as set forth.

84,736. — JOHN FAINT, Columbus, Canada.—*Stove Pipe Joint.*—December 8, 1868.—An annular rib is formed around and at a given distance from each, and of each length of pipe, and combined with open lap portions of the seam at each end thereof.

Claim.—A section of stove pipe, seamed longitudinally, except that portion lapping the adjoining section, such portion being lapped the width of the seam, or thereabouts, as shown and described, for the purpose set forth.

84,737.—CHARLES FLEISCHEL and WILLIAM C. BUSSEY, San Francisco, Cal.—*Door Lock.*—December 8, 1868.—Passing through a hole in the lock case and the door is a cylinder, having attached to its inner end a disk, from the upper side of which rise two rigid plates having tumblers between them, consisting of elongated metal plates. Within the case is a flat bar having fastened to it a steel plate with wards on its edge corresponding to the number of the tumblers.

Claim.—The plate K, fastened upon the bolt of the lock, and provided with the wards *c c*, &c., in combination with the cylinder B, disk C, and revolving tumblers F F, substantially as described, and for the purposes set forth.

84,738.—J. M. D. FRANCE, Washington, D. C. —*Paper File.*—December 8, 1868.—Two notched uprights are attached to a base, and in the notches fits a bar placed upon a movable board under which the papers to be filed are placed.

Claim.—A device for filing papers, consisting of a frame, A A, notched as described, in combination with bar B, base C, sliding board D, and pin E, combined and operated in the manner substantially as hereinbefore described, for the purpose specified.

84,739.—JOHN FRIESE and GEORGE DANIEL FRIESE, Baltimore, Md., assignors to JOHN FRIESE, same place.—*Conductors' Punch.*—December 8, 1868. —To the inner side of one of the jaws is attached a steel plate, extending beyond the tooth, and bending over the extremity of the other jaw, to facilitate the entrance of the article to be punched.

Claim.—In connection with the eyelet-cutting instrument, having the two jaws A and B, the tooth *a*, the opening *e*, and the spring C, the rigid plate M, when attached to the jaw B, upon a raised bed, *s*, and provided with the opening to receive the tooth *a*, and bent so as to hook over the end of jaw A, the several parts being constructed to operate together, in the manner and for the purposes herein set forth.

84,740.—ABRAM J. GIBSON, Cincinnati, Ohio, assignor to himself, BENJAMIN J. THURSTON, and THOMAS A. HARROW, all of same place.—*Mode of Constructing the Heating and Lighting Apparatus on Railway Cars.*—December 8, 1868.—A separate fire-proof room for heating and lighting is provided at one end of the car, so that in case of the destruction of the car by accident, that portion occupied by the passengers would escape the danger from fire. A sash or window is made of sufficient size to allow the furnace to be thrown out from the same.

Claim.—1. A perforated metallic partition, inclosing and constituting a fire-proof lighting and heating chamber, in one end of a railway car, constructed in the manner and for the purpose substantially as herein set forth.

2. One or more lenses, in the perforated metallic partition of a fire-proof lighting and heating chamber of a railway car, as and for the purpose above specified.

3. The safety sash or window, when so constructed as to constitute the outer side of a lighting and heating chamber in a railway car, as hereinbefore described and set forth.

84,741.—JOEL E. GILES and WILLARD PERRY, Mead's Mills, Mich.—*Potato Digger.*—December 8, 1868.

Claim.—1. Arranging the shares S S on the landsides in such a position that the landsides will gather the vines together before the shares enter the hill, substantially as shown and described, and for the purpose set forth.

2. The construction and arrangement of the two shares S S, as shown and described, viz, by making their front edges recede to the rear, and leaving an opening there between them, when said shares are combined with the landsides, substantially as and for the purpose set forth.

3. The arrangement of the tines N N, &c., in a double curve, as shown and described, and for the purpose set forth.

4. The combination of the brace E (applied to prevent the spreading of the landsides) with the bow D, when said bow is arranged in position to

prevent its engaging with the vines, substantially as and for the purpose set forth.

5. The brace A, when arranged as shown and described, for the purpose set forth.

84,742.—SETH GILL, San Pablo, and DAVID C. WOODS, San Francisco, Cal.—*Ships' Davits.*—December 8, 1868.—The davit arms are jointed so as to be turned at right angles and not project from the ship's side. The boat is suspended by a tackle from travelers which move in and out of the davit arm, being operated by an inhaul and outhaul tackle.

Claim.—1. The jointed davit arms E E, with their tackle, or an equivalent device, the whole constructed and operated substantially as and for the purpose herein described.

2. In combination with the jointed arms E, the traveler L, with its inhaul and outhaul tackles M and N, substantially as described.

3. In combination with the davit arms E, the uprights D, with the lifts H, and stanchion I, the whole connected by rods with the davits on the opposite side, substantially as and for the purpose herein described.

84,743.—WILLIAM B. GLEASON, Conneautville, Pa.—*Boot Crimper.*—December 8, 1868.—Consists of an arrangement of devices by which the necessity of first braking the boot front and then removing it from the brake, and drawing and tacking it on to the crimping board by hand, is dispensed with.

Claim.—1. The grab bars S S, spring block M, the movable spring grabs O O O O, all constructed substantially as set forth.

2. The crimping board L, combined with the grab bars S S, spring block M, and movable spring grabs O O O O, for the purposes as set forth.

84,744.—JOSIAH B. HOLLISTER, Calais, Vt.—*Elevator.*—December 8, 1868.—The parts are so arranged as to retain the load at any elevated position until it can be moved, by transferring the carriage, arranged on an elevated truck, to any place of deposit beneath.

Claim.—1. Combining the brake A and the pulley G with the car, as and for the purpose specified.

2. The hoisting rope *c* and tackle block J, in combination with the brake A and pulley G, for the purpose and substantially as described.

3. The tripping rope I, applied to the hook end N of the brake, as and for the purpose specified.

4. The draw rope H, in combination with the car E and eye *k*, as and for the purpose specified.

5. The adjustable and movable cam *h*, constructed as described, and applied to the rail C, for the purpose and substantially as described.

6. The rod *f*, in combination with the brake A and the cam *h*, for the purpose and substantially as described.

7. The plate *e* or holding device, in combination with the hook end of the brake A, for the purpose and substantially as described.

8. The combination of all the operative parts specified, when arranged to operate substantially as and for the purposes set forth.

84,745.—ROBERT G. JAMESON and WILLIAM H. CHAMBERLAIN, Bristol, N. H.—*Horseshoe.*—December 8, 1868.—A curved bar, having calks formed upon it, is attached to the shoe by means of hooks which pass through slots in the heel of the shoe, and a screw at the toe.

Claim.—The bar C, of the form herein shown, and provided with heel and toe calks, when fastened to the shoe by means of the hooks *f f* and slots *b b* at the heel, and screw *i* at the toe, substantially as described for the purpose specified.

84,746.—CATHARINE MAXWELL and I. NEWTON PEIRCE, Philadelphia, Pa.—*Preparation of Steel for Corsets, Hoop Skirts, &c.*—December 8, 1868.—Composition consists of varnish, pulverized quartz and benzine.

Claim.—Coating steel with this composition, for use in female apparel, as herein described, or any other substantially the same, and which will produce the intended effects.

84,747.—C. MCINTURFF, Greenville, Tenn.—*Car Coupling.*—December 8, 1868.—The coupling bar is pivoted at its rear end and provided with a hook or projection, below which enters a slot in the opposite coupling bar. In connecting the cars the coupling bar pushes back a sliding block to allow the hook to drop into the slotted bar.

Claim.—A car coupler, composed of the bars A, with hooks B and springs H, and sliding blocks C with springs D, when used in connection with the levers G, all constructed and arranged substantially as described, and for the purposes specified.

84,748.—FRANCIS MCTARNAHAN, Santa Clara, Cal.—*Gang Plow.*—December 8, 1868.—Under the axletree is a block to which the evener is attached, and, in connection with the curved screw slides, serves to regulate the depth of the furrow. As the team turns, the plows are automatically raised to clear the ground.

Claim.—1. The frame or groundwork of the gang plow.

2. The combination and arrangement of the beam R, to which the plows are fastened, the beam to which said plow beam is fastened by hinges, the semicircular hinges, as constructed, and the manner of fastening the plows in the beam, all as shown.

3. The screw slides A, in combination with the frame.

4. The combination and arrangement of the beam L, to which the lever is fastened, the post on which it works, the chain, the pulley on which it works, the evener, and the guard, all as described.

5. The square block D under the axletree, for regulating the amount of land, in combination with the evener.

6. The construction, combination, and arrangement of the several parts, as shown and described.

84,749.—HENRY MERRIMAN, Bloomington, Ill.—*Coal Chute.*—December 8, 1868.—The device is designed to be used in discharging coal into boats, cars, &c. The hinged doors are balanced by weights so arranged that the swinging downward of the outer door unfastens the inner and permits it to fall.

Claim.—The inner weighted apron C, having the loose catch rods *g*, and pivoted at its lower edge to the chute, and the outer weighted apron D, also pivoted at its lower edge, and provided with the lugs *o o*, all operating as described, whereby as the outer apron is swung down to form a spout, the lugs *o o* release the rods *g* from the catches *e*, and permit the inner apron to open the chute for the discharge of coal, substantially as herein shown and described.

84,750.—L. E. MOREY, Vandalia, Ill.—*Plow Attachment, (Doubletree.)*—December 8, 1868.—Three bars are connected together in a triangular shape, and provided with loops or hooks, whereby three horses may be attached to a plow.

Claim.—A plow attachment, having four connecting points, *a*, *b*, *b*, and *b'*, arranged substantially as herein described, for the purpose set forth.

84,751.—JAMES MUSGRAVE, New Cumberland, West Virginia.—*Seed Planter.*—December 8, 1868.—The buckets are detachable, so as to be readily removed and replaced by buckets having cavities of different sizes, according to the kind and amount of seed to be planted.

Claim.—1. Detachably securing the buckets H to the belts F, by means of the brackets G, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the tube J with the hopper I and buckets H, substantially as herein shown and described, and for the purpose set forth.

84,752.—GEORGE NEILSON, Boston, Mass.—*Lamp Burner.*—December 8, 1868.—The chimney is supported upon an annular plate and fits within a flange, and is held in position by springs which bear against its interior surface, and have their upper ends secured upon a hoop or ring.

Claim.—1. The combination, with the cone and cone-supporting cylinder, of the chimney rest, chimney, and spring device, by which the latter is supported and steadied, under the arrangement and for operation as herein shown and specified.

2. The combination, with the chimney and chimney rest, of the springs and hoop or ring for holding the upper ends of said springs, in the manner and for the purposes herein shown and described.

84,753.—FREDERICK W. NEWTON, South Orange, N. J.—*Lappet or Embroidering Loom.*—December 8, 1868.—This machine is designed for weaving large and flowing figures, such as are suitable for the borders of gored skirts or dresses, either woven on the body of the garment, or separately, and attached afterward.

Claim.—1. The combination of the pattern mechanism with the stitch mechanism, when the two are actuated by different powers, or are connected with the same power by intermediate gearing or attachment, so as to give to each mechanism a motion distinct from the other, substantially as described.

2. The friction rollers or cylinders, one or more, for the purpose of giving a definite, yet adjustable, quantity of whip yarn to the needles without tension, substantially as described.

3. The roller *j*, of irregular or cam shape, in combination with the pin and needle bars, for the purpose of giving them an irregular motion, substantially as described.

4. The combined ratchet and pinion wheel G, in combination with the rack H, substantially as and for the purpose described.

5. The double wedge bar I, for the purpose of regulating the quantity of whip yarn to be furnished to the needles, substantially as described.

6. The lever *n*, in combination with the bar O, and its pin for raising the double wedge bar, substantially as described.

7. The traverse bar M, in combination with the needle bar and friction rollers, substantially as described.

8. The combined pinion and friction wheel N, in combination with the friction wire, substantially as described and for the purpose set forth.

9. The lever *e*, with adjustable fulcrum, in combination with the traverse bar M, and needle bar for regulating its movements, substantially as described.

10. The friction sleeve, having an upright stand, in combination with the pattern and stitch wheels and traverse lever *e*, substantially as described.

11. The combination, with the stitching mechanism, of the adjustable pawl Q, constructed and operating substantially as described.

12. The combination of the mechanism which makes the stitch with the mechanism which gives the whip yarn to the needles, arranged and connected substantially as described, so that the motion of the mechanism which gives off the whip yarn to the needles may be regulated and controlled by the stitching mechanism.

84,754.—ALONZO PALMER, Hudson, Mich., assignor to himself and N. H. MELCHER.—*Pump.*—December 8, 1868.—To a tubular bolt upon a rod extending through the center of the cylinder are secured two metallic valve-plates, above and below which are two metallic disks attached to the central rod, one of each of the said disks being perforated. Between each of the two upper and lower disks are placed rings which serve as seats for the solid valves.

Claim.—The disks J K and J' K', in combination with the rings G G', bolt H, rod I, and plates E E, with their valves, arranged and used as and for the purposes set forth.

84,755.—G. W. PERRY and J. D. BILLINGS, Wilmington, Del.—*Seat for Railway Cars.*—December 8, 1868.—A chair car seat is provided with a reversible back, which may be readily adjusted and secured on either side of the seat, and at any desired inclination.

Claim.—1. A seat, B, capable of longitudinal adjustment between side frames A A', in combination with a reversible back, which is connected by arms H to the side frames, turns on an adjustable fulcrum on said arms, and which may be jointed to either edge of the seat, all substantially as and for the purpose described.

2. The back J, with its slots *z*, and pins *s*, sliding in the said slots, in combination with arms H, jointed to the side frames and to the pins, substantially as and for the purpose specified.

3. The bent rods E, having pins *m* at the ends, and sliding and turning at the sides of the seat B, in combination with a reversible back, J, having openings, *t*, for the reception of the pins *m*, substantially as described.

4. The rods E, with their pins *m* and arms *n*, in combination with the box B', the slotted plates *h*, and the traversing plate F, connected to the arms *n n*, the whole being arranged and operating substantially as set forth.

5. The sliding seat B, with its ratchets *o o*, in combination with the shaft G, pinions *k* and *q*, and a worm for operating the said shaft, substantially as set forth.

6. The frame K, which is hung between the side frames A A', and to which are hinged arms *u u*, connected by cross strips *w w*, substantially as and for the purpose described.

84,756.—G. W. PERRY and J. D. BILLINGS, Wilmington, Del.—*Door Retainer.*—December 8, 1868.—A yielding block, fitted in a recess in the floor, receives and holds the under edge of the door, in a cavity provided for the purpose.

Claim.—A plate, *a*, having an opening for the reception of a block, E, which rests upon springs, *d*, below the plate, the whole being constructed and operating substantially as and for the purpose described.

84,757.—H. W. PERSING, Centralia, Ill.—*Wagon Box.*—December 8, 1868.—Movable staples, passing through side boards just behind the end gates, are attached to hooked rods passing longitudinally through the box, and are held in place by eccentrics pivoted to the outer ends of the staples.

Claim.—The combination and arrangement of the eccentrics *e e*, the staples *f f*, and the swivel *d* attached to the rods *c c*, substantially in the manner described and for the purposes set forth.

84,758.—EDWARD B. PHELPS, New York, N. Y.—*Gridiron.*—December 8, 1868.—The gridiron is composed of two flat frames, and provided with a central axle, upon which it vibrates, and the whole is inclosed in a metal box. A trough is suspended on the hinged edge of one of the frames, and arranged so as to adapt itself to the vibrations of the gridiron.

Claim.—1. The combined frames F and F', with the central axle E, in connection with the trough K and stop N, operated and vibrated in the manner and for the purpose substantially as herein shown.

2. Providing reversible gridirons with a trough, K, to operate and to be used for the purpose herein described.

84,759.—D. A. PORTERFIELD, New Paris, Ohio.—*Wash Boiler.*—December 8, 1868.

Claim.—In combination with the boiler, the conical or pyramidal spouts, as described, *i. e.*, their bases resting in the bottom of the boiler, without the intervention of a horizontal partition, and so arranged as to admit the supply of water by spanning the sunken pit, or by means of an opening at the bottom, as set forth.

84,760.—ADAM R. REESE, Phillipsburg, N. J.—*Horse Rake.*—December 8, 1868.—The teeth are formed with a return arm made parallel to the teeth, to serve as springs to keep the teeth down upon the ground. The various parts are so constructed and connected as to enable them to be readily taken apart for transportation.

Claim.—1. The teeth N, provided with the return arm, arranged relatively to and operating in connection with the rake head, substantially as described.

2. The shafts E E, when provided with the gains or notches, as set forth.

3. The standard I, in combination with the transverse bars H H, arranged upon opposite sides of the shafts E E, said bars being provided with gains, and operating as set forth.

4. The bars H H, when provided with the gains, as set forth.

5. The combination of the notched shafts E E, plates G G, axle B, and bolts F F, substantially as set forth.

6. The combination of the notched bars H H, shafts E E, and bolts K K, all arranged and operating as set forth.

7. The removable cleaners, adapted to be secured to the axle by means of screws or pins, and removable for transportation, as set forth.

8. The spurs on the cleaner rods, for the purpose and substantially as set forth.

84,761.—HUGH REID, St. Louis, Mo.—*Steam Engine Valve Gear.*—December 8, 1868.—A double piston valve is inclosed in a cylinder which communicates with the exhaust passage, the exhaust steam being admitted alternately into the atmosphere and condenser by the motion of the valve, which latter is operated by means of a toggle joint connected to a rock shaft.

Claim.—1. The arrangement of the balanced piston valves D^1 D^2 with reference to the exhaust cylinder C, steam port *a*, and exhaust ports E and F, substantially as set forth.

2. The arrangement of the piston valves D^1 D^2 with reference to the rod *d*, toggles G G′, pin *g*, slot *k*, and rod H, substantially as described.

84,762.—ISAAC REXFORD, Malone, N. Y.—*Seed Planter.*—December 8, 1868.—The rear wheels are connected to the forward wheels by bars, from which rise vertical rods supporting the seed hopper, beneath which latter is the seeding cylinder. Coverers, formed of two side bars secured together at an angle in the rear, are connected to the seed box by draught bars or chains. The rear part of the machine is elevated by means of levers under control of the driver, by which the seeding operation is stopped, and the machine easily turned.

Claim.—1. The combination of the side bars D, bars or supports G, seed box H, dropping cylinder E, and wheels F, with each other and with the forward axle B, said parts being constructed and operating substantially as herein shown and described, and for the purposes set forth.

2. The coverers J, constructed as described, and draught bars or chains K, in combination with the seed box H, substantially as and for the purpose specified.

3. The combination of the levers L, cross bar M, standard N, lever O, and standard P, with each other, with the cross bar of the thills A, forward axle B, dropping cylinder E, and seed box H, substantially as herein shown and described, and for the purpose set forth.

84,763.—W. C. RHINEHART and ROBERT GASTON, Oskaloosa, Iowa.—*Corn Plow.*—December 8, 1868.—The bar of the frame to which the tongue is attached is supplied at each end with a fender extending directly over the wheels.

Claim.—The inclined fenders *b b*, for protecting the reins of the driver from the action of the wheels, in combination with the inclined frame B, substantially as set forth.

84,764.—GEORGE RICHARDSON, Lowell, Mass.—*Reverse Motion for Winding on Bobbins.*—December 8, 1868.—Upon the shaft which imparts the traverse motion to the wind is fixed a spiral cam, which in turn imparts motion to a sliding yoke. When the yoke has passed over the extent of its traverse, a detent is raised by a cam on the shaft, which releases a catch and allows a spring to react so as to force the reverse rod in the opposite direction, and bring the actuating gears into contact.

Claim.—The cam B, yoke C, reverse rod E, springs I I′, detent G, and reverse catch M, all combined, substantially as and for the purpose set forth.

84,765.—C. M. REID, Greensborough, Ala.—*Lubricator for Journals.*—December 8, 1868.—A screw, provided with a flange, is made to propel a cog wheel having its bearings in a hanging frame, and also having a rock shaft connecting with two cranks. Each crank has a pitman connecting with spring arms, which carry a dipper that distributes the lubricant upon the axle.

Claim.—The screw *c*, with its flange C, frame E, cog wheel D, cranks G, pitmen *g*, spring arms H, dipper I, in combination with the "housing" or "grease box," when constructed and operating substantially in the manner and for the purposes set forth.

84,766.—CYRUS ROBERTS and JOHN A. THROP, Three Rivers, Mich.—*Combined Horse Power and Truck.*—December 8, 1868.—The beveled wheel that actuates the mechanism extends downward, so as to enable the power to be used at a point near the ground, and immediately over the working shaft, to which it is geared. The horse power is permanently attached to a truck.

Claim.—1. The beveled wheel G, extending downward to the point, and in the manner represented, for the purposes specified.

2. A horse power, having cogged wheels A, D, E, and G, staples B, disk C, friction rollers *c*, and shaft H, in combination with a truck, constructed and operating as herein specified, substantially as described.

3. A truck, having V-shaped bottom, as described, bolsters O, P, and Q, and rear V-shaped frame, as described, in combination with the horse power herein described and shown, substantially as specified.

84,767.—WILLIAM J. ROSS, Worcester, Mass.—*Door Fastener.*—December 8, 1868.—A slotted metal bar is provided at one end with an adjustable bar or catch, formed so as to fit in between the door and the door frame. The slotted portion is supplied with a sliding bar provided with a set screw and hooked at its inner end.

Claim.—The slotted bar A, in combination with the catch B and hooked sliding bar D, provided with the thumb or set screw b^2, all constructed, arranged, and operated substantially as and for the purpose set forth.

84,768.—EDWIN P. RUSSELL, Manlius, N. Y.—*Gas Burner.*—December 8, 1868.—The body of the main cock is made conical, so as to form a chamber for the gas to be distributed to the main burner and the jet burner. Between the tubes for the main burner is a hollow cylindrical chamber for the protection of the jet burner, so that a small jet can be kept constantly burning and easily regulated by a small cock.

Claim.—1. The hollow cylindrical gas cock B, constructed substantially as described, and operating as and for the purposes set forth.

2. The combination of pipes *h* and *h′*, pipe or hole *z*, and small cock *g*, chamber *p*, all as constructed, with the gas cock B, substantially as described, and for the purpose set forth.

3. The sway bar C, in combination with rods W W′, arms *f f′*, for operating the cock B, constructed substantially as described, and for the purposes set forth.

84,769.—WOODBURY SANBORN, Chelsea, assignor to himself and BAILEY WEST, Chicopee, Mass.—*Truss.*—December 8, 1868.—A metallic spider, having flanges on the ends of the arms, is applied within the shell to prevent its warping. A T-shaped piece is pivoted to the spider, and provided with buttons to which the supporting straps are attached.

Claim.—1. The shell A, having a metallic frame or spider attached to the inner side thereof, and provided with knobs attached to said spider, either with or without the cover C, the whole constituting a truss pad, and constructed of the material and substantially in the manner set forth.

2. The combination of the shell A, the metallic frame or spider rigidly attached to said shell, and the T-shaped piece F, pivoted to said spider, and mounted with knobs or buttons, the whole constructed substantially as specified.

3. The construction and arrangement, in combination with a truss pad, substantially of the kind herein described, of the flexible body strap D and thigh strap E, applied to said pad substantially as set forth and shown.

84,770.—Andrew Schmitt, California, Mo.—*Salve for Burns and Scalds.*—December 8, 1868.—Composed of disintegrated lint and fish oil, charred or burned together.

Claim.—The formation of a salve for the cure of burns, &c., in the manner and of the materials herein described.

84,771.—William Shannon, Allegheny City, assignor to himself and Joseph Graff, Pittsburg, Pa.—*Hinge.*—December 8, 1868.—The hinge is provided with a pintle, made in two parts and secured in a knuckle joint.

Claim.—Providing a hinge with a pintle, consisting of parts C and D, the inner ends of which are upset, in the manner herein described, and for the purpose set forth.

84,772.—William Shannon, Allegheny City, assignor to himself and Joseph Graff, Pittsburg, Pa.—*Hinge.*— December 8, 1868.—The two parts are each provided with a hooked end, so that they will lock when forced together in the knuckled joint of the hinge.

Claim.—Providing hinges with a pintle, C and D, made in two parts, the inner ends of which are beveled off at *f*, and provided with hooks *i*, substantially as herein described, and for the purpose set forth.

84,773.—Joseph Shirt and Charles Briggs, Tamworth, Great Britain.—*Steam Engine Condenser.*—December 8, 1868.—The device is constructed with steam and water spaces for the ingress of water and steam, so that a partial vacuum will be formed, thus dispensing with the air-pump mechanism for discharging the heated water.

Claim.—A condenser, constructed and operating as herein described.

84,774.—John Shoe, Pleasant Hill, Ohio.—*Beehive.*—December 8, 1868.—The hinged bottom projects a short distance beyond the side of the hive and can be placed at any desired inclination.

Claim.—1. The adjusting, hinged, inclined bottom C, operating substantially as set forth.

2. The top B, provided with supports or strips *h h*, to which are attached hooks, catching into staples on the hive, for the purpose of removing the said top, substantially as described.

84,775.—A. G. Smith, Jersey City, N. J.—*Lamp Burner.*—December 8, 1868; antedated November 27, 1868.—The burner is attached to the lamp by means of a plate, in connection with a ring of some elastic substance, so as to dispense with the use of a screw collar and to insulate the burner.

Claim.—1. In combination with the burner A and the cylinder C, the ribs or projections H H, substantially as and for the purpose set forth.

2. The insulating ring C, constructed with the flange I, substantially as and for the purpose set forth.

3. In combination with the burner A and elastic ring C, the detachable plate E, or its equivalent, for the purpose of rendering the ring C easily removable.

4. The plate E, secured to the wick tube F by a detachable device, substantially as set forth.

5. Keeping the plate E always in contact with its detachable fastenings, by means of the elasticity of the material of the ring C, as set forth.

84,776.—Garland B. St. John, Brooklyn, Mich.—*Cultivator.*—December 8, 1868.—To both plow beams is attached a standard, which carries a plow by means of a bolt passing through arms and through both beams. The standard is braced by rods so arranged as to admit of adjustment of the same to a greater or less angle of inclination.

Claim.—The securing of the standard G between the two beams C C, by means of the bolt *m*, arms *n n*, and braces H H, all arranged substantially as and for the purpose set forth.

84,777.—George E. Sutphen, Louisiana, Mo.—*Horse Rake.*—December 8, 1868.—An adjustable prop is arranged to fall upon the rear teeth and hold the rake from revolving until required, and is withdrawn from the teeth by a connecting rod and lever.

Claim.—The connecting rod D, with seat d^2, when used in connection with spring d^1 upon rod d^3, as shown and described, and combined with the prop C, having the foot piece *c*, and lever D', the whole being operated, in connection with the handle B and rake A, as and for the purposes described.

84,778.—James Tamblyn, Virginia City, Nevada.—*Automatic Stop for Mining Cars.*—December 8, 1868.—Curved projections or stops attached to a lever, arranged below the track, are caused to rise and prevent the car from moving forward when the cage is not in a position to receive the same. As the cage reaches the mouth of the shaft the stops are automatically withdrawn.

Claim.—The projections or stops E E, arranged with the levers C F, and spring H, connected with the chain G, and all applied to operate in the manner substantially as and for the purpose herein set forth.

84,779.—Thomas R. Taylor, Broadhead, Wis.—*Pile for Railroad Rails.*—December 8, 1868.—A T-shaped bar of steel is combined with a rolled iron bar, one of the surfaces of the latter being made to conform to the side of vertical web of the steel bar, and the whole doubled around one end and upon the two sides of the steel bar.

Claim.—1. The improved pile for forming railroad rails, when constructed and arranged as herein described.

2. As a new article of manufacture, railroad rails, when produced from the improved pile herein described, as and for the purpose set forth.

84,780.—Moses N. Ward, Bangor, Me., assignor to himself, Benjamin S. Grant, and Thomas Hersey, same place.—*Timber Grapple.*—December 8, 1868.—Two curved pronged arms are pivoted to an oval plate provided with a hole above and below the junctions of the said arms. At such junction the plate is provided with shoulders to prevent the ends from overlapping.

Claim.—The combination and arrangement of the double-eyed and shouldered plate B, made substantially as described, with the two pronged arms A A pivoted to such plate, as set forth.

84,781.—Francis Watkins, Birmingham, England.—*Nut Machine.*—December 8, 1868; antedated November 28, 1868.—The machine consists of two working parts, acting alternately, so that a nut is cut, shaped and punched on one side, while a finished nut is being ejected from the other side, thus utilizing the power required for one machine to operate two.

Claim.—The combination, with each other, of the reciprocating frames D and E, stationary die I, punches F, J, and K, slide G, punch H, and stop L, all made, arranged, and operating substantially as and for the purpose herein shown and described.

84,782.—Francis Watkins, Birmingham, England.—*Bolt-making Machine.*—December 8, 1868; patented in England, December 8, 1866.—Two rotating disks are mounted at the ends of a shaft, which latter also carries a feed wheel worked by a slotted rod, which is pin-jointed to a lever acted on by a cam on another shaft. In the periphery of each of the disks are placed dies for receiving the shanks of the rivets, bolts, &c., to be headed. Inside the dies are sliding bolts for holding the blanks, and for discharging them when finished.

Claim.—The arrangement, herein shown and described, of two bolt heading machines constructed substantially as described, and so as to operate alternately, as set forth.

84,783.—James Wensley, New Brunswick, N. J.—*Guiding Attachment for Sewing Machines.*—A sliding and adjustable gauge is made in two parts, so that one part may be swung out of the way for gauging around abrupt inner angles. An adjustable presser is also so arranged as to swing out of the way when not required for use.

Claim.—1. The pivoted gauge E and pivoted transparent presser G, in combination with the attachment B, arranged and operating as described, for the purposes specified.

2. The arrangement of the spring I and the notched bent arm K, by which the presser plate is jointed to its support, whereby the spring is adjusted to the several notches in the bent arm, for regulating the pressure of the plate, as herein shown and described.

3. The gauge E, provided with the stud *a* and adjustable part *b*, substantially as and for the purpose described.

4. The transparent presser, constructed as described, and hinged to the support by the rod K, arranged, with reference to the guide, as herein described, for the purpose specified.

84,784.—Amos Westcott, Syracuse, N. Y.—*Churn.*—December 8, 1868.—The staves of the churn are held together by a segment hoop having trunnions on each side, the said hoop also having a plate on its under-side extending down between standards on a socket that receives the legs composing the stand.

Claim.—1. The combination and arrangement of the segment hoop *c*, socket *h h*, with its projecting arms *k k*, and the vessel for the reception of the material to be operated upon, substantially as shown and described.

2. The combination of the segment hoop *c* and segment *b'*, substantially as shown and described.

84,785.—Simeon Wheat, Middletown, and David B. Wheat, New York, assignors to Francis M. Wheat and Ellen A. Wheat, Middletown, N. Y.—*Refrigerator.*—December 8, 1868.

Claim.—An improved refrigerator, formed by the combination of the double-walled case or body A, detachable ice box B, waste pipe C, cup D, drip pan E, hinged shelf F, middle shelf G, having its middle part cut away, and plaster of Paris lining, K, with each other, substantially as herein shown and described, and for the purpose set forth.

84,786.—George W. N. Yost, Corry, Pa., assignor to The Corry Machine Company.—*Track-Clearer for Harvesters.*—December 8, 1868.—The arc or bend of the track clearer is within a vertical mortise through the shoe, and laps around or incloses a segment of the shoe next the mortise, so as to avoid all separate pivoting, and attaching the clearer to the shoe by rivets, bolts, &c.

Claim.—The combination of the track clearer V and the finger-bar shoe W, a curved or bent part of the track clearer lying within a vertical mortise in and encircling a part of the shoe, made and used as described, for grass and grain cutting machines.

84,787.—Alexander Adamson, Washington, D. C.—*Shoulder Brace.*—December 8, 1868.

Claim.—The shoulder brace, consisting of a single elastic strap crossing its center, (where it is fastened,) and forming the double loops B B, as herein described, and for the purpose set forth.

84,788.—Thomas R. Allen, Syracuse, N. Y.—*Beehive.*—December 8, 1868.—Secured to the sills are frame holders provided with notches on the top to receive the main beams of the comb frames. The outside covering is fitted with a top covering.

Claim.—1. The frame holders F F, separately, and also in combination with the sills *a a*, substantially as and for the purposes described.

2. The same parts, in combination with the comb frames *c c*, substantially as described, and independent of and detached from the outside covering C D.

3. The frame holder F, constructed as described, in combination with the outer covering C and top D, as set forth.

84,789.—Fortune L. Bailey, Freeport, Ind.—*Car Mover.*—December 8, 1868.—By an upward and downward movement of the lever, the rods which carry the griping devices alternately slide and step forward to move the car.

Claim.—The arrangement of lever A, bars I I, and clamp B, when combined with the griping devices on the lower ends of the rods I I, as and for the purpose set forth.

84,790.—L. D. Bidwell, Birmingham, Conn.—*Mowing Machine.*—December 8, 1868.—Each of the circular cutters has a revolution upon its own axis, and also one in an opposite direction about their common center of motion. The number of cutters is such that each will operate once while the fingers are moving each one length.

Claim.—1. The arrangement of the revolving cutters *d* in a revolving head, so as to give to the said cutters a double movement, substantially as herein described.

2. In combination with the above, the finger bar P, constructed and arranged so as to operate in conjunction with the said cutters, substantially in the manner set forth.

84,791.—Clark E. Billings, Warren, Vt.—*Apple Quarterer.*—December 8, 1868.—A wooden plunger is pressed down upon the apple placed on a central point, and forces it between the four knives.

Claim.—The arrangement herein described of the fixed knives F, placed at right angles to each other, and having the central point *g*, the plunger B, hollowed out upon its under side, the plunger rod C, guides *h*, slotted lever D, pin *i*, spring E, and stand A, as herein set forth, for the purpose specified.

84,792.—G. E. Boissilier, St. Louis, Mo.—*Compression Cock.*—December 8, 1868.—A socket valve within the shell of the cock is operated by revolving the stem which is secured beneath the cap.

Claim.—The valve D, having a screw thread cut upon its outer surface, and furnished with a smooth socket J, in which the squared end of the valve stem C is fitted, said stem having a disk *i*, bearing against the under surface of the packing placed in the recess of the cap B, and resting upon the lower packing disk, secured to the shell A by the screw cap, all arranged and operating as described, for the purpose specified.

84,793.—W. H. Boyden, Rockland, R. I.—"*Dresser Copper*" *for Warp Dressing Machines.*—December 8, 1868.—Behind the rack are arranged wires over which the yarn or threads pass without danger of being cut, and which may be easily moved or replaced when worn or injured.

Claim.—1. The combination of the rack B and wires *m m*, in a frame A, substantially as and for the purposes specified.

2. The arrangement of the rack B, frame A, wires *m m m m*, thumb screws *n n*, and clamp T, substantially as shown and described.

84,794.—William D. Brooks, Bethany, Pa.—*Elevator.*—December 8, 1868.—Designed as an improvement upon a patent granted to Cramer and Brooks, September 17, 1867. Over the rafter which sustains the pulley block is placed a metal cap, through which and the rafter is passed a hook secured by a nut, shoulder or pin, that rests upon the cap.

Claim.—The cap *b* and rod *a*, for sustaining the swiveled pulley C, and a series of hooks D, in combination with and arranged with relation to the adjustable flexible gravity track, as herein set forth and shown, for the purpose specified.

84,795.—Henry Carse, Pittsburg, Pa.—*Bottling Machine.*—December 8, 1868.—The opening of the bottle screen is controlled by means of the corking piston, so that the screen continues closed until the said piston is lifted from its work, thus affording the desired protection until the completion of the work.

Claim.—The screen I, when the closing thereof is controlled by the downward motion of the filling head, and its opening by the receding motion of the corking piston or its carrying frame, through suitable mechanism, substantially as herein set forth.

84,796.—M. Cary, Racine, Wis.—*Medicine.*—December 8, 1868.—The ingredients consist of ground bark of the root of wahoo, ground gulber root, ground root of iron plant, ground bark of the root of white pine, ground bark of the root of wild cherry, pulverized root of sanguinaria, sugar, and flour.

Claim.—The ingredients herein named, compounded and pressed substantially as and for the purpose specified.

84,797.—MICHAEL CONNOLLY, Newark, N. J.—*Spade.*—December 8, 1868.

Claim.—The described construction of the spade, consisting of the blade A, bent at its center, so that the two parts *a b* shall form an obtuse angle with each other, and provided upon its upper end, next the handle, with the widened foot rest C, as herein described for the purpose specified.

84,798.—GEORGE W. COOPER, Ogeechee, Ga.—*Plowshare.*—December 8, 1868.—The usual landside plate is dispensed with, and the front cutting edge is made concave on the under side, thereby causing the plow to rest on the left-hand edge.

Claim.—A cast iron plowshare A, made as described, without a landside plate, and with a concave front edge, substantially as and for the purpose set forth.

84,799.—WILLIAM D. CORRISTER, New York, N. Y.—*Fluting Machine.*—December 8, 1868.—By turning the operating screw, the bent bar, and with it the upper roller, can be adjusted up or down at will to regulate the distance between the two rollers.

Claim.—The described arrangement of the operating screw C, spring *i*, nut *h*, and bent bar D, as herein set forth, for the purpose specified.

84,800.—THOMAS C. CRAVEN, Albany, N. Y.—*Hay Spreader.*—December 8, 1868.—As the machine moves forward the reel is caused to revolve in a direction opposite to the movement of the wheels, so that the hay is taken from the ground, carried over the top of the reel and thrown back of the machine.

Claim.—1. The combination, with the ends of the central support M and caps *m*, of the bars N, substantially as and for the purpose set forth.

2. The combination of the bars N, having irregular shaped ends, with the heads or disks L and central support M, substantially as and for the purposes set forth.

3. The combination of the caps *m* with the central support M, substantially as and for the purposes set forth.

4. The combination, with the frame or bearings which support the reel shaft, of the eccentrics E′, substantially as and for the purposes set forth.

5. The combination, with the eccentrics E′ and side rail A, or their equivalents, of the arms *p*, springs *s*, and pins *r*, substantially as and for the purposes set forth.

6. The combination of the driving gears K with the wheels F, substantially as and for the purposes set forth.

7. The combination, with the frame which supports the reel and the frame which connects the journals of the wheels F, of adjusting screw R and nuts *v v′*, substantially as and for the purposes set forth.

8. The combination, with the frame of the machine and the driver's seat, of a metallic or other suitable guard or shield W, arranged substantially as and for the purposes set forth.

9. The combination, in a hay tedder, of a triangular or three-barred reel, with caps *m*, constructed substantially as shown and described.

84,801.—ELISHA CROWELL, New York, N. Y.—*Article of Prepared Codfish.*—December 8, 1868.—The bones and skin are removed from the fish, which is cut into long, narrow strips, and then exposed to a current of air.

Claim.—A new article of prepared codfish, made substantially as described.

84,802.—JOHN CURTIS, Cincinnati, Ohio.—*Step Cover and Wheel Fender for Carriages.*—December 8, 1868.—When the carriage door is opened a hinged flap hangs down and protects the clothes of a person entering the carriage from being soiled by contact with the rear wheel.

Claim.—The bracket F, depending rigidly from the carriage door, in combination with the hinged flap G, arranged and adapted to operate in conjunction with a carriage step, in the manner and for the purposes set forth.

84,803.—THOMAS B. DAVIS, New York, N. Y.—*Scoop.*—December 8, 1868.—The scoop is so constructed that when resting on a plane surface the bottom is slightly inclined from front to rear, so as to prevent any substance in the scoop from falling out.

Claim.—A scoop, having its body A constructed out of a single piece of sheet metal B, cut and bent in the form, and soldered, substantially as herein shown and described.

84,804.—CHAUNCEY A. DICKERMAN, New Haven, Conn.—*Label Holder.*—December 8, 1868; antedated November 30, 1868.—Designed for attachment to trunks, boxes, &c., and so constructed that a card may be readily withdrawn and replaced by a new one.

Claim.—The frame A, through which is formed an opening, B, and upon the under surface, upon three sides of the opening, a rabbet, *a*, is formed, and so as to leave an opening through the end, C, for the insertion of the card, and having combined therewith a convex plate, D, the whole constructed and arranged so as to be applied and operate in the manner set forth.

84,805.—A. P. DURANT, Athens, Ohio.—*Beehive.*—December 8, 1868.—The hive is so constructed as to admit of its being easily enlarged or diminished in size, to suit a large or small swarm of bees.

Claim.—The combination of the base or bottom, A, bars B B, frames C D, side pieces E F, connecting bars G G, frame H, and cap I, all constructed and arranged substantially as herein set forth.

84,806.—CHARLES DURANT, Jersey City, N. J.—*Electro-magnetic Relay Instrument.*—December 8, 1868.—Improvement on a device patented to the same inventor on May 19, 1868, and is designed to prevent the oscillating movement of the bolt by reason of the movement of the armature, incident to the varying strength of the electric current, and which is sufficient to throw the machine out of adjustment, as in the original device. A graduating friction is also produced on the sliding bolt by means of a spring fastened to the bolt, or fastened, and the pressure on the bolt graduated for the purpose of shutting out "induction."

Claim.—1. The curving of the shifting or sliding bolt L, and also the curving of the opening in the armature or armature lever, through which opening said bolt moves and operates, substantially as and for the purpose herein shown and described.

2. The spring U, in combination with the adjustable lever V, or its equivalent, applied to the shifting or sliding bolt L, moving through and upon the armature or armature lever, substantially as and for the purpose set forth.

84,807.—O. W. EDMUNDS, Bluffdale, Ill.—*Harrow.*—December 8, 1868.—To the beam which connects the shafts of two rotating harrows is attached a spring so as to admit of a yielding motion of the said shafts. The said shafts are fitted in adjustable bushes, provided with inclined openings, by which the harrows are caused to rotate in opposite directions.

Claim.—1. The combination, with the beam C and shafts B of the harrow, of the spring F, substantially as and for the purpose described.

2. The combination of the bushes E, beam C, shafts B, and spring F, as herein described, for the purpose specified.

84,808.—ALBERT J. ELDER, Kansas City, Mo.—*Safety Bridge for Railway Cars.*—December 8, 1868.—The plates are attached respectively to either end of a car, and are connected by a headed bolt in one, passing through a slot in the other, so as to conform to the motion of the cars.

Claim.—1. Two plates, B B′, one provided with a headed bolt, D, and the other with a slot, when hooked to the opposite ends of two railroad cars, substantially as and for the purposes herein set forth.

2. The pivoted hooks E E, held in place by the stirrups I I, and secured to the platform A′ by the eyes F F, in combination with the slotted plate B′ and plate B, to operate substantially as herein set forth.

3. The combination of the plates B B′ with the headed bolt D passing through the slotted plate B′, hooks E and C, stirrups I, and eyes F, all substantially as shown and described.

84,809.—William H. Elliott, New York, N. Y.—*Feather Renovator.*—December 8, 1868.—Warm or cold air is forced from a chimney through conducting passages in such connection with a boiler and steam pipes, that the air may be moistened more or less with steam, as required. Hollow bearings for the renovating cylinder serve as couplings between the central pipe and the draught pipe.

Claim.—1. The arrangement and combination of the draught pipe *f″*, steam pipe *e*, central perforated shaft *f*, and diaphragm *g*, as specified.

2. The combination of hollow bearings *k*, diaphragm *g*, and draught pipe *f″*, substantially as herein described.

3. The combination of heater *c*, central pipe *f* with its tubes *r*, diaphragm *g*, and draught pipe *f″*, substantially as set forth.

84,810.—George William Ensminger, Richland, Iowa.—*Wire Fence.*—December 8, 1868.

Claim.—1. A portable wire fence, formed in sections, composed of the wires A, movable posts A^1 A^2, slats B, supports C, and corner posts D D^1, constructed as herein described.

2. The rods K and plates *k*, and the screws E and nuts *e*, in combination with the movable posts A^1 A^2 and corner posts D D^1, arranged and operating in the manner herein described and for the purpose specified.

3. The wires H, and the screws G, and nuts *g*, in combination with the movable posts A^1 A^2 and corner posts D D^1, arranged and operating in the manner and for the purpose herein described.

84,811.—W. B. Farrar, Greensborough, N. C.—*Shutter and Blind Fastener.*—December 8, 1868.—For securing the bolt by which the shutter bar is confined, and is so constructed as to prevent it from being removed by a person outside the building, but can be fastened at any time from the outside.

Claim.—1. The tumbler E, in combination with the stop G, both operating in connection with the bolt B, as and for the purpose specified.

2. The combination and arrangement of the springs F and G, plate E, shoulder *n*, pins *m m*, knob *e*, and bolt B having the notch *b*, when constructed to operate substantially as and for the purpose set forth.

84,812.—James T. Fife, Tyner City, Ind.—*Beehive.*—December 8, 1868.—The chamber in the main hive is made with a circular bottom, having an opening extending its whole length. The side boxes are so arranged that the honey boxes at the ends can be slipped into them, and between the lid and the main chamber are two more honey boxes.

Claim.—1. The lid C, when so arranged as to cover the main hive A, as well as the side boxes B B, and to lock the door to the main hive and the end doors to the wings, substantially as and for the purposes herein set forth.

2. The chamber F, constructed as described, and provided with the entrance *k* for the bees to enter the chamber when hiving them, and with entrances *a* and *b*, for the passage of the bees from said chamber to the different honey boxes, substantially as and for the purposes herein set forth.

3. The combination of the side boxes B B, chamber F, honey boxes D D and E E, ventilating chamber *o*, frames *f f*, and robber catcher J, to make and constitute a complete beehive, substantially as and for the purposes herein set forth.

4. The arrangement of the case A, and its wings B B, with the chamber F, honey boxes E E and D D, and cover C, all constructed and combined in the manner specified.

84,813.—James Finlay, New York, N. Y.—*Knee Boot for Horses.*—December 8, 1868.—The boot is provided on its inner surface with pads for preventing the boot from touching the leg. Upon transverse straps are placed adjustable pads, to suit legs of different sizes.

Claim.—1. The knee boot A, constructed and provided, as described, with fixed pads *a a′ a*, and adjustable pads *c c′*, to slide upon fixed or sliding straps *b b′*, substantially as herein specified.

2. A knee boot, constructed with upward projection A′, for protection of the knee, and the leg above the knee, substantially as herein described.

84,814.—William Foster, Jr., and George P. Ganster, New York, N. Y.—*Apparatus for Illuminating Railroad Cars, Steamers, &c.*—December 8, 1868.—The perforated tubes prevent the sponges from clogging the holes at the bases of the tubes. The movable platforms serve to express, with great force, the refuse material of the sponges, without opening the apparatus. By means of an upright and cam, a powerful compressive force is applied within all the chambers.

Claim.—1. Holding the gasoline in sponge, or equivalent absorbent material, on movable plates, substantially as and for the purposes herein set forth.

2. Receiving the gasoline in sponges, and exposing it to evaporation therefrom, by holding the sponges in layers in the several chambers F G H, as and for the purposes herein set forth.

3. The perforated tubes N M, arranged as represented, in the chambers F G, and to the absorbent material, arranged as and for the purposes herein specified.

4. The movable platforms *f g*, &c., in combination with the absorbent material, chambers F G, &c., and provisions for conducting the air back and forward through the same, and adapted to be moved vertically by suitable means, as herein specified.

5. The upright K, and cam *j*, in combination with the movable platforms *f g*, &c., and arranged to operate therewith, in the manner and for the purposes set forth.

6. The reinforcing chamber E, containing a fresh supply of volatile fluid, arranged relatively to the evaporating chambers F G, &c., and their connections, substantially as and for the purposes herein set forth.

7. The wicking e^2, arranged as represented, relatively to the reinforcing chamber E, cock e^1, and evaporating devices below, substantially as and for the purposes herein set forth.

8. The combination of a spring power or blowing mechanism, evaporating space, and absorbent material therein, forming an organized machine, adapted for use in railroad cars, and analogous moving structures, with the advantages and for the purposes herein specified.

9. The method, herein described, of illuminating moving structures by means of a portable gas apparatus, holding volatile fluid in capillary tubes, and operating by a force independent of gravity, and without disturbance from inertia, all constructed, combined, and arranged, substantially in the manner and for the purposes herein set forth.

84,815.—Edward F. Garvin, M. D., New York, N. Y.—*Instrument for Treating Fistula, &c.*—December 8, 1868.—The instrument consists of a hollow, conical, slotted tube, in which is an expander for enlarging the tube. Below the tube is a supplementary chamber, from which the material to be used is forced by a plunger into and through the conical tube to the parts of the body affected.

Claim.—1. The hollow conical slotted tube *a*, with two or more slots, substantially as and for the purposes described.

2. The cap *c*, having the chamber *f* below tube *a*, substantially as and for the purposes described.

3. The plunger *g*, operating in the supplementary chamber *f*, also expander *h*, both operating with or without screws, substantially as and for the purposes described.

4. An expander, *h*, of equal diameter, operating in

a conical tube of unequal diameter, as and for the purposes substantially as represented.

5. All the parts of the described instrument, singly or in combination, as and for the purposes described.

84,816.—Evans Geart, Harrisburg, Pa.—*Brick Machine.*—December 8, 1868.—Upon the front end of a sliding box is a sliding gate, operated by a lever, for cutting off the necessary quantity of clay. In front of the pug mill is a table mounted on a supporting frame, and has pivoted to its front end a flanged tilting plate for holding the mold.

Claim.—The arrangement herein described of the tempering tub A, compressing plunger B, adjustable feeding box C, cut-off *f*, tilting plate *e*, open-bottom molds *r*, and sliding table B, all operated as herein set forth.

84,817.—D. L. Gibbs, Worcester, Mass.—*Mortising Machine.*—December 8, 1868.—Upon the base, at each side of the treadle, are projections, on which are standards that support a shaft, having upon it two pinions which mesh into racks, by which the table is elevated and depressed. The chisel arbor is turned by means of a lever, to reverse the position of the chisel, and is retained in position by a spring fastened to the back of a slide and having its lower end resting on a cam secured to the arbor. To the side of the main frame is fastened a guide frame upon which slides a carriage furnished with a rack, and in front of which are bearings carrying an upright spindle to which an auger is attached.

Claim.—1. The employment, with the treadle D of a mortising machine, of a catch or stop mechanism adapted to retain said treadle in its depressed position without the aid of the foot, substantially as set forth.

2. The combination of the arm J, spring *g*, beak *i*, and lever K, in the manner described, the whole constituting a catch mechanism, arranged to operate in connection with the treadle D, substantially as herein set forth.

3. The arrangement, with the main frame A, of the treadle device herein described, and the devices for elevating and depressing the table, as shown and described.

4. The combination, with the chisel arbor O, of the hand lever P, spring S, and cam T, having projection *o*, as shown and described.

5. The arrangement, with the guide frame U, of the rack carriage V, lever 3, connecting rod 4, standard 15, stop 11, weight and cord 6, 7, stud 8, pinion 8′, and hand wheel W, as and for the purposes set forth.

6. The arrangement, in connection with the treadle rod D′, of the weight D″, and double-grooved pulley Z, and cords or chains *z z′*, as shown and described.

84,818.—Mason Gibbs, Homer, Mich.—*Harvester Rake.*—December 8, 1868.—To the reel shaft is rigidly attached a pinion, two opposite fourths of whose periphery are toothed, and the other two fourths covered by projecting plates provided with notches. A vibrating sector-shaped frame is fitted loosely on the reel shaft, and carries the rake arms. This frame has a toothed portion into which the toothed portion of the pinion and head alternately mesh.

Claim.—The pinion and head G, placed on the reel shaft B, in connection with the sleeve C, sector D, with the teeth R, levers H L, and the cam M, all aranged for joint operation, substantially in the manner as and for the purpose set forth.

84,819.—William Goodwin, Boston, Mass.—*Steam Enginery.*—December 8, 1868.—Each of the several pistons is jointed to one of a series of cranks projected from a series of shafts having their bearings in the two heads of the frame, the boxes of which bearings may be adjusted radially relatively to the main shaft. Each of the heads is provided with a tubular annulus, one for the supply of steam to the several cylinders, and the other to receive the exhausted steam.

Claim.—1. The combination and arrangement of the steam cylinders E E, their pistons, and cranked shafts *g g*, with the driving shaft B, gears *h i*, and several cranked shafts, as described.

2. The combination and arrangement of the two hollow or tubular annuli D D, with the series of steam engines, and their cranked and main shafts *g* B, gears *h i*, and frame C, as set forth.

84,820.—Marion Gould, Chicago, Ill.—*Roofing Composition.*—December 8, 1868.—Composed of fine sand, pine tar, whale oil, and Japan varnish, boiled together and spread on felt.

Claim.—The combination of the ingredients herein named, compounded substantially as and for the purpose specified.

84,821.—Gustav Graetz, Alexandria, Va.—*Match for Lighting Cigars, and for other Purposes.*—December 8, 1868.—Through a disk of tinder or fire sponge is inserted a stem of wood or other suitable material. The outer face of the disk is then dipped in phosphorus or equivalent fulminate.

Claim.—A match, constructed substantially as described.

84,822.—Thomas F. Hamilton, New Haven, Conn.—*Imitation Stone for Building Purposes.*—December 8, 1868.—A block or bar of wood is inclosed in a casing of hydraulic cement and sand.

Claim.—The herein-described process for forming blocks with a wood foundation and cement covering, substantially as herein set forth.

84,823.—C. A. Harper, Wheeling, Ind.—*Cultivator.*—December 8, 1868.—An improvement on his patent of January 7, 1868. The forward part of the frame is hinged or jointed so that the wheel may have a vertical movement and adjust itself to the unevenness of the ground. The flanged shaft or clodder is formed at its end with a ball which works in a slot in the lower part of a swinging arm, the upper end of which is pivoted to the frame.

Claim.—1. Connecting the wheel D to the cultivator beams or frame A, by means of the hinged or jointed slotted plate or frame E, substantially as herein shown and described, and for the purposes set forth.

2. Securing the flanged shaft H or clodder in its bearings, by means of balls or heads formed upon the ends of said shaft, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the swinging arm J with the rear end of the flanged shaft or clodder H, and with the frame of the cultivator, substantially as herein shown and described, and for the purpose set forth.

84,824.—H. N. Hemingway, Rochester, N. Y.—*Bed Spring.*—December 8, 1868.

Claim.—The metallic holder *h*, having double open sockets, *c*, (for holding the ends of the elastic loops *g*,) and a projecting shank, *s*, with a lip, *a*, when constructed substantially as herein set forth, for the purpose specified.

84,825.—James Hoover, Gratis, Ohio.—*Fly Trap.*—December 8, 1868.—A revolving circular plate upon which is an S-shaped elevation, is furnished with a casing, and is combined with a spring trap door fitting over an opening in a reservoir, into which the flies are precipitated by the said door after being caught beneath the casing.

Claim.—1. The revolving circular plate or disk B, constructed on its upper side with the S-shaped shoulder or elevation C, arranged and operating substantially as and for the purpose set forth.

2. The employment of the trap door F, provided with the spring bar *f*, attached to bar *f′* and spring *g*, secured to bar *g′*, constructed, arranged, and operated substantially as and for the purpose described.

3. Platform or casing A, plate or disk B, elevation or shoulder C, casing or covering D, flange or partition *d*, trap door F, spring bar *f*, bar *f′*, spring *g*, bar *g′*, and reservoir E, provided with opening *e*, all combined, constructed, arranged, and operated substantially as and for the purpose set forth.

84,826.—Henry O. Hughes, Judson, Mo.—*Beehive.*—December, 8, 1868.—The bottom of the hive is formed of inclined hinged and sliding doors, and is provided with ventilating cut-offs, constructed so as to change the draught in the different parts of the hive.

Claim.—1. The lower or bottom part of the hive A, constructed as described, in combination with the hinged and sliding inclined doors *c c′*, and cone-like-shaped piece or bottom, *e*, operated substantially as and for the purpose set forth.

2. The employment of the cut-offs D D′, constructed or grooved so as to change the draught, or cut it off from one part of the hive to the other, arranged and operated substantially as described.

3. Frame B, outer and inner casings or walls A A′, doors *c c′*, bottom *e*, comb frame C, partition or floor *g*, honey boxes g^1 g^2, doors *h* and *a*, and ventilating cut-offs D D′, all constructed, arranged, and combined, substantially as described.

84,827.—Theodore G. Hulett, Niagara, N. Y.—*Cable Shackle for Bridges.*—December 8, 1868.—The shackle is made of ox-bow form, its outer edge being provided with a groove, in which the cable lies. In its end are two holes, one for entering the cable, and the other to fasten it, a slot or hole being provided to adjust the length or take up the slack of the cable by means of slotted bars, pin gibs, and keys.

Claim.—The adjustable cable shackle, constructed and operating substantially as described.

84,828.—Marion Jacobs, Sturgis, Mich.—*Potato Digger.*—December 8, 1868.—In the rear of two separated parallel plows is arranged a coulter, from the center of the sides of which project radial rods. At the lower end of the coulter are two angular shares, which constitute the digger.

Claim.—The arrangement of the plows A, with the devices D, F, and G, forming the digger, all as shown, and for the purposes described.

84,829.—Nicholas Jenny, Jr., Pittsburg, Pa.—*Carriage Loop and Billet Cover.*—December 8, 1868.—A metal socket provided with ears or flanges, through which are inserted rivets, passing through the flap of leather on a horse collar, and entering a metal plate placed between the two parts of the flap.

Claim.—The metal sockets or receptacles into which the straps B B are inserted, and provided with flanges *b b* and rivets *b′ b′*, in combination with the straps D D and metal plates C C, all constructed, arranged, and operated as and for the purpose set forth.

84,830.—George Jones, New Haven, Conn.—*Coffee Urn.*—December 8, 1868.—Improvement on patents granted to T. Bishop, November 1, 1859, and G. Jones, April 16, 1867.—A flanged cover sets into an annular chamber in the upper part of the urn, which chamber is partially filled with water to form a tight joint.

Claim.—In combination with the perforated cylinder C, within the body A of the urn, the arrangement of the annular chamber B and flange *a* of the cover, without communication from the chamber B to the urn below, substantially as and for the purpose set forth.

84,831.—Henry P. Judson, Bethlehem, Conn.—*Ox-bow Pin.*—December 8, 1868.—Carved springs extend around the cross-head, and are secured at their rear ends by means of clips or hooks bent down over the wire of the spring when in position.

Claim.—1. The self-acting wire side springs D D, when constructed and arranged as described, in combination with the pin C and cross-head B, substantially in the manner and for the purpose set forth.

2. The peculiar method, herein described, of attaching and supporting the side springs D, consisting of the pipes F and hooks *a*, in combination with the cross-head B and loops E, as and for the purpose specified.

84,832.—Daniel Kellogg, Ypsilanti, Mich.—*Clothes Boiler.*—December 8, 1868.—Upon the pipes, which arise from the bottom plate, are fitted to slide easily caps provided with curved pipes, so as to adjust the apparatus to boilers of different heights.

Claim.—The removable caps D, with their branch spouts *f*, when combined with the perforated and slotted plates *a b*, as herein shown and described.

84,833.—William A. Kirby, Auburn, N. Y.—*Harvester Rake.*—December 8, 1868.

Claim.—1. A combined rake and reel, the arms of which are capable of having a rolling motion on their axes, and in which any arm, acting at the time being as a beater, or all of the beaters, can be raised or lowered, while acting as such, by the operator riding on the machine, so that it or they may pass over the grain on the platform at any desired height, substantially as described.

2. In a combined rake and reel, in which any arm thereof may be a rake or a beater, at the will of the operator, the so constructing or arranging the cam ways as that the arm that acts as a rake shall pass over the platform at a uniform fixed height, while the arms that act as beaters may be raised or lowered in parallel lines, to pass over the grain on the platform at such height as the operator may desire, substantially as described.

3. Hanging the arms of a combined rake and reel at points remote from the center of motion of the wheel or head that carries them, so that, in dropping or rolling the rake and beater arms into their working position, they shall do so in a direction contrary to that in which the wheel, frame, or head that carries them is moving, and so that they may roll into a position to reach the adjustable-hinged lifting and lowering cam way, when used as beaters, and pass beyond or outside of it when used as a rake, substantially as described.

4. Uniting a series of rakes and beaters to their journals, respectively, by curved or bent axles crossing each other, one bent upward and the other downward, for the purpose of getting the centers of motion of the beaters or arms all in the same plane, so that they may all receive a uniform motion from the cam ways that guide or influence them, substantially as described.

5. The combination of the sleeve with its hinged dogs, the forked latch *k*, and the cam way 12, for the purpose of enabling the operator on the machine to throw the arm that has been acting as a rake out, and hold it out, or to allow it or any other arm of the series to run into action as a rake, while the remaining arms of the series act as beaters, substantially as described.

6. In combination with a series of arms that have a revolving, rising, and falling, and a rolling motion on their journals, a hinged cam way, that may be raised or lowered, to raise or lower the beaters by means of a lever extending therefrom, so as to be within reach of the driver upon the machine, substantially as described.

7. In combination with a series of arms, one of which acts as a rake, and the others as beaters, a series of hinged dogs *g*, one of which shall serve to adapt an arm specially to raking, while the others shall adapt the other arms specially to reeling in the grain, substantially as described.

84,834.—Rudolph Laporta, New York, N. Y.—*Horse Shoe.*—December 8, 1868.—A screw bar is made to fit at its forward end, the inner edge of the shoe, and at its rear end screws into a nut placed into a hole in a cross bar provided with calks, and fitting in the rear inner edges of the screw. By screwing the nut to fasten the device, the heel of the shoe tends to expand.

Claim.—The combination of the screw bar C with calk I′, nut E, cross-bar H, having calks I I, with the shoe A, when constructed and arranged to operate together substantially in the manner and for the purpose described.

84,835.—Francois Leclère, Boston, Mass.—*Apparatus for Making Paper Boxes.*—December 8, 1868.—Designed for the formation of hollow paper articles from paper pulp, and the invention consists mainly in employing over a pervious former, a column of thin pulp, which in height several times exceeds the height of the article to be made.

Claim.—1. For the purpose specified, the described process of using thin pulp in high columns over pervious formers, substantially as set forth.

2. The combination of the wheel *b* with cylinders *r*, arranged to rise and fall over the formers *m*, substantially as and for the purpose set forth.

3. The combination of the wheel *b* and slides conveying the formers *m*. with inclines to move the slides outward and inward, as the wheel revolves, substantially as and for the purpose set forth.

4. The combination, with the cylinders *r* and their conveyer *b*, of the valves *o*, and the incline c^1 operative thereon, substantially as and for the purpose set forth.

5. The process of condensing the pulp on the former, and expelling the water therefrom against atmospheric pressure by covering the pulp-covered former with a close vessel, d^1, and admitting therein air under pressure, substantially as and for the purpose set forth.

6. The process for removing the paper from the pervious former, by covering the pulp on the former with a cap fitting thereon, and admitting an air blast within the former, substantially as and for the purpose set forth.

7. The process for removing the paper from the cap which received it from the former, and for transferring the paper to a receiving block, by covering the receiver block with the cap, and admitting an air blast into the cap, substantially as and for the purpose set forth.

84,836.—John Matthews, Jr., New York, N. Y.—*Bottle-filling Apparatus.*—December 8, 1868.—Designed for bottling gaseous liquids under pressure, and at the same time charging the bottles with sirup or other flavoring mixtures while under the filling head of the machine.

Claim.—1. The combination of a sirup pump or charging device with the filling head or corking plunger of a bottling machine, in such manner that said pump or charging device is operated automatically by the filling head or its corking plunger, to admit sirup or other flavoring mixture to the bottle, while the aerated water, or other liquid to be sweetened or flavored, is separately supplied to said bottle as it remains under the filling head, substantially as specified.

2. The arrangement, essentially as described, of the sirup pump or charging device, made adjustable, to regulate its charge, as specified, with the filling head or corking plunger, for operation together, substantially as herein set forth.

84,837.—W. W. McKay, Ossian, Iowa.—*Rotary Horse Brush.*—December 8, 1868.—The parts are so arranged as to admit of the ready substitution of one brush or comb for another.

Claim.—1. The combination, in a frame, of a rotary brush, and a slide arranged for communicating rotary motion to the brush, alternately in one direction and the other, as and for the purpose described.

2. The brush D, arranged in combination with the frame A, so as to be readily attached to and detached therefrom, substantially as and for the purpose described.

3. The combination, with the brush D, of the adjustable scraper F, substantially as and for the purpose described.

4. The arrangement of the brush D, frame A, pulleys E, cords D′, and slide C, all substantially as and for the purpose described.

84,838.—John McKibben, Lima, Ohio.—*Bridle.*—December 8, 1868; antedated December 1, 1868.—The reins serve as check and driving reins combined, being made to pass through rings at the lower ends of the side bars of the bit.

Claim.—The reins E, provided with the stops *h*, in combination with the bit, having its side bars *g* provided with the guides *f f* for the reins to pass through, and the tubes *e*, at the rear edges of the blinders, through which the reins also pass, all arranged substantially as and for the purpose set forth.

84,839.—Warren Morehead, Parkersburg, W. Va.—*Extension Ladder.*—December 8, 1868.—An improvement on his patent of March 14, 1865, and consists in providing the latch with a regulating slide, and in constructing the ladder with two beams of single thickness, instead of one with double thickness.

Claim.—The arrangement of the sliding ladder B, constructed as described, triangular ladder A, with its guides *d d*, and the latch D and slide *e*, all constructed and operating as shown and described.

84,840.—Charles R. M. Pohlé, Richmond, Va.—*Envelope.*—December 8, 1868; antedated November 30, 1868.—The two extremities of the end flaps are each provided with a half seal, both of which are put through the cut in the closing flap and covered by the seal flap.

Claim.—The closing of the envelope by the action of the double seal, substantially as described.

84,841.—Liberty Raymond, Green, Ohio.—*Water Elevator.*—December 8, 1868.—To a swing or trapeze are suspended inclined guides extending nearly to the bottom of the well, so as to prevent the buckets from interfering with each other in passing.

Claim.—The combination of the swing or trapeze F, the inclined guide G, and the cords and pendants D E, all substantially as and for the purpose set forth.

84,842.—Joseph S. Reynolds, Wauconda, Ill.—*Flour Cooler.*—December 8, 1868.—In a series of pans, placed one above the other, are arranged agitators secured upon a common shaft. Screw conveyers are arranged to convey the flour from the spouts to a point near the center of each pan below, whence it is carried to the peripheries of the pans.

Claim.—The arrangement, herein described, of the shaft B and agitators D D, with the cooling pans A A, provided with spouts *a′ a′*, near their peripheries, and screw conveyers C, as and for the purpose set forth.

84,843.—William S. Robbins, New Bedford, Mass.—*Bridle Bit.*—December 8, 1868.—Designed as a safety bit in addition to an ordinary bit, so that if the horse takes the bit in his teeth, a bit will still remain in his mouth by which he may be managed.

Claim.—1. The inner bit B, attached to the outer concave bit A by means of the curved end springs *h*, whereby the inner bit is adapted to be drawn out of the bit A its entire length, and parallel with said outer bit as herein described, for the purpose specified.

2. Attaching the bridle to the outer bit A, and the driving reins to the inner bit B, as herein described, for the purpose specified.

84,844.—Charles Sangalli, New York, N. Y.—*Hand Supporter for Pianos, &c.*—December 8, 1868.—The invention consists in providing a piano or organ with a hand supporter, which can at any time be readily attached to or detached from the instrument.

Claim.—The apparatus hereinabove described, or its equivalent, suspending the hands or resting the wrists, without hindering the free movements of the fingers, and keeping thereby the hand or wrist, and, in consequence thereof, the fingers upon the keyboard, in the position desired, at the same time unhindering all the motions required to be made to use the same, and to play upon an instrument, as above described.

84,845.—W. W. Simmons, Birmingham, Conn., assignor to himself, R. M. Bassett, and T. S. Bassett.—*Dies for Making Carriage Axles.*—December 8, 1868.—The invention consists in the employment of dies for welding on the collar, shaping the journal and collar, and swaging or upsetting the stock in rear of the collar, all at one operation.

Claim.—The dies E, constructed as shown and described, for the purpose hereinbefore set forth.

84,846.—Oscar Snell, Williamsburg, Ohio.—*Pump.*—December 8, 1868.—At the side of the pump barrel is a chest which contains a slide valve that covers two ports communicating respectively with the pump barrel and the suction pipe. A tube projecting from the top of the valve chest causes the latter to serve as an air vessel, so as to discharge the water in a continuous stream.

Claim.—In combination with the pump proper, A, the valve chest F, constituting, also, an air chamber, the slide valve G, tube K, and discharge pipe L, when constructed and arranged to operate in the manner and for the purposes herein set forth.

84,847.—HENRY D. STOVER, New York, N. Y.—*Planing Machine.*—December 8, 1868.—The invention consists mainly of a combination of the two well known planing devices, as the arm of Daniels's planer, with the cylinder of Woodworth's, so that they may be used either separately or in conjunction, as desired.

Claim.—The frame of a planing machine, constructed in the manner described, so that the arm-cutters F F may operate simultaneously with the cylinder D, substantially as and for the purpose set forth.

2. The oscillating clamp R′, when constructed in the manner and for the purpose described.

3. The adjustable brackets N, in combination with the frame E, for supporting the driving shaft O, and tighteners, when constructed and arranged as described.

4. The clamp R, when provided with a single hook at each end, to take hold of pins inserted in the sides of the carriage, as described.

5. The iron uprights E, in combination with a bed, A, when such bed is used for the support of the vertical and horizontal cutters D and F F, in the manner and for the purpose set forth.

84,848. — SOLOMON TICE, Cincinnati, Ohio.—*Hydrant.*—December 8, 1868.—The operating parts are so arranged that the valve shall close very gradually when the hydrant is shut off, by means of the gradual escape of water below the plug.

Claim. — The combination, substantially as described, of the open-ended and perforated cylinder A *a*, chamber B *b*, inlet pipe C, discharge pipe D, collar E, valve seat F, packing G, stem K, plunger M *m*, valve O, and contracted passage P, all substantially as described, and for the object explained.

84,849. — JARVIS B. WHITE, Detroit, Mich.—*Clothes Drier.*—December 8, 1868.—The standard of the clothes reel is hinged to an upright, and elevated and depressed by means of a rope and windlass.

Claim.—The clothes drier, consisting of the standard A, part C hinged near the foot of standard A, and carrying the clothes rack D E F, straps G, and windlass H, all arranged and operating substantially as and for the purposes set forth.

84,850.—GEORGE L. WITSIL, St. Louis, Mo., assignor to himself and T. L. BATES, Philadelphia, Pa.—*Apparatus for Cleaning Rags.*—December 8, 1868.—By the alternate exhaustion of air from each each of two cisterns, a current of water is caused to flow through rags, pulp, clothes, &c., subjected to the treatment for cleansing.

Claim.—An apparatus for the uses specified, consisting of the cisterns, pipes, stop cocks, and air pumps, arranged for operation, substantially as set forth.

84,851.—ASHBEL P. BARLOW, St. John, Canada.—*Slide for Hanging Upright Saws.*—December 15, 1868.—The slides are so constructed as to control the relative positions of the saw with the log being sawed, at all points of the reciprocation of the saw.

Claim.—The slides *g g* of a muley block for a saw mill, when constructed with a straight inclined or straight perpendicular surface, and a curved surface, in the manner and for the purpose substantially as described.

84,852.—ELIAS BEACH, Titusville, Pa.—*Side Scraper for Wells.*—December 15, 1868.—Metallic scrapers are pivoted at their upper ends to a socket secured upon a central rod connected to the pump rod of the well. The feet of the said scrapers are united by springs to a collar sliding upon the central rod, which collar is pressed upward by a spiral spring and forces the feet of the scrapers outward against the walls of the well.

Claim. — 1. The pivoted scrapers C and plate springs C′, in combination with the collar E and spiral spring F, arranged and operating substantially as described.

2. The sliding carriage D and friction rollers *d*, in combination with the springs C′ and scrapers C, as set forth.

3. The sliding carriage D and lifting rod D′, in combination with the spiral spring G and collar E, arranged and operating as and for the purposes set forth.

84,853.—ROBERT BRAYTON, Fremont, Ohio.—*Oil Injector for Steam and other Enginery.*—December 15, 1868.—A plunger is used to force the oil into steam chests, cylinders, &c., subject to a pressure of steam.

Claim.—The piston E, pipe or barrel A, oil cup and cock C B, and discharging cock D, when arranged and operating conjointly, substantially as set forth.

84,854. —ANSON R. BROWN, M. D., Albion, Mich.—*Instrument for Acupuncturation.*—December 15, 1868; improvement on his patent of January 1, 1867.—The elastic disk controls the passage of the fluid to the lancet points. A concave-shaped cap and a shoe are screwed on to the ends of the casing so as to form an air-tight chamber which contains the inoculation matter. By means of the screw the penetration of the lancets can be regulated.

Claim.—1. The disk J, of felt or other suitable yielding or elastic material, when used in combination with one or more inelastic disks, I, through which the lancets *e* may pass, substantially as and for the purpose herein specified.

2. The arrangement and combination of the concave-headed cap C and adjusting screw F, with the plunger and shank A *a*, and casing B, of an acupuncture instrument, substantially in the manner and for the uses set forth.

84,855. —EDWARD E. BURNHAM, Gloucester, Mass., assignor to himself and GEORGE BROWN, same place.—*Mode of Preserving Bait for Fishing.*—December 15, 1868.—The bait is treated with a saturated solution of lime, the water serving, with the excess of lime, to preserve the bait.

Claim.—1. The treatment of fish or bait by the employment of the saturated solution, as and in manner as hereinbefore specified.

2. The improved fish bait, as made by exposure of fish or fish flesh to the action of the saturated solution, as and in the manner as hereinbefore explained.

84,856.—BORK CAPRON, Lee Center, N. Y.—*Roofing Composition.*—December 15, 1868.

Claim.—A composition for coating the external surfaces of roofs of buildings, made by compounding coal tar, asphaltum, plaster of Paris, sugar of lead, japan varnish, raw India-rubber, gum shellac, soapstone, boiled linseed oil, spirits of turpentine, and alcohol, or other substances substantially the same, and boiling the mixture as herein described, in greater or less proportions, partially or wholly in combination, and with or without the addition of any other substance, as set forth.

84,857. — R. CARKHUFF, Lewisburg, Pa., assignor to himself and T. H. WILSON, same place.—*Harvester Rake.* — December 15, 1868; antedated December 3, 1868.—The rake teeth are turned down parallel to the plane of the platform at the termination of the backward stroke of the rake so as to occupy very little vertical space beneath the platform.

Claim.—1. The combination of a vibrating and rocking rake head, vertical crank shaft, independently moving cam plates, segment platform frame, and an overhanging grain receiver, with or without the hinged front section D, substantially as described.

2. The slotted plates J K, constructed and pivoted substantially as shown and described, so as to vibrate and rock the rake head, as set forth.

3. The arm *d*, for lifting the section D of the grain receiver, arranged on the rake head, substantially as described.

4. The spring g^2, sustaining the overhanging segmental grain receiver A, forward of its rear point of attachment, without interfering with the passage of the rake beneath the said receiver, substantially as described.

5. The combination of the overhanging standard G of plate G′, crank shaft F, and slotted cam plates J K, substantially as described.

6. Rocking the rake head by means of a movement in the plate J, independent of the moving plate K, through the agency of the tongue g^1 and slot *h*, substantially as described.

7. The guard E, constructed and applied substantially as described, in combination with standard and platform for protecting the rake-moving devices, substantially as described.

8. The construction of the support G′ G′ P, for the rake-moving devices, and for the finger beam, and inner side beam, substantially as described, so that the raking attachment may be applied to the inner front corner of the platform, as set forth.

9. A rocking rake head, applied to and operated by independently movable vibrating cam plates, controlled and operated by a crank shaft, F, substantially as described.

84,858.—James Carlton, Walla-Walla, Washington Territory.—*Churn.*—December 15, 1868.—The dasher is provided with hollow arms, communicating with the hollow spindle, for the purpose of conveying air to the cream.

Claim.—In combination with the partially-cogged gear wheels F F and hollow pinion H, the agitator, composed of the hollow spindle J, hollow arms *b b*, and floats *a a*, substantially as and for the purpose herein described.

84,859.—John C. Clark, La Grange, Mich.—*Fire Shield.*—December 15, 1868.—The shield is designed to be erected in front of or between burning buildings to prevent the flames from spreading, and afford a shelter for the firemen, who may approach much nearer to extinguish the same.

Claim.—A portable fire-shield, composed of columns A, pinions H, cranks I, sectional columns J, with their grooves B, pins E, collars K, hooks M, and hook braces N, the racks C, provided with springs D, the shields G, with their hooks F and doors O, and the hooked poles L, when arranged relatively to each other, and operating substantially as herein described, and for the purposes set forth.

84,860.—Lee D. Craig, Nevada City, Cal.—*Hair Cutting Shears.*—December 15, 1868.—The sliding slotted plate to which the comb is attached can be moved up and down at right angles with the blade of the shears and held at any point by a set screw, so as to regulate the length of the hair to be cut.

Claim.—In combination with the blades A and B, the comb F, adjusting plate E, set screw D, and lug C, the whole forming a hair-cutting shears, substantially as described.

84,861.—Albert O. Crane, Boston, Mass.—*Heel for Boots and Shoes.*—December 15, 1868.—The heel revolves on a tapering stud, which latter is held by a screw and prevented from turning when the heel is revolved, by projections on its inner end fitting into the leather.

Claim.—1. Heels, made substantially as described, and so constructed that they may be revolved upon the stud by which they are fastened upon the boot or shoe.

2. A stud, so formed that it will hold the heel upon the boot or shoe, and remain in its place while the heel is revolved.

3. The combination of the heel and stud, made substantially as and for the purposes described.

84,862.—Joseph Darden, Washington, D. C.—*Boot Jack.*—December 15, 1868.—The boot jack can be secured to the floor by means of the pintles.

Claim.—Combining with a boot jack, the body of which is cast in one homogeneous piece, the side supports E E, provided with pintles *i*, the whole being constructed substantially in the manner and for the purpose described.

84,863.—James C. Dean, Chicago, Ill.—*Brick Machine.*—December 15, 1868.—By means of the double cams or inclined ways the bricks are expelled from the revolving mold wheel, and the followers retracted after such expulsion, so as to leave the mold cells open to receive fresh charges of clay.

Claim.—1. The combination of a vertical pug mill, having a lateral branch, a molding wheel revolving in a vertical plane and having horizontal mold cells, and a pressure plate, *b*, constructed, operated, and arranged substantially as and for the purpose described.

2. The revolving pressure plate *b*, applied above the axis of the mold wheel, which revolves in a vertical plane, in combination with a stop, R, arranged below said axis of the mold wheel, and with a rotary plunger, J *s*, a mold wheel and followers, substantially in the manner and for the purpose described.

3. The combination of the rotary pressure plate *b*, rollers *m m*, and the mold wheel, substantially as and for the purpose described.

4. The arrangement of an endless chain of right-angled tables *g* g^1, which are open at both sides and at one end, so as to pass under bricks as they are extruded laterally from the mold cells, and also support them while they are being separated from the followers by the vertical portions of the tables, in combination with a vertically-revolving mold wheel, substantially in the manner and for the purpose described.

5. A toothed disk or wheel, J, or its equivalent, for acting upon the followers and producing the pressure upon the clay, in combination with a molding wheel or drum, substantially as and for the purposes described.

6. Constructing the molding wheel with recesses, *w*, for receiving the propelling teeth of a disk, J, between which teeth are plungers, *s*, for producing the pressure upon the clay while in the mold cells, substantially as described.

7. The rotary pressing plunger or plungers *s*, substantially as and for the purpose described.

8. The combination of a rotary disk, or shaft, or hub, J, with a plunger or plungers, *s*, attached to it, and a revolving plate, *b*, and a mold wheel and followers, substantially as and for the purpose described.

9. The combination of the vertical pug mill, vertically-revolving mold wheel, with its followers, vertical pressure plate, and the chain of angular carrying-off tables, constructed, arranged, and operated substantially as described.

10. The double cams or inclined ways H I, applied to frame B′, and adapted to serve the purposes described, in combination with followers and the vertically-arranged revolving mold-wheel C, substantially as described.

11. The construction of the frame, with the portion B^5, of such a form that it constitutes a lateral branch of the pug mill, such lateral branch being cast with and on the side of the frame, substantially in the manner shown and described.

12. The construction of the frame so as to admit of the arrangement of the several parts of the press or molding and pressing contrivances upon it, in the manner shown and described, such frame having the tying cap and bearing plate B^2 applied to its part B^1 and to its part B^5, all substantially as and for the purpose set forth.

84,864.—Byron Densmore, New York, N. Y.—*Gasket Packing for Steam and other Enginery.*—December 15, 1868.—The gaskets are V-shaped in a section through their diameter, and grooved to yield to the pressure of the couplings or the steam in the pipes.

Claim.—Metallic spring gaskets, made as specified.

84,865.—Charles H. Douglas, Hartford, Conn.—*Game of Colors.*—December 15, 1868.—A series of colors are marked upon the board, and a series of correspondingly colored tops are spun. A card accompanies the game and indicates the harmony between the color of the top and the color of which it is spun; the object being to familiarize children with the names and harmony of colors.

Claim.—The game herein specified, as a new article of manufacture.

84,866.—James S. Evans, Irondale, Mo.—*Process of Screening Charcoal.*—December 15, 1868.—The charcoal falls from the wagon on to a chute leading to the screen, from which the coarser portion falls into a receptacle, and the "braze" through the screen into the trough.

Claim.—1. The method or process of screening charcoal, substantially as herein specified.

2. The apparatus herein described as being adapted for carrying out the said process, that is to say, the combination of the sliding platforms, the screens, "chutes," and troughs, substantially as herein specified.

3. In a charcoal screening apparatus, the combination with a screen of a platform so constructed, adapted, and arranged as to receive upon it, in a position directly, or nearly so, over the screen, a wagon containing the charcoal, whereby the charcoal may be delivered directly to the screen, without manipulating the same, substantially as herein specified.

84,867.—William R. Fairbairn, Ridotte Township, Ill.—*Compound for Destroying Insects.*—December 15, 1868.—Composed of stone sulphur, black sulphide of mercury, red precipitate, French green paint, and quicksilver.

Claim.—The described compound, of the ingredients and proportions specified, and for the purpose set forth.

84,868.—William A. Fenn, Wolcott, N. Y.—*Method of Attaching Knobs to their Spindles.*—December 15, 1868.—The surfaces of the spindle and its adjustable knob are serrated, and the knob is provided with an inclined-plane-bearing surface for the end of the screw by which it is secured.

Claim.—The jamming set-screw C, in connection with the serrated contact surface or surfaces *a*, when the knob socket is formed with a slot *b*, and inclined surface *d*, substantially as herein shown and described, for the purpose set forth.

84,869.—Herman Fischer, Chicago, Ill.—*Blank Book.*—December 15, 1868.

Claim.—The method of imitating ornamental leather strips pasted on the buff leather cover of blank books, by painting and burnishing upon the buff leather itself with suitable colors, in places corresponding to those where said strips are now produced by pasting on separate pieces of colored leather, and in pressing dark borders or other ornaments on their tanned-leather covers, substantially as herein described.

84,870.—John F. Fisher, Greencastle, Pa., assignor to himself and Daniel Breed, Washington, D. C.—*Machine for Distributing Fertilizers.*—December 15, 1868.—Feeding fingers placed over orifices in the bottom of a box containing a fertilizing material, are attached to shafts passing up through the boxes and secured to arms attached to a connecting bar, by which they are operated.

Claim.—1. The combination of the coupling bar *c*, arms *d*, working beneath the hopper, and shafts *e*, substantially as and for the purposes described.

2. The combination of the above with the fingers *i*, as and for the purpose set forth.

3. The fingers *i*, when so arranged that their acute angles are presented to the floor of the hopper, for the purpose specified.

84,871.—David Fisk and John M. Blodgett, Clyde, N. Y.—*Shoemakers' Bench.*—December 15, 1868.

Claim.—As an improved article of manufacture, the shoemakers' bench A a, with rotating seat B, and also the detachable and adjustable legs D *f d*, substantially as set forth.

84,872.—William T. Flinn, Bridesburg, Pa., assignor to Barton H. Jenks, same place.—*Loom.*—December 15, 1868.—The sliding and rotary cam hubs are circumferentially grooved, and the shaft which receives such cam hubs are so constructed that the cams and hubs shall be supported at different points around the axis of the said shaft, so that the resistance of the swivel dogs in sliding the cams laterally shall not cause undue friction or binding.

Claim.—1. The circumferentially-grooved removable segments D D, constructed and applied to the hub *c* of the treadle cam B, substantially as described, and for the purposes set forth.

2. An angular cam shaft, carrying a sliding cam, having a grooved and removable shell, the shell being constructed and combined with the cam and its hub, substantially as described, and for the purpose of changing from one twill to another.

3. The combination of longitudinally-adjustable dogs C, which actuate the pick motion of looms, an angular shaft A, and a longitudinally-reciprocating treadle cam, and a circumferentially-grooved hub cam, all constructed substantially as and for the purpose described.

4. A treadle cam B, with a circumferentially-grooved sectional shell D D, which is wholly removable, independently of the cam B, from the cam shaft, and without disturbing said shaft, substantially as described.

84,873.—Charles S. H. Foster, Deer Isle, Me.—*Belaying Cleat.*—December 15, 1868.—A central recess is formed in the cleat in which the standing part of the sheet is secured in order to prevent the fouling of the sheet attendant upon tacking.

Claim.—A cleat, formed with the usual horns B B, and recesses *b b*, and the central recess or seat *c*, substantially in manner as and for the purposes specified.

84,874.—Theodore A. Gamage, Boston, Mass.—*Menstrual Receiver.*—December 15, 1868.

Claim.—1. The improved menstrual receiver or guard, before described, consisting of the impervious bag or cup *b*, to contain sponge or other absorbent material, and connected to the belt *j*, by pendent straps *h h h'*, in manner and for the purpose as before described.

2. The combination and arrangement of the front strap *h'*, the belt *j*, the slotted plate *k*, and buckles *m m*, as and for the purposes herein specified.

84,875.—Hachadoor P. Garabedian, Philadelphia, Pa.—*Pipe Coupling.*—December 15, 1868.—The collar has a conical screw formed upon it and a number of inclined slots, the edges of which are pressed together by the nut so as to compress the hose firmly upon an inner tube.

Claim.—The collar C, with its conical screw *a*, and the inclined slots *b b'*, in combination with the nut D and the tube B, substantially as shown and described.

84,876.—J. Irving Gorton, Sing Sing, N. Y.—*Corn Husker.*—December 15, 1868; antedated December 11, 1868.—A metal bar is provided on one side with a ring for the finger, and on the other side with a spring bar, by which the husk is grasped, torn off, and cut.

Claim.—Combining the parts A B C D E, substantially as described and for the purpose mentioned.

84,877.—John Gray, San Francisco, Cal.—*Tile for Floors, Sidewalks, &c.*—December 15, 1868.—Composed of sand and sulphur, and pressed in molds to form slabs or tiles.

Claim.—The above-described composition tile as a new article of manufacture.

84,878.—J. Ashton Greene, Brooklyn, N. Y.—*Mode of Fastening India-rubber Tires on Carriage Wheels.*—December 15, 1868.—A rubber tire is so attached to an ordinary metal tire as to admit of its ready attachment and removal, so that the wheel may be adapted for use either with or without the rubber tire.

Claim.—1. The method of attaching an India-rubber tire to the ordinary flat metal tire of a wheel, by means of detachable and removable fastening devices, substantially as and for the purposes herein described.

2. The herein-described bolts, nuts, and springs for holding together the rubber and metal tires, the same being arranged and applied to the wheel, substantially as shown and set forth.

84,879.—E. W. Hewitt, Pecatonica, Ill.—*Sulky Harrow.*—December 15, 1868.—A harrow is suspended in a frame mounted on wheels, so as to be readily raised and lowered by means of levers under control of an operator seated on the frame.

Claim.—1. The harrow W, suspended by ropes or chains, R, S, and T, and held in place by chains *d d* and P, and drawn by a chain Y, substantially as and for the purpose set forth.

2. The combination, with the harrow W, of chains S, R, and T, hooks V V, pulleys *n n*, and levers F F, the latter being used to raise and lower said harrow, substantially as described and shown.

84,880.—Collins F. Hill, Hamilton, Ohio.—*Spirit Level.*—December 15, 1868; antedated December 8, 1868.—The cylinder, which holds the spirit vessel, is capable of a rotating movement on its axis, and also longitudinally within a graduated circular chamber, so that the device applied to a rule may be used as a level or a plumb, and also to determine a line at any angle between the vertical and horizontal.

Claim.—1. The chamber B, provided with the scales *m m*, and quadrantal slot *i*, in combination with the rotary adjustable cylinder D, spirit vessel *b*, and rule A, substantially as and for the purpose described.

2. The combination of the stem C, arbor *s*. plate *u*, packing *z*, and washer *y*, connected, arranged, and operating in the manner and for the purpose described.

84,881.—Isaac V. Holmes, New York, N. Y.—*Metallic Lath.*—December 15, 1868.

Claim.—1. The metallic sheet lath described, when provided with rectangular openings, made by slitting the lath and bending back the edges *e e*, substantially as and for the purpose described.

2. A lath, when constructed of sheet metal, with its edges bent back, so as to present the beaded corners *a a a a*, and applied substantially as and for the purpose described.

3. The construction of the described metallic sheet lath, when made with a tapered form at one end, with a view to splicing or jointing, substantially as described.

4. The metallic plates, slitted as described, when used for studs or supports for metallic sheet laths, substantially as shown and for the purpose described.

5. The arrangement and fastening of sheet metal laths upon metallic plates, used for studs, substantially in the manner and for the purpose described.

84,882.—Edmund S. Hunt, Weymouth, Mass. —*Manufacture of Fans.*—December 15, 1868.

Claim.—1. The method, hereinbefore described, of connecting and compressing together the layers of a fan body, so as to form them with recesses or pockets, to receive the fan sticks, as set forth, the same consisting in arranging the layers one on the other, with dextrine or a liquid cement between them, and compressing them together by heated dies, having one or more grooves arranged in either or each of them, so as to prevent adhesion of the layers where it may be desirable, the whole being substantially as described.

2. The above-described method of connecting and compressing together the layers of a fan body, so as not only to form them with recesses or pockets between them, to receive the sticks of a fan frame, but, at the same time, to crimp or corrugate such body, as and for the purpose substantially as specified.

3. Either or both the dies, as formed with grooves, or with grooves and corrugating ridges or projections, for the purpose or purposes and to operate with respect to the layers of a fan body, under circumstances and in manner as hereinbefore explained.

84,883.—Michael Keefer, Millstone Point, Md.—*Rock Drill.*—December 15, 1868.—The drill shaft is operated by a spring attached to an adjustable rod, and oblique holes in the cross pieces admit of the shaft being operated obliquely to the frame.

Claim.—1. The combination of the adjustable rod I, spring J, and drill shaft E, with suitable guides for the drill, substantially in the manner and for the purpose described.

2. The cross pieces D and F, with the oblique holes, in combination with the drill and spring, thus operating substantially as shown and described.

84,884.—Charles F. Kuhnle, Washington, D. C.—*Dovetailing Machine*—December 15, 1868.—By means of levers and a bevel gear the slotted wheel is turned to a position to move the saws to the proper angle for cutting the sides of a tenon; and in cutting the sides of the mortises the saws are set on line with the center of the machine, and the slots in the bevel-gear wheel in the same direction.

Claim.—1. The combination of carriage and the slotted gear wheel P, substantially in the manner and for the purpose specified.

2. The combination of the adjustment plates N and the slotted gear wheel P, substantially in the manner and for the purpose specified.

3. The combination of the adjustment plates E′, the levers *j*, rods *h*, connecting bars *i*, and stirrups *c*, substantially in the manner and for the purpose specified.

4. The combination of the carriage H, in which both an oblique and straight feed can be obtained, and the chisels G, when operated substantially in the manner and for the purpose specified.

5. The construction and arrangement of the rocking adjustable carriage H, and carriage G, which moves transversely, and the carriage F, moving lengthwise of the machine, all as and for the purpose set forth.

84,885.—J. D. Leach and Sabin Hutchings, Penobscot, Me.—*Fishing Tackle.*—December 15, 1868.—The elastic section is designed to facilitate the hooking of the fish when biting, and to prevent tearing the hook from the gills when hauling the fish in.

Claim.—1. Inserting in the line, near the hook, an elastic section, substantially as described, and shown at *b*, Fig. 1.

2. An elastic cord, interposed between the sinker and hook, in manner substantially as described, and shown at *i*, Fig. 4.

3. Combining with fishing tackle an elastic spring or section of rubber, so arranged near the hook as to produce the results and accomplish the objects herein set forth.

84,886.—J. D. Leach and Sabin Hutchings, Penobscot, Me.—*Revolving Pile Hook.*—December 15, 1868.—Upon one side of a metallic collar, which rotates loosely on a pile, is a hollow projection, in which are inserted springs, to which is attached the shank of a hook that holds a hawser.

Claim.—1. A revolving pile hook, formed with a collar, C, to receive the pile, and a hook E, for attaching the hawser, substantially as described and shown.

2. Combining with coller C and hook E the elastic buffers *c c*, substantially in manner as and for the purposes specified.

84,887.—Samuel K. Lighter and Joseph Curtis, Hamilton, Ohio.—*Harvester.*—December 15, 1868; antedated December 3, 1868.—Ratchet teeth on the inner sides of the driving wheels, in connection with loose ratcheted rings recessed in the hubs and projections, cause a continuous motion to be given to the main shaft when the machine moves forward, but in a backward movement the ratchet teeth reverse their relative motion, and produce no motion on the shaft.

Claim.—1. The arrangement, within the hubs H on the shaft F, of the ratcheted rings I *i i′*, the lugs or projections *h*, cast on the heads of said hubs H, the ratchet teeth *d* on the ground wheels D, and the coiled spring J, as and for the purpose specified.

2. The finger bar, supporting caster O P, adjustable by means of the serrated or toothed head *p* and pawl R, or its described equivalent, substantially as set forth.

84,888.—Joseph Link, United States Army.—*Apparatus for Cooling Liquids on Draught.*—December 15, 1868.—From the sides of a vertical cylindrical vessel extend a series of inclined radial tubes, connected at their lower ends with a hollow annulus, from which latter extends upward a discharge pipe, the whole to be arranged within a vessel containing ice.

Claim.—The combination and arrangement of the cylinder or hollow vessel A, the series of radial pipes B, the hollow annulus C, and its discharge pipe D, the whole being for use with a tank, substantially in manner and for the purpose as specified.

84,889.—David H. Lowe, Boston, Mass.—*Gas Heater.*—December 15, 1868.—Relates to improvements on his patent of August 11, 1868. A burner is arranged to point downward into a fire pot, from the bottom of which the flame is deflected under and around the kettle or utensil to be heated. A conical tube, provided with perforations, is used with the fire pot when a quantity of naphtha has been carelessly allowed to accumulate in the said pot.

Claim.—1. A tube or deflector *j*, which is either of a conical form, and open at the top, or of other form, and provided with a perforated top, and having openings *k k* at the bottom, in combination with a fire pot L, substantially as and for the purpose specified.

2. The burner H, for heating the nurse lamp, in combination with one or more burners, 17, 18, for illuminating the apartment, all arranged and operating substantially as set forth.

3. A conical tube, O, provided with a series of perforations at its bottom, in combination with a fire pot, L, substantially as and for the purpose described.

4. The conical sleeve P, and cap or cover Q, in combination with a conical tube O, provided with perforations for extinguishing the flame of the naphtha contained in the fire pot L, substantially as described.

84,890.—Egbert Macy, New York, N. Y., assignor to John H. Keyser, New York, N. Y.—*Cover for Fuel Magazine in Base Burning Stoves.*—December 15, 1868.—The cover is rendered self-acting by being made heavier on one side than the other.

Claim.—1 The combination of a self-acting cover with a fuel reservoir, substantially as described.

2. The inclined self-acting cover C, applied to a rim, A, constructed substantially as described.

3. The construction of rim A with abutments *e g* and recesses *a a*, adapted for receiving a self-acting cover C, substantially as described.

84,891.—Peter H. Mann and Griffith P. Terry, Albany, N. Y., assignors to Andrew B. Uline and G. G. Kidder.—*Seal Bolt for Railway Cars.*—December 15, 1868.—The tongue is provided with a slot to receive the pivot pin and with a recess at its lower end into which a projection on the locking pin enters when the tongue is wholly inclosed in the socket.

Claim.—The combination and arrangement of the slot *c*, the recess *i*, and the projection *k* with the bolt A, the tongue B, and their pivot or pin *d*.

84,892.—Thomas M. Marcy, Windham, Ohio.—*Wagon Box.*—December 15, 1868.—The sides and ends of the wagon box are hinged to the bottom, so that the box can be converted into a platform for a hay rack or a wagon truck.

Claim.—The sides B B, ends C C, hinged to the bottom or center piece A, each and all being constructed, arranged, combined, and operating together in the manner and for the purpose as specified and set forth.

84,893.—Oliver M. Martin, Ann Arbor, Michigan.—*Process of Curing Hams, Beef, and other Meats.*—December 15, 1868.

Claim.—The process, herein described, of preserving meat, by steaming it in salt and saltpeter, after brine has been injected into the meat, substantially as and for the purposes described.

84,894.—H. McManus and John B. Hatting New York, N. Y.—*Plate or Salver.*—December 15 1868.—The specification describes a mode of casting the plate.

Claim.—The chased or ornamented plate or salver, herein described.

84,895.—Daniel E. McSherry, Dayton, Ohio.—*Wheat Drill.*—December 15, 1868.—An adjustable arm allows the use of different-sized spur wheels to vary the speed of the seeding apparatus.

Claim.—The adjustable arm E, and its arrangement with reference to the shaft B, the frame A, the spur wheels C and D, bolt *n*, and axle *s*, substantially as described and for the purpose specified.

84,896.—I. Ferguson Morsell, Stamford, Conn.—*Railway-switch Signal.*—December 15, 1868.—The lever, when liberated by the breaking of the main line of track, or the opening of the switch, assumes a vertical position and causes the colored plate on its end to come opposite an opening in the vertical board, thus giving a signal of danger.

Claim.—A railroad-switch signal, consisting of the combination of a suitable frame or stand, A, supporting or show board, B, a perpendicularly-arranged vibrating lever, D, provided with a weight, *b*, or its equivalent, and a colored plate, *b*, and a detached rod, connecting said lever D with the rails of a railroad, arranged and operating substantially as and for the purposes herein specified.

84,897.—Charles Murdock, Hartford, Conn.—*Stave Machine.*—December 15, 1868.—The reciprocating, vibratory table, with its head block, is pivoted at such a point as to cause the saw to cut a transverse circle on the outside of the stave to conform to the outside diameter of the barrel when completed. The cams and flanges act against rollers on the arms of the feeding table, causing the same to have the necessary vibration.

Claim.—1. Hinging or pivoting the vibrating feeding table H in the manner described, and with relation to the saw, so that the staves may be sawed in the manner substantially as set forth.

2. The combination of cams Q, flanges R, and shaft O, with the table H, when constructed and arranged to operate in the manner and for the purpose set forth.

3. In combination with the flanged cams Q, table H, and stops *w w*, the adjustable stand *k*, for determining the thickness of the staves to be cut, substantially in the manner described.

84,898.—Daniel F. Myers, New York, N. Y.—*Waiter Machine.*—December 15, 1868.—The dishes are placed on an endless belt, which is actuated by suitable mechanism in the kitchen. A plate in close contact with the belt receives the soiled plates and allows them to slide on to the receiver. The pillars supporting the chutes are adjustable vertically.

Claim.—1. The combination, with the endless belt B, working in the chute D of the receiver H′, having the plate S as and for the purpose described.

2. In combination with the above, the pillars D and adjustable hangers D″.

3. The machine above described, constructed, arranged, and operating as set forth.

84,899.—Peter H. Niles and Frank W. Marston, Boston, Mass.—*Fastening for Corsets.*—December 15, 1868; antedated December 2, 1868.—The eye of each clasp is so made that it may be thrown out of engagement with the pin to which it fastens by the end movement of one spring relatively to the other.

Claim.—A corset spring, made with clasps or fastening plates, each of which has a vertical slot opening from a lateral slot and out from the plate, substantially as and for the purpose set forth.

84,900.—Joseph W. Norcross, Boston, Mass.—*Grommet.*—December 15, 1868; antedated November 30, 1868.—When the grommet is clinched, one of the eyelets is inclosed between the flange of the other eyelet and an additional flange, thus protecting it from the influence of air or water, and allowing an iron eyelet to be used.

Claim.—The arrangement and combination of the eyelets *a b′* and additional flange or cap *c*, substantially as and for the purpose set forth.

84,901.—John W. Pease, Belmont, N. Y., assignor to himself, Leonard Willets, and Isaac Willets, same place.—*Brick Machine.*—December

15, 1868.—The water or steam is introduced to the clay through the hollow shaft and spirally-arranged hollow arms. The gathering-in edge of the feeding blades is adjustable by means of set screws to regulate the feeding capacity of the blades.

Claim.—1. The combination of the hollow, perforated, and spirally-set taper arms D, with hollow shaft C, and with the feeding blades G G, substantially as described.

2. Adjustable feeding blades G G, applied to the shaft of the pug mill, for the purpose of regulating the feed of the clay to brick-making machinery, substantially as described.

84,902.—William S. Porter, Boston, Mass.—*Button-hole Cutter.*—December 15, 1868.—The cutting blade can be adjusted on one of the jaws, so as to cut larger or smaller-sized holes. The stop can be adjusted to vary the distance of the button-hole from the edge of the material.

Claim.—1. The combination and arrangement, with the jaws A and stop *h*, of the knife *f*, held in one of said jaws, and made adjustable, so as to project a greater or less distance therefrom, in the manner and for the purposes set forth.

2. Providing the jaws A with slotted or recessed heads *a a'*, constructed and arranged with relation to each other and the knife *f*, substantially as and for the purposes shown and specified.

84,903.—John Edwin Rack and Aaron Smith, Chicago, Ill.—*Cloth-measuring Apparatus.*—December 15, 1868.—Designed to roll the cloth on any required shaped roller board, and at the same time measure and register the number of yards or fractional parts of yards.

Claim.—The cloth-measuring apparatus, consisting of the board or roller I, plates J F'', screws C D, hand wheel E, shaft F, winches H G, wheels M N, pinion P, wheel Q, bars L, and indicator S, when arranged to operate substantially as and for the purposes set forth.

84,904.—O. H. Reed and Asa L. Carrier, Washington, D. C.—*Machine for Washing Printers' Ink Rollers.*—December 15, 1868.—The inking rollers are fed by rubber feed rollers through a cylinder provided with brushes on its inner circumference, which revolve in a cleansing solution, and remove the dirt, which falls into a box, through an aperture closed by a spring valve, when the box is removed to be cleaned. The inking rollers are then fed through similar brushes revolving in clean water, and then wiped by being passed through disks of rubber.

Claim.—1. The double box B C, for containing a cleansing solvent and clear water, in combination with the brushes G, constructed and operating substantially as and for the purposes set forth.

2. Two or more brushes G, constructed and operating substantially as and for the purposes set forth.

3. The boxes D D, constructed and operating in combination with boxes B C, substantially as and for the purposes set forth.

4. The dirt box O, provided with rod *o*, valve V, and spring *v'*, constructed and operating substantially as described.

5. The reels E, provided with disks *c*, substantially as and for the purposes set forth.

6. The elastic wipers W, constructed and operating substantially as and for the purposes set forth.

7. The elastic feed rollers R, constructed and operating substantially as and for the purposes set forth.

84,905.—Hiram A. Reid, Beaver Dam, Wis.—*Apparatus for Shearing Sheep.*—December 15, 1868.—The comb plate is constructed with plain, straight teeth, without any cutting or scissor-blade edges. The blade is secured to the slotted plate, which is vibrated on a fixed pin by the crank, so as to give a variable movement to the point of the blade.

Claim.—1. The manner of constructing and arranging the comb plate *i i i*, substantially as described.

2. The operative combination of the cutting blade *m* with the comb *i i i*, as described and for the purposes set forth.

3. The combination of the blade *m* with the slotted bar H, substantially in the manner and for the purposes described.

84,906.—Selden N. Risley, Brooklyn, N. Y.—*Cigar Case.*—December 15, 1868.—The ring around the open case prevents the spreading of the openings.

Claim.—A cigar case, made of paper tubes, with longitudinal ribs and a retaining ring, substantially as described.

84,907.—Henry M. Ritter, Covington, Ky.—*Machine for Riveting Hinges.*—December 15, 1868.—Peculiarly-shaped revolving milling tools spread the pintle on being forced against it, and form the head.

Claim.—1. A riveting tool, composed of a rod having V-shaped grooves and intervening rounded projecting spurs on the end thereof, said grooves crossing one another at and in a direction at right angles to the longitudinal axis of said rod, substantially as described.

2. A pair of riveting tools, constructed as specified in the foregoing claim, in combination with mechanism for operating the same, arranged substantially as described.

84,908.—Sullivan W. Rogers, Harwich, Mass.—*Baking Pan.*—December 15, 1868.—The bottom of the pan is removable to allow the ready withdrawal of the loaf without the pan having been previously greased.

Claim.—False-bottom baking pans, as herein described, of any size or shape.

84,909.—Edwin H. Sampson, Boston, Mass.—*Clamp for Suspending Pasteboard and Other Fabrics.*—December 15, 1868.—The pasteboard is held between the stationary and movable jaw, the latter of which is so pivoted that the weight of the board causes it to be grasped firmly by the jaw.

Claim.—The jaws B C and frame A, when combined and arranged substantially as and for the purposes described.

84,910.—John Scheiblein and John Heitzman, Philadelphia, Pa.—*Hand Cultivator.*—December 15, 1868.—The coulters and plows are secured to a transverse plate on the frame. The coulters sever the roots between the rows to prevent the plows from tearing up the plants.

Claim.—1. The coulters *e*, plows *f*, and transverse plate E, when combined and arranged as shown and described.

2. The frame A, stilts B, transverse plate E, standards D D, pin *c*, wheels C, clearers F, coulters *e*, and the plows *f*, when combined and arranged as shown and described.

84,911.—Samuel F. Seely, Whiteford, Mich.—*Cultivator and Plow.*—December 15, 1868; antedated December 11, 1868.—An improvement on his patent of August 6, 1867.—A slotted arm attached to the cross rod, which secures the handles together, slides in a mortise on the end of the plow beam, and is held by a cam lever. The plow standard is attached to the plow beam in such a manner as to readily change the direction of the plows.

Claim.—1. The tenon B', the cam lever C', the slotted arm F, in connection with the cross rod E, when operating substantially as and for the purposes set forth.

2. The share O, wings P, and braces R, in connection with the standard I, when operating substantially as and for the purposes herein described.

3. The adjustability of the standard I, for the purpose described, in combination with the share O, wings P, and tenoned beam A, substantially as set forth.

4. The combination of the beam A, the tenons B' and B'', the cam levers C' and C'', the handles D, the cross rod E, the slotted arm F, the slot G in the same, the slotted slide H, the standard I, the bolt and nut J, the eye and ring K, the draught rod L, the hook M, the bolt N, the share O, the wings P, and the braces R, when arranged, constructed, and operating substantially as and for the purposes herein shown, set forth, and described.

84,912.—Thomas Shaw, Philadelphia, Pa., assignor to himself and Philip S. Justice.—*Pumping*

Engine.—December 15, 1868.—The chamber is divided into two compartments by a flexible diaphragm. The water admitted into the upper compartment is forced out by the steam admitted into the lower compartment, raising the diaphragm. By a suitable arrangement of valves the steam is cut off when the water has been ejected, the exhaust is opened, and a spray of water is forced into the steam chest, a vacuum being thus formed, which causes the diaphragm to descend to allow water to be again admitted.

Claim.—1. Operating valve F in the manner set forth.

2. The arrangement of valve L with steam chest E for starting the engine, as described.

3. The combination of valves V and U with well W, as specified.

4. Controlling the injector in the manner specified.

84,913.—S. M. Sherman, Fort Dodge, Iowa.—*Window Shutter.*—December 15, 1868.—The slats are hung by means of clamps on pins secured rigidly to the frame of the blind and are operated by bars connecting with cams in connection with keys.

Claim.—1. The slats A′, provided with clamps *a a′*, as and for the purpose described.

2. The slats A′, having the clamps *a a′*, in combination with rod B, bar *c*, and cam *d*, the whole being constructed and operated in the manner described, for the purpose set forth.

3. The cam *e* and bar e^3, with or without the intermediate connections e^1 e^2, when arranged as described, in connection, either with the rod of a blind of the usual construction, or a rod attached to the slats by the clamps *h′*, as set forth.

84,914.—George E. Smith, San Francisco, Cal.—*Automatic Stop-cock for Gas Burners.*—December 15, 1868.—A compensation curb, supported so as to encircle the gas flame, is so connected by a lever with a detent holding the cock open, that when the flame is extinguished the curb contracts and liberates the detent, which allows the cock to be closed by means of a spring.

Claim.—1. The compensating curb or rod, composed of two or more metals, *b* and *c*, together with the lever K, detent M, arm D, and spring E, substantially as and for the purpose described.

2. The lever K, connected with the curb, the two detents G and M, and the catch *a*, on the arm D, constructed and operated substantially as herein described.

84,915.—George W. Stout and John C. Richardson, Newark, N. J., assignors to themselves, James Davis, Jr., and Samuel R. Hawley, assignors to said Stout, James H. Prentice, said Davis, Jr., and Hawley.—*Hat Ironing Machine.*—December 15, 1868.—A curved hollow box has its broadest side to the face plate, and its lower or concave side beveled at its inner edge, so as to iron the brim close up to the crown of the hat. The box is secured to a piston rod that allows it to turn freely, to press equally on the brim.

Claim.—1. The swinging arm F, supporting a platform, carrying a revolving iron and its driving mechanism, when the platform is arranged to be adjusted for ironing the sides of hat crowns, substantially as set forth.

2. The hollow face plate H, constructed with teeth on its periphery, and arranged to be swung into or out of gear with its driving mechanism, substantially as described.

3. The hollow box iron No. 3, constructed with an acute angled face on its concave side, combined with the hollow face plate H.

4. The combination of the hollow face plate H and hollow box iron No. 3, when the latter is arranged with its shank or piston playing in a cylinder and under spring pressure.

5. The combination of the slides which carry the boxes or bearings for the irons with the slotted adjustable plates which support the irons.

84,916.—Elias Strange, Elias W. Strange, and Emerson C. Strange, Taunton, Mass.—*Saw Grinder.*—December 15, 1868.

Claim.—1. Applying the grinding or polishing wheels to the cylindrical saws or other cylinders, with or by a yielding pressure of a spring or weight, substantially as described.

2. Applying the stone or wheel on the inside of the cylinder, against a point at some distance from the point opposite to the stone or wheel, on the outside, to avoid heating the cylinder by the grinding stones or polishing wheels.

3. Applying the grinding stones or polishing wheels to the inside and outside of the saw or other cylinder at the same time, so as to grind or polish the inside and outside at one operation.

4. In combination with the swinging arms and grinding stones or wheels, pressed against the cylinder by a yielding pressure, the adjustable stops Y Y, arranged to limit the vibration of the arms, substantially as described.

84,917.—Edwin J. Toof, Fort Madison, Iowa.—*Horse Rake.*—December 15, 1868.—The lifting forward of the handle of the rake is accomplished by the combined action of the gate trip stick and hounds of the rake, so that the front parts of the rake fingers will pass under the hay and gather it up cleanly.

Claim.—1. A stop, to arrest the gate in its forward movement, formed by the rod *g*, or its equivalent, substantially as described, for the purpose specified.

2. The yielding connection *e*, substantially as shown and described, in combination with the trip stick *d*, hounds B, and the handle A, of a revolving horse rake, all as and for the purpose set forth.

84,918.—Charles N. Tyler, New York, N. Y.—*Wash Boiler.*—December 15, 1868.—The boiling and steam space is formed by a close arched plate curved down at both sides and secured to a band which fits the sides of the boiler at the bottom, openings being left at the ends of the curved plate.

Claim.—The close concave plate B, provided with the band B′ and openings G, at the ends, and cupped tube C, substantially in the manner and for the purposes set forth.

84,919.—John Valentine and Henry B. Stevens, Buffalo, N. Y.—*Clothes-line Reel.*—A reel is inclosed in a metallic casing, and the end of a cord is secured in a cavity in the end of the journal, passing through a hole in the same, to the winding portion. A pin passing through the handle into holes in one end of the casing serves to hold the reel in position.

Claim.—1. The perforated spool journal *h*, substantially as and for the purpose herein specified.

2. A reel, composed substantially of the following parts: The periphery A, heads B B, bars *a a*, serving both to connect the other parts and to receive the oblong mouth *f*, and loop or staple *m*, and the locking pin E, in the crank handle, and holding in the concentric holes *b b*, as herein specified.

84,920.—Henry B. Van Benthuysen, Emporium, Pa.—*Base-burning Stove.*—December 15, 1868.—Designed for burning bituminous coal. An inner rotating cylinder of conical form, the large end being downward, is arranged within the external casing. On the inner surface of the casing are placed spiral segments to force the coal downward. The grate is made to rotate, and is of conical form with a spear-like projection in the center.

Claim.—1. A rotating inside cylinder magazine, with or without projections on the inner surface, substantially as described.

2. The ratchet, dog, and lever, or other equivalent device, in combination with the rotary magazine, substantially as and for the purposes described.

3. A cone-like rotary grate, provided with vertical projections on its surface, as above described.

4. The projecting ribs on the inner surface of the fire space, in combination with the vertical projections on the rotating grate, substantially as and for the purpose set forth in the foregoing specification.

84,921.—H. M. Viets, Carlisle, Ohio.—*Milk Can.*—December 15, 1868.—One or more ice vessels are placed within a milk can, and are attached to a shank which is hung to a hook on the inside of the cover.

Claim.—The ice vessels E E, with the shank C and arms *a a*, hook B, on the lid of can A, and eye D, all constructed and adapted to the uses and purposes in the manner substantially as described.

84,922.—ERNEST VON JEINSEN, New York, N. Y.—*Breech-loading Fire-arm.*—December 15, 1868.—A limb is formed on the body of the extractor, in front of the hook, to shut off access to the extractor space, in order to prevent the entrance of dust and dirt. A covering plate in the bottom of the receiver serves to prevent the latter from becoming foul. On the side of the plunger is a slot, in which plays a roller pin, which prevents any motion from being imparted to the extractor while the said pin is in that part of the slot, where it will be until after the full-cock notch has passed the sear.

Claim.—1. The limb *l*, on the body of the shell extractor, so arranged as to close the place left vacant by the hook *j*, when extracting a shell, substantially as described.

2. The covering plate *p*, over the bottom of the receiver, arranged substantially as and for the purpose set forth.

3. The slot *n*, on the tumbler, in combination with the extractor *k*, and a pin, which works in said slot, substantially as described.

84,923.—J. B. WARING, Brooklyn, N. Y., assignor to HIRAM DURYEA, New York, N. Y., assignor to W. E. DICKSON, Chelsea, Vt.—*Hydraulic Wash Boiler.*—December 15, 1868.—The central tapering tube is surmounted by an inverted flaring cap or deflector.

Claim.—1. As a means for guiding and showering over the clothes an ascending column of water, the employment of one or more inverted conical flaring caps C, constructed substantially as described.

2. Such a cap, combined and arranged as shown and described, relatively to the open top of a vertical tube of a wash boiler.

3. Such a cap or caps, when combined each with a vertical tube, and with a perforated false bottom, substantially as and for the purpose described.

84,924.—ARETUS A. WILDER and JOHN WILDER, Detroit, Mich.—*Washing Machine.*—December 15, 1868.—The journal is made hollow, to allow of free access of air to the interior chamber, in order to avoid resistance to the movement of the clothes and water. A drip pipe serves to convey off water which may enter the shaft. Wedge-shaped ribs on the interior of the case, which is made to turn eccentrically on the journals, cause the clothes to travel from end to end of the case.

Claim.—1. In a rotating washing machine, the hollow journal F, connecting with interior of case A and drip pipe H, substantially as and for the purposes set forth.

2. The combination, in a washing machine, of the cylindrical case A, with door E, turning eccentrically upon journals, and provided with wedge-shaped ribs I, hollow journal F, drip pipe H, and handle G, all arranged and operating as herein described.

84,925.—F. GREENLEAF WILSON, Nashua, N. H.—*Belt Fastener.*—December 15, 1868.

Claim.—A single plate belt hook, with one or more rows of teeth, spurs, or pins on or near the edges of the concave side of the plate, as shown and described.

84,926.—JOHN C. WILSON, ADAM WALKER, and JOHN FOSTER, New York, N. Y.—*Clipping Shears.*—December 15, 1868.—The device is designed to adjust and hold the cutters steadily in position, so as to produce an even clip, and prevent the entrance of dust, &c., between the cutters.

Claim.—The spring plate K, and adjusting thumb set screw L, in combination with the serrated cutters A B, substantially as and for the purposes described and set forth.

84,927.—GEORGE W. N. YOST, Corry, Pa., assignor to THE CORRY MACHINE COMPANY.—*Harvester.*—December 15, 1868.—The pinion shaft is passed through an aperture in the bolt, and serves to unite the two halves of the main frame, and also as a bearing for the crank shaft.

Claim.—The bolt I, made and used as a gudgeon box for the pinion shaft N, and as a fastening bolt for the cases A and A′, as described, for grass and grain cutting machines.

84,928.—WILLIAM H. ACKER, Tarrytown, N. Y.—*Clothes Drier.*—December 15, 1868.

Claim.—The levers B, pivoted to the upright posts A, and provided at their upper ends with the crossbars C, carrying the slotted plates D, and at their lower ends with the chains F, all operating as described, whereby a series of parallel clothes lines is adapted to be raised, lowered, and tightened between the posts, at the same time preserving their parallelism, as herein shown and described.

84,929.—ETHAN ALLEN, Worcester, Mass.—*Breech-loading Fire-arm.*—December 15, 1868.—The metal which forms the barrel extends down and back, to form receiving chambers for the cartridge cases, and to effect secure connection between the barrels and the breech iron. Combined with one or both shot barrels is an auxiliary rifled barrel.

Claim.—1.—The combination of the downwardly and backwardly projecting barrel extension and connection part E, made in one piece, as described, with the barrel or barrels, and metal breech piece D, as and for the purposes set forth.

2. The combination, with the metal breech piece D, and forwardly projecting arm M, of the barrel extension or connection part E, and dovetail projection L, inserted laterally into a correspondingly-shaped recess in the breech piece, substantially as and for the purposes set forth.

3. The combination, with the hinged lifting and locking lever N, of a breech-locking device, separate from said lever, but so combined therewith as to be operated thereby, for the purposes set forth.

4. The combination, with the hinged breech piece G, and hinged lever N, of the locking bolt O, and connection *d*, substantially as and for the purposes set forth.

5. The combination, with the locking bolt O, of the spring P and friction roll *e*, substantially as and for the purposes set forth.

6. The combination, with the hinged breech piece G and locking bolt O, of a holding spring, P, substantially as and for the purposes set forth.

7. The combination of a yielding roll *e*, with the rear concaved or recessed end of the locking bolt O, substantially as and for the purposes set forth.

8. An auxiliary flanged rifle barrel, R, applied to the main barrel of the gun, so as to be operated or withdrawn by the cartridge extractor, substantially as and for the purposes set forth.

9. The auxiliary rifled barrel R, when made with the tapering or contracted end R′, substantially as shown and described, and for the purposes set forth.

10. The combination and relative arrangement of the combined hinged extractor, lever, and trigger guard J, and hinged breech piece G′ with the cartridge shell or case extractor Q, substantially as and for the purpose set forth.

84,930.—LEVI O. ALLEN, Gardiner, Me.—*Stove Pipe Damper.*—December 15, 1868.—The two plates, when closing the pipe, form an angle of 90° to each other, and are operated by a shaft provided with pintles passing through inclined slots in a socket of each plate.

Claim.—1. The combination and arrangement of the two semi-ovate plates A and A′, hinged together upon and operated by a common shaft, B, put through the pipe or flue horizontally, substantially as herein shown and described.

2. The arrangement of the slots D and D′, in combination with the pintles E and E′ upon the shaft B, substantially as shown.

3. In combination with the shaft B, the key F, and washer H, arranged and constructed as described and shown.

84,931.—CLARK ALVORD, Westford, Wis.—*Cultivator.*—December 15, 1868.—The invention relates to a method of attaching the teeth; to a device for holding them in the ground; to an apparatus for cleaning them; and to devices for raising and lowering the teeth and fixing them in the ground or at any required elevation.

Claim.—1. Clamping the teeth to the side of the drag bars by means of the independent plate *o*, and the two screw bolts, when the several parts are constructed and arranged to operate in the manner described.

2. The arrangement of the slotted cross bar J, drag bars I I, headed bolts *b*, fixed to the drag bars and extending through the slots of the beam J, and springs *i i*, substantially as shown and described.

3. The employment of cleaning bars *r r*, arranged in relation to the teeth, substantially as described, and operating to clean the teeth when the latter are raised or when the bars are depressed, as herein set forth.

4. The combination of the cleaning bars *r r*, beam N, spring *s*, and hinge *n*, when employed on a cultivator, for the purpose specified.

5. The combination of the frame C, rocking with the axle, as described, with the draught pole E pivoted to the front beam of the frame, the plow beams I I, the cleaning bars *r r*, and the springs *s*, substantially as and for the purposes herein described.

6. In combination with the rocking beams F and N, cleaning bars *r r*, and drag beams I I, the hasp *h* and staple *h'*, arranged, as described, on the two beams, and operating in the manner and for the purposes herein described.

84,932.—FORDYCE BEALS, New Haven, Conn.—*Mode of Plating Scales with Hard Rubber, for the Manufacture of Cutlery, and for other Purposes.*—December 15, 1868.—Hard rubber is heated and pressed upon a perforated scale by means of a die.

Claim.—1. As a new article of manufacture, a scale, plated with hard rubber, substantially as herein set forth.

2. The method of uniting the vulcanite or hard-rubber plate and metal scale, substantially in the manner and for the purposes described.

84,933.—W. G. BELL, Pittsburg, Pa.—*Car Coupling.*—December 15, 1868.—Behind the tapering aperture of the coupling head are pivoted two vertical jaws bent and arranged to cross each other near their upper ends, and pressed together by springs, to hold the coupling rod. In rear of the jaws is a spring buffer plate, which assists in keeping the rod in a horizontal position.

Claim.—1. The beveled vertical jaws *a a*, constructed and arranged as described, with reference to the mouth piece A, with or without the springs *e e*, and the coupling rod C, as herein set forth, for the purpose specified.

2. The vertical bar D and spring E, in combination with the vertical jaws *a a*, coupling C, and mouth piece A, as herein described, for the purpose specified.

84,934.—FREDERICK BIHN and WILLIAM SCHRADER, Frankford, Pa.—*Mode of Recovering Useful Products from the Waste Liquor of Gelatine Factories.*—December 15, 1868.—Designed to separate the ingredients of waste liquor when gelatine is made by treating certain bones with diluted muriatic acid, which is effected by evaporation and subsequent condensation of the muriatic acid, or by the combined action of sulphuric acid and distillation, whereby the phosphate of lime remains as a residuum.

Claim.—The process herein described of separating the ingredients of the herein specified waste liquor, for the purpose of utilizing the same, as set forth.

84,935.—JOSEPH H. BRINTON, Thornburg Township, Pa.—*Cultivator.*—December 15, 1868.—By means of a transverse adjusting bar moving in inclined slots at the sides of the framing, double levers are operated to regulate the depth of the plows in the soil, each plow being pressed also by a spring.

Claim.—1. A transverse adjusting bar moving in inclined slots, or their equivalents, for the purpose shown.

2. A yielding pressure applied to the arms or levers *a*, together with a transverse bar moving in inclines, whereby to regulate the depth the plows enter the soil, and to accommodate them to any unevenness of the ground.

84,936.—JOHN D. CHAMBERS, Carthage, Mo., assignor to himself and ERASMUS D. ROWLAND, same place.—*Corn Planter.*—December 15, 1868.—The dropper chute consists of two uprights rising from the heel of the cutter, and united by a central partition, making two compartments. Strips or vanes, forming the sides of the chutes, have a vibrating motion given them by an oscillating shaft under control of the operator. The gauge wheel has a reversible axle, so as to bring it on either side of the frame.

Claim.—1. The arrangement in a corn-planting machine of the several parts *c c*, *m*, *h*, *f*, *e e*, M, K, I H, *b*, all arranged and operated substantially as shown and described.

2. The arrangement in a corn-planting machine of the frame A A E D, and the U-shaped shafts B, with the cross brace C, substantially as herein described.

3. The arrangement in a corn-planting machine of the diagonal axle bar P, brace Q, in combination with the gauge wheel O, substantially as shown and described.

84,937.—JOHN F. COOK, Baltimore, Md., assignor to GEORGE F. PAGE, JOSEPH ROBERTS, and GEORGE L. MCCAHAN, same place.—*Head Block.*—December 15, 1868.—The lever which operates the shaft is so adjusted as to produce the simultaneous movement of both elbows, by which means the elbows may be moved a greater or smaller distance, as may be desired, at each throw of the lever. Mechanism is so arranged that one elbow shall operate as check upon the other.

Claim.—1. The shaft D, so arranged on the rear side of the carriage as that, while it propels the knee, it acts as a fulcrum to facilitate the lateral adjustment of the head block.

2. The shaft D, with the arm *a* rigidly attached, and the levers *c c* loosely attached, in combination with the wheels *b b*, also loosely attached, and the arms *e e*, also rigidly attached, each arm having the pawl *e''*, and each lever having the pawl *c'*, all arranged to communicate an independent motion to each elbow C, or a simultaneous motion to both, substantially as described,

3. The graduated vibrating rod *k*, pivoted to the carriage at its lower end, provided with a fixed stop, and also an adjustable stop *k''*, arranged as described and shown, when constructed to operate in connection with the arm *a*, substantially in the manner and for the purpose specified.

84,938.—JOSEPH ROCK COOPER, Birmingham, England.—*Breech-loading Fire-arm.*—December 15, 1868.

Claim.—1. In breech-loading fire-arms, such as described, the combination, with the breech block, cartridge extractor, and hammer, of an independent vibratory or pivoted lever, having an independent return movement for locking the breech block, and connected with said parts in the manner set forth, so that by the action of said lever the opening of the breech, the withdrawal of the cartridge, and the cocking of the hammer may be effected at one operation, as specified.

2. The combination, with the hammer and breech block and shoe, of the lever *l*, and its actuating spring, in the manner described, so that while the lever, in its backward movement, carries with it and cocks the hammer, it will be caused by its spring to return, independently of the hammer, in position to effect the locking of the breech block, as set forth.

3. Lifting the hinged breech blocks of breech loading fire-arms from the breech chambers, or shoes of the said fire-arms, and supporting the said blocks in their raised position by means of a spring or spring lever, arranged and operating upon the joint of the block, substantially in the manner hereinbefore described, and illustrated in the accompanying drawings.

4. In connection with the breech chamber and hinged block, the combination and arrangement of

parts described, and illustrated in the accompanying drawings, for starting the breech block from the breech chamber, or shoe, on releasing the said block.

5. The spring stud for retaining the cartridge in the barrel, constructed and arranged in the breech chamber, as hereinbefore described, and illustrated in the accompanying drawings, so that the said gun may be loaded, with the muzzle end of the barrel raised higher than the breech end.

6. The improvement or improvements hereinbefore described, and illustrated in the accompanying drawings, in preventing the accidental discharge of breech-loading and other fire-arms, that is to say, by means of a detachable or removable bolt or pin, made to pass, from the exterior of the gun, transversely through, or bear against such part or parts of the fire-arm as will cause the said bolt or pin to fix the hammer, or fix such other part of the fire-arm as will prevent the discharge of the fire-arm.

84,939.—W. B. Culver, Scranton, Pa.—*Hoisting and Dumping Apparatus.*—December 15, 1868.—Stationary and moving dumping projections are attached, respectively, to the frame and platform for effecting the dumping of the latter. Upon the moving parts of the apparatus is a locking bolt operated by a stationary guide for locking and unlocking the platform by the sliding of the same. A series of springs, levers, connecting rods, and wedges are so connected with the hoisting rope that in case of the latter being broken, the fall of the platform will be arrested.

Claim.—1. The sliding rod *e*, springs *s*, levers *d*, connecting rods *c*, and wedges *a*, with rollers *i* arranged therein, all arranged, with relation to each other and to the hoisting apparatus, substantially as described and for the purpose herein set forth.

2. The stationary and moving dumping projections E and F, in combination with the hoisting and dumping apparatus, all arranged and operating in the manner substantially as herein described.

3. The locking bolt *g*, projection *m*, and grooved block H, in combination with each other and with a hoisting apparatus, substantially as described and for the purpose herein set forth.

84,940.—Edward Finn, Berlin, Wis.—*Axle.*—December 15, 1868.—In place of the usual screw threads of the nut and axle, a series of projections are formed on the reduced end of the axle, and a series of annular slots in the eye of the nut, communicating with each other by short longitudinal slots or entrances.

Claim.—The combination of the nut B, having annular slots *b b* and entrances *d d*, with the axle C A, having projections *a a*, arranged substantially as described and for the purpose set forth.

84,941.—William Foster, Jr., and George P. Ganster, New York, N. Y.—*Portable Gas Apparatus.*—December 15, 1868.—By means of valves, which are opened and closed alternately, the supply of gasoline from the tank may be regulated. An equalizing pipe leading from the vaporizer to the top of the reservoir insures an absolute uniformity of pressure on the surface in the reservoir with that on the surface in the vaporizing apparatus.

Claim.—1. Supplying the vaporizing apparatus with gasoline only as fast as it is evaporated through small pipes from a reservoir at a distance and preferably outside the building, substantially as and for the purposes herein set forth.

2. The measuring vessel J, and valves *j i*, in combination with the gas apparatus A B, and its adjuncts, and with a suitable reservoir for the volatile fluid, and arranged to operate relatively thereto, substantially as and for the purposes herein set forth.

3. In combination with the separation of the reservoir from the evaporating apparatus, as described, the measuring of the requisite quantity of volatile fluid for the manufacture of gas, as it is consumed at the burners, by means of an intermediate measuring device, substantially as and for the purposes herein set forth.

4. The equalizing pipe *l*, transmitting the pressure of the gas to the surface of the gasoline in the distant reservoir, as and for the purposes herein set forth.

5. The vent pipe, arranged as represented, relatively to the measuring chamber J and reservoir G, for the purposes herein set forth.

6. The spiral evaporator U, in a chamber adjoining that containing the meter wheel, constructed and operating as and with the advantages herein set forth.

7. The spiral chamber Q *q*, the receiving and discharging passages for the gasoline, and the receiving and discharging passages for the air, arranged, relatively to each other and to the other parts of the apparatus, so as to spread the gasoline, and present the gas thereto after its manufacture in the revolving vaporizer, and immediately before its discharge from the apparatus, all substantially as and for the purposes herein set forth.

8. Dipping out and removing the remains of the gasoline, and the water of condensation, and preventing it from accumulating, or in anywise mingling with the freshly-received gasoline, substantially in the manner and for the purposes herein set forth.

84,942.—John Fry, Latrobe, Pa.—*Muzzle for Shot Guns.*—December 15, 1868—An adjustable section of a barrel is attached by a catch and spring to the outer end of the muzzle, for the purpose of concentrating the shot in its flight from the guns.

Claim.—1. The muzzle piece A′, having a tapering bore, as described, in combination with the barrel A of a shot gun, substantially as and for the purpose specified.

2. The combination of the catch *m*, snap-spring catch *h*, and the thumb lever *g*, substantially as and for the purpose specified.

84,943.—Charles Furber, London, England,—*Dressing-glass Reflector.*—December 15, 1868.—For facilitating the inspection of the back part of the head or other portion of the body.

Claim.—The bent rod F, jointed to the center of the back of the reflector E, whereby the latter is adjustable to any desired angle, with reference to said rod, which is adapted to slide within the tube D, adjustably connected to the short tube B, upon the glass frame, as herein shown and described.

84,944.—William H. Gray, New York, N. Y.—*Looking-glass Support.*—December 15, 1868; antedated December 8, 1868.

Claim.—1. A portable mirror or looking-glass, having combined with it a divided or bow-like frame, acting as a support to the glass, of such character that it may be attached as an appendage to the person, leaving both hands at liberty for other purpose or purposes, substantially as specified.

2. The frame A, having an opening, as at *a*, and provided with adjustable or shifting legs *b*, for use in connection with a glass, either as an appendage to the person or otherwise, as herein set forth.

3. The combination, with the frame A, constructed to fit the person, essentially as described, of the reversible wire or rod B, socket *c*, and glass-holding rod C, for operation as specified.

4. In combination with the frame A, the rods B and C, jointed together for operation, in connection with the glass, as herein set forth.

5. The combination, with the frame A and rod B, of the socket *c*, made adjustable up or down, essencially as herein set forth.

84,945.—Benjamin Hendrickson, Huntington, N. Y.—*Gate Latch.*—December 15, 1868.—A double incline on the latch plate, with a recess in the center and a roller attached to the gate, serves to support the gate and allow it to be opened either way.

Claim.—The combination of the double inclined part *b*, of the latch plate, with the parts *a c*, and the roller *d*, all arranged as set forth, whereby the gate is permitted to swing in either direction, as herein shown and described.

84,946.—W. Upton Hoover, Daysville, Ky.—*Plow.*—December 15, 1868.—The two side plows admit of a reversal of position so as to turn the furrows to the right or left, and the implement is designed to be used for plowing, planting, and cultivating.

Claim.—The combination of the three turn plows *f*, when arranged in relation to each other, and for adjustment, in the manner shown and described.

84,947.—ALFRED HUTCHINSON, Philadelphia, Pa., assignor to himself and STEPHEN H. MARKLEY, same place.—*School Desk and Seat.*—December 15, 1868.

Claim.—The combination, with a double desk, A, of separate seats, C C′, each folding up to the front of the desk independently of the other, substantially as and for the purpose herein specified.

84,948.—JOHN JOHNSON, Saco, Me.—*Device for Pumping, &c.*—December 15, 1868.—A cylindrical vessel is provided with a pipe below, leading to a source of water supply, and one above leading to a tank, each pipe having a valve. To the said vessel are secured the two ends of a bent pipe, the bent portion being placed within a heating apparatus. In the higher portion of the bent tube steam is generated by which the water is forced into the upper pipe. The steam is then condensed in the pipe, the upper valve closes, and water ascends from below into the vessel, and the action is repeated.

Claim.—The automatic or self-acting steam pump or motor, herein set forth and described.

84,949.—WILLIAM JOHNSTON, Appleton, Wis.—*Bedstead Fastening.*—December 15, 1868.—A curved fastening attached to the post is provided with lugs and recesses into which engage corresponding lugs on a piece attached to the rail.

Claim.—An improved bedstead fastener, $C\ c^1\ c^2$, $D\ d^1\ d^2$, constructed and operating substantially in the manner herein shown and described.

84,950.—J. M. KENNEDY, Vicksburg, Miss.—*Revolving Inkstand.*—December 15, 1868.—A revolving caster is provided with cells for inks of different colors and for mucilage, and on the inner side of the case is a rotating calender.

Claim.—The construction and arrangement of the ink caster and case, as herein shown and described.

84,951.—J. H. KUTTNER, Hempstead, Texas.—*Suspender for Scissors.*—December 15, 1868.—The scissors are suspended to a cord which passes over pulleys in a movable frame and is attached to a weight, which holds the scissors in an elevated position when not in use.

Claim.—Suspending scissors from a horizontal wire by means of the movable frame B, weight D, and cord E, arranged and operating as shown and described.

84,952.—FREDERICK LANGE, Chicago, Ill., assignor to himself and EDMOND LICHTENBERGER, same place.—*Street Lamp.*—December 15, 1868.—The glasses are held in place by metal frames provided with flanges fitting over the edges of the glass at top and bottom on the outside and held on the inside by springs.

Claim.—1. A lamp, having the side glasses A held in position by means of the metal frames C and D, and the rods *d*, arranged as described.

2. The springs *e*, arranged to bear against the glasses, and hold them in position, and, at the same time, permit their ready removal and replacement, substantially as shown and described.

3. The combination of the gauge-cock *a*, located within the lamp, and the supply-cock *b*, located below the lamp, all arranged to operate as described.

84,953.—ELI H. LORD and WILLARD THOMSON, Homer, N. Y.—*Churn Dasher.*—December 15, 1868.—A series of dash boards are secured to a shaft at right angles to each other and formed with serrated edges and diagonal openings or slots.

Claim.—The peculiar form of the dasher, consisting of the shaft B, wings C C′, having their longitudinal and diagonal slots $c\ c^3$, and angular and curved serrated ends, as specified.

84,954.—PHILO MALTBY, Cleveland, Ohio.—*Wrist-pin Turner.*—December 15, 1868.—Designed for turning wrist pins while remaining in their place in locomotives or other engines, or the turning of journals on the end of a shaft when the machine can be applied for dressing and turning the said pins when worn, or requiring renewing, without the necessity of removing them from the engine.

Claim.—1. The cutting head D, provided with the adjustable tool holder and feeding device, in combination with pipes B B, substantially as and for the purpose specified.

2. The feeding screws *b b*, wheels K K, pinion O, and weighted lever P, combined and arranged substantially as shown.

3. The adjustable cross head C, center shaft N, adjustable hooks S S, spring *t*, and set screws *x x*, arranged and operating substantially as and for the purpose set forth.

84,955.—ALBERT D. MANCHESTER, Westport, Mass.—*Propagating Box.*—December 15, 1868.—A series of boxes formed with two sides of wood and two of metal, and resting on metallic strips that form the bottoms, are arranged within a crate having a detachable side.

Claim.—1. The packing box or crate A, constructed substantially as and for the purpose described.

2. The boxes F, constructed as described, and provided with the crate or box A, substantially as and for the purpose described.

84,956.—B. T. MARTIN, Charlotte, Mich.—*Harrow.*—December 15, 1868.—A series of toothed arms are arranged at an angle with, and hinged to, each side of a central shaft. A brace on one arm, with a curved extension on its inner end, serves to govern the action of the opposite arm.

Claim.—1. The arms B, in combination with the central shaft A, when hinged thereto, as described, whereby each arm is capable of oscillating on the said shaft independently of the other, substantially as and for the purpose described.

2. The brace b^2, provided with the curved extension, in combination with the shaft A and the brace upon the opposite side of said shaft, as and for the purpose described.

84,957.—THOMAS J. MASON, Harmony, Me.—*Plowing Hoe.*—December 15, 1868.—The top frame is composed of two slotted cross bars of unequal length, secured at their center to the ends of a plank, and the side frames consist of two bars bolted together at their center and connected at their upper ends by a bar. The tongue is hinged to the forward part of the upper frame and is adjusted at the rear by a wedge-shaped block.

Claim.—1. The top frame A B C and the side frames D E F, constructed and adjustably combined with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the adjusting lever braces J with the side frames D E F and pivoted scrapers I, substantially as herein shown and described, and for the purpose set forth.

3. The combination and arrangement of the hinged tongue K, loop or keeper L, adjustable wedge block M, and braces N with each other and with the frame A B C, substantially as herein shown and described, and for the purpose set forth.

84,958.—J. J. MERVESP, New York, N. Y.—*Horseshoe.*—December 15, 1868.—The calk is attached to the shoe by pressing the "crank" of the wedge into a recess in the body of the calk, and inserting both in a tapering socket, in the shoe, after which the wedge is riveted.

Claim.—1. A horseshoe, with or without a steel lining, in combination with a detachable calk, the shank of which is tapering and ribbed, in combination with the wedge, as shown at *g*, *Fig.* 1.

2. Securing calks to horseshoes by means of the part *n* of the wedge *g*, engaging with a recess in the under side of the shoe, and the part *p* bent over the calk, substantially as described.

3. Securing calks to horseshoes by means of the crank *h* of the wedge *f* entering a groove or recess in the body of the calk B, and the rivet or burr raised on its lower end, substantially as described.

4. Securing calks to horseshoes by riveting the end of the tapering shank of the calk E, as seen at *m*, substantially in the manner and for the purpose herein specified.

84,959.—NICHOLAS MEYERS, Buffalo, N. Y., assignor to EDWARD L. CHAMBERLAYNE and EMERSON C. POMEROY.—*Sewing Machine.*—December 15, 1868.—The object of this invention is to make the double loop stitch on a machine using a shuttle. The looper is pivoted to the under side of the removable plate of the machine and is operated to lay its thread in the well-known manner, by means of pins on the top of the shuttle carrier. The shuttle is removed when the loop stitch is to be made.

Claim.—The above-described loop-stitch attachment to a shuttle-sewing machine, consisting essentially of the shuttle carrier *b*, provided with the pins *b' b'*, the pivoted thread carrier *e*, provided with the spur *i*, and the spring bar *h*, when constructed as described, arranged in a shuttle race, *a*, and combined to operate in the manner and for the purposes described.

84,960.—WILLIAM MILLER, Chicopee, Mass.—*Knife Cleaner.*—December 15, 1868.—Upright leather plates are inclosed between two horizontal plates, the lower one being perforated, and are pressed together by means of a screw. Above is a hopper, in which is placed pumice stone or other cleaning material.

Claim.—The cleaning plates E E, when arranged in an upright position between the plate B, having the hopper or hoppers D, and between the perforated plate C, and when adjusted by means of a screw, G, as herein described, for the purpose specified.

84,961.—GEORGE MOONEY, Providence, R. I., assignor to MOONEY, ARNOLD, and SHAW, same place.—*Gas Socket.*—December 15, 1868.—The base of the socket extends below the rubber, and, by contact with the burner, prevents any lateral movement.

Claim.—A gas socket, constructed of one piece of metal, possessing the recess, fitted with a packing, consisting of a piece of the ordinary elastic rubber tubing, and the extension of the metal below the packing, in the manner and for the purposes described.

84,962.—AMOS KNIGHTS NOYES, Lynn, Mass.—*Apparatus for Turning the Leaves of Music Books.*—December 15, 1868.—The arms which turn the leaves of the music are provided with lugs and are actuated by dogs on a screw shaft which is rotated by a pinion rack, which latter is operated through links and levers by the musician's foot.

Claim.—1. In combination with the lugs Q Q and bars L L, which carry the arms N, the screw shaft H, with its dogs R R, arranged to turn the bars and arms, substantially as described.

2. In combination with the devices above claimed, the pinion S, rack T, levers V and X, and links U and W, constructed and arranged substantially as described, for the purpose set forth.

3. The clamping stand described, for holding the music book or leaves, substantially as described.

84,963.—D. J. PARMELE, San Francisco, Cal., assignor to himself and J. H. CURRIER, Springfield, Ill.—*Railway Car Brake.*—December 15, 1868.—On releasing the hooked trigger by means of the cord, the lever in which one end of a friction roller shaft is journaled is released, and the roller, coming in contact with a roller on the axle, is rotated, thus winding up a cord attached to a lever that operates the brakes.

Claim.—The combination, with the lever *e*, of the hooked rod *g*, hooked trigger *i*, and cord *k*, provided with rings, substantially as and for the purpose described.

84,964.—D. W. PERRY, Wilkesbarre, Pa., assignor to himself and O. K. MOORE, same place.—*Tool for Cutting Moldings.*—December 15, 1868.—The bits are held by screws on the side and top, by which means a wide or narrow bit can be used.

Claim.—The beveled molding cutter B, adjustably attached to the head A by means of the recess *g*, cap C, screws *d*, set screws *e* in the cap C, and the set screw *h* in the side of the head, all arranged to operate in the manner herein shown and described.

84,965.—F. PINCKARD, New Orleans, La.—*Sanitary Brace to Keep the Mouth Closed During Sleep.*—December 15, 1868.—Bands, connected by rubber straps fitting over the upper part of the head and under the chin, keep the mouth closed.

Claim.—The sanitary brace, constructed, arranged, and operating as herein described, for the purpose specified.

84,966.—WM. F. REDDING, Saratoga Springs, N. Y.—*Stove Door Handle.*—December 15, 1868.

Claim.—1. A handle, for attachment to stove doors, consisting of the handle E, made of wood or other suitable non-conducting material, fastened upon the wire G, bent so as to form an eye, A, shank B, and guard and fender C, substantially as herein described.

2. Providing a stove door handle with a curved guard and fender, C, substantially as herein described, and for the purpose set forth.

84,967.—PETER SALMON, London, England.—*Manufacture and Application of Gas for Various Useful Purposes.*—December 15, 1868.—In combination with the self-acting shut-off valves, are used scrubbers, consisting of vessels through which the gas passes, filled with sponge, tanners' bark, asbestos or charcoal, and driers, consisting of heated vessels, through which the gas is made to pass. The "Giffard" injector is used.

Claim.—1. The construction and arrangement of gas generators, combined with the before-mentioned self-acting shut-off valves, scrubbers, and driers, and the use of the feed injectors, substantially as hereinbefore set forth and described, or any mere modifications thereof.

2. The combination and arrangement of apparatus for the application, and the methods of treatment of gas for the purposes aforesaid, substantially as hereinbefore set forth and described, or any mere modifications thereof.

84,968.—CHARLES G. SARGENT, Graniteville, Mass.—*Belt Hook.*—December 15, 1868.

Claim.—A belt fastener, consisting of a single strip or piece of sheet metal, H or K, having a series of V-shaped hooks, *c*, punched through and out of it, or cut on its ends, with spaces between, and all bent at right angles with it, in the same direction, for the purpose of being passed through the adjoining ends of the belt, and clasped on their under sides, as herein shown and described.

84,969.—ELIHU SPENCER, Elizabeth, N. J.—*Railroad Car Heating Apparatus.*—December 15, 1868.—By discharging the heated air at a higher level than that at which the cold air enters, a constant current is produced.

Claim.—The combined car heating apparatus herein described, consisting of the hollow grate bars A, depressed induction openings *b*, and elevated discharge ports D, adapted to supply air constantly to the cars, whether moving or not, and provided with one or more elevated bell-mouthed supplementary pipes, B, for use when the track is obstructed with snow, and the train under motion, as explained.

84,970.—J. L. STEARNS, Mahomet, Ill.—*Plow.*—December 15, 1868.—The sulky plow is adaptable as a gang breaking plow, or a subsoil plow, by the attachment of the proper plows to the sulky.

Claim.—The combination of the axletree A, wheels Q and R, guide standards L, upright H, lever G, chain I, and brace J, with the adjustable plow beams D and E, all arranged as set forth for the purpose specified.

84,971.—BENJAMIN C. STEPHENS, Houston, Mo.—*Millstone Dress.*—December 15, 1868.

Claim.—The forming or laying out of a millstone dress by means of a stencil plate or pattern, made in the manner substantially as herein shown and described.

84,972.—BENJAMIN F. STEPHENS, Brooklyn, N. Y.—*Box for Pills, &c.*—December 15, 1868.—Confections and pills are prevented from adhering by being placed in separate compartments.

Claim.—A box, pressed or formed of plastic material, with cavities in it, forming separate compartments for the pills, or similar articles, substantially as specified.

84,973.—L. A. Sunderland, Chagrin Falls, Ohio.—*Milk Can.*—December 15, 1868.—An improvement on his patent of August 6, 1867. The supplementary wooden bottom supporting the metal bottom is secured to the can by means of rings and screws.

Claim.—The supplementary bottom G, in combination with the flanged ring or base E, screws *b*, and can A, arranged as described, and for the purpose set forth.

84,974.—Dennis H. Tierney, Waterbury, Conn.—*Fastening for Neck Ties.*—December 15, 1868.—When the tie is secured to the collar, the loop is drawn into the socket formed in the plate and thus prevents the tie from being detached.

Claim.—The arrangement of the elastic loop B within the socket A, and secured therein in such manner that that portion within the socket, as well as the outer portion, may be capable of extension and retraction, substantially as set forth.

84,975.—James F. Travis, New York, N. Y.—*Chandelier.*—December 15, 1868.—On raising the pendant or extension frame, a flexible tubing is made to coil itself within an enlarged hollow portion of an upper chamber.

Claim.—The chandelier or gasolier, provided with a chamber H, connecting the inlet pipe A, and guide tube E, in combination with the flexible tube G, pendant C, and its counterbalance F, all constructed and arranged to operate substantially as shown and described, as a new article of manufacture.

84,976.—Frank Wesson, Worcester, Mass.—*Revolving Fire-arm.*—December 15, 1868.—The barrels are locked and unlocked by means of a spring placed so as to be operated by the finger which operates the trigger. A slide is arranged to prevent the hammer, when down, from moving.

Claim.—1. The spring catch *c*, arranged for operation by the trigger finger, and in the frame C, and with reference to the two rotating barrels and the trigger, substantially as and for the purpose specified.

2. The slide *f*, arranged upon the upper side of the frame C, and in relation with the notched rear portion of the hammer D, substantially as and for the purpose specified.

84,977.—Phineas D. Wesson, Providence, R. I.—*Steam Heater.*—December 15, 1868.—The steam enters the inner chamber, and courses through a series of pipes into the radiating pipes, from whence it passes downward into the radiating chamber, which latter allows it to escape.

Claim.—A steam heater, composed of the outer and inner chambers A and B, the radiating chambers A A, and the pipes B B, relatively arranged and operating substantially as shown and described, for the purposes specified.

84,978.—Stephen Wilks, Chicago, Ill.—*Water Back for Stoves and Ranges.*—December 15, 1868; antedated December 9, 1868.—The partition at the cold water inlet causes the water to pass in close contact with the bottom of the water back, which prevents the jarring incident to the ordinary water back.

Claim.—The partition A, when placed in a water back for cooking stoves or ranges, as and for the purposes specified and shown.

84,979.—James Willis, Mifflin, Wis.—*Sled Brake.*—December 15, 1868.

Claim.—The brakes B, formed upon the ends of the shaft C, arranged at the rear of both runners, and connected upon both sides of the sled to the transverse crank shaft D, by means of the connecting rods H H, all operating as described, for the purpose specified.

84,980.—E. L. Yancy, Batavia, N. Y.—*Cheese Table.*—December 15, 1868.—The leaves supporting the cheeses are hinged to a rotating center bar which has bearings and is supported by removable braces. A rod secured to the lower rail prevents the table from turning when in position.

Claim.—The combination of the leaves D D′, center bar C, standards A, and rail B, substantially as and for the purpose set forth.

84,981.—John Amsterdam, New York, N. Y.—*Manufacture of Illuminating Gas, with other Products.*—December 15, 1868.—The hydrocarbon fluids are passed through red-hot metallic ore in the retort. A portion of the surplus carbon combines with the ore and converts it into a sponge, while the other portions of the carbon combine with the oxygen of the ore, thus forming illuminating gas.

Claim.—The within-described process of manufacturing illuminating gas, by passing hydrocarbon fluids through a retort charged with metallic ore, as set forth.

84,982.—James M. Albertson, New London, Conn.—*Baling Press.*—December 15, 1868.—The pedestal is so shaped as to prevent the segmental screw from turning when raised or lowered by the nut.

Claim.—The pedestal C, formed of two plates, connected together, and provided with spaces for the segmental screw A to pass through, the whole surrounded by the revolving nut B, all arranged and operating substantially as herein set forth.

84,983.—Jabez Alexander, Nashua, N. H.—*Device for Singeing Horses.*—December 15, 1868.—The burner, constructed to produce a wide flame, is connected with a gas pipe by rubber tubing which allows the burner to be carried to any portion of the animal.

Claim.—The metallic gas burner when substantially arranged as and for the purpose described.

84,984.—Joseph Auser, Mount Vernon, N. Y.—*Door and Shutter Fastener.*—December 15, 1868; antedated December 12, 1868.—The slotted pivoted latch can be swung around when the nut on the hook is loosened, so as to allow the hook to be withdrawn from the locking bar with only a few turns of the nut.

Claim.—The latch D, in combination with the hook C, nut E, and locking bar A, substantially as and for the purpose set forth.

84,985.—William N. Bartholomew, Newton Centre, Mass., assignor to Joseph Reckendorfer, New York City.—*Rubber Eraser.*—December 15, 1868.—The object of this form of rubber is to make erasures near or between contiguous lines.

Claim.—Rubber erasers, made with acute angles, substantially as and for the purposes herein set forth.

84,986.—F. G. Beach, Hartford, Conn.—*Ash Sifter.*—December 15, 1868.

Claim.—1. Suspending a sieve, C, within a suitably inclosed reservoir, A, by means of the links E E, or their equivalent, so that a reciprocating motion applied to said sieve shall cause an alternate upheaving motion of each of its ends, substantially as and for the purpose herein shown and described.

2. An ash sifter, consisting of the reservoir A, cover B, sieve C, links E E, and rod F, when constructed in the manner and for the purpose substantially as herein described.

84,987.—Alma Bedford, Coldwater, Mich.—*Sash Fastener and Adjuster.*—December 15, 1868.—The sashes are raised and lowered by means of the cord and pulleys, and are held in position by stops forced into recesses in the sashes by springs.

Claim.—The combination of the cord B, pulleys *a*, *b*, and *c*, stop F, bolt *i*, and spring *j*, when constructed and arranged to operate substantially as herein described, and for the purpose set forth.

84,988.—Charles P. Bellows, Gloversville, N. Y.—*Dentists' Flask.*—December 15, 1868.—The cope being placed on the bed plate, the nut is slipped over the cope and its screw thread made to engage with the thread on the bed plate. The cap is unscrewed to allow the plastic material to be inserted in the cup-like aperture in the cope. The cap being screwed on, presses the material into the mold.

Claim.—A flask for molding and pressing vulcanite and other substances, consisting of the bed plate D, cope B, nut C, and cap A, or their equivalents, all constructed and combined, substantially as shown and described.

84,989.—EDWARD S. BLAKE, Pittsburg, Pa.—*Radiator.*—December 15, 1868.—Three hollow columns, connecting the upper and lower chamber, are so arranged that the chambers and columns can be readily cleaned. A drawer in the lower chamber receives the soot which falls or is forced from the columns.

Claim.—1. The columns C, D, and *e*, combined with the chambers A and B, or their equivalent, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

2. The drawer *x*, when used in connection with heating flues of stoves, substantially as herein described, and for the purpose set forth.

84,990.—STERLING BONSALL and LOUIS HILLEBRAND, Philadelphia, Pa.—*Bell Pull.*—December 15, 1868.—An improvement on their patent of March 9, 1868. A spring bearing against the lower end of the plate throws the handle back to release the wire after being pulled.

Claim.—The plate A′, to which the handle is attached, with its journals *e* fitted into depressions in the plate A, as shown, in combination with the spring C, as arranged, and operating for the purpose set forth.

84,991.—J. F. BRICKLEY, Winchester, Ind.—*Pump.*—December 15, 1868.—By means of the regulating rods the valves in the pistons can be screwed onto their seats.

Claim.—1. The combination and arrangement of pump stocks A C and delivery pipe E, substantially as and for the purpose described.

2. The arrangement of the stocks A and C and the delivery pipe E, connecting pipes *a*, *b*, and *c*, with reference to the valve-regulating rod K, by which the pump may be converted from a lifting pump only into a lifting and forcing pump, substantially as described.

84,992.—HENRY C. BULL and SAMUEL T. SHELLEY, Louisville, Ky.—*Steam-engine Throttle Valve.*—December 15, 1868.—A piston is substituted for one of the disks and accompanying seat of the ordinary balance valve.

Claim.—The combination and arrangement of the casing F, valve A B C, and lever G, substantially as shown and described.

84,993.—CHARLES W. CAHOON, Portland Me.—*Lamp Burner.*—December 15, 1868.—The chimney is held by means of a spiral spring on the periphery of the deflector, fitting into and against a groove in the chimney.

Claim.—The combination of a chimney, having interior chimney fastenings, with a horizontal joint, substantially as and for the purposes set forth.

84,994. — W. CARTER, St. Louis, Mo. — *Bee House.*—December 15, 1868.—The shelves on which the honey is deposited are made of slats and arranged so as to allow the tender to enter and remove the moths.

Claim.—The combination of the bee house A with the slats, so as to obviate the necessity of a gum; the injury caused by the bee moth; the swarming of the bees; and to secure easy access to the honey.

84,995.—C. CLIFFORD, Fulton, N. Y.—*Vapor and Steam Condenser, to be Applied to Brewers' Boilers and Like Apparatus.*—December 15, 1868.

Claim.—A steam condenser, constructed as described, with a dome-shaped bottom, and having a tortuous pipe leading from the center of the bottom to the outside, and also with suitable apertures for the admission of cold water and the exit of the hot water, substantially as herein set forth.

84,996.—WILLIAM A. COLSTEN, Great Bend, Pa.—*Liquid Cooler.*—December 15, 1868.

Claim. — The arrangement of the two parallel plates *c c*, so as to form a thin, narrow channel or duct for cooling liquids, said channel being connected with a supply pipe *s*, and discharge pipe *d*, the whole constructed and operating substantially as set forth.

84,997.—JESSE COULSON, Oskaloosa, Iowa.—*Fire Alarm.*—December 15, 1868. — The plungers, actuated by springs, are discharged against the cartridges, by the bifurcated end of the lever raising and releasing the triggers, when heat is communicated to the fusible composition through the roughened cylinder on the end of the lever.

Claim.—1. The combination of the composition block H, the roughened cylinder G¹, lever G, spring G², and triggers F, for discharging the plungers, arranged substantially as set forth.

2. The bifurcated lever G, triggers F, and roughened cylinder G¹, in combination with a fusible support H, when so arranged as to act upon the triggers successively, with the melting of the support, substantially as set forth.

84,998.—DAVID DICK and OLIVER W. PRESTON, Jr., Corning, N. Y.—*Bag Tie.*—December 15. 1868; antedated December 9, 1868.—A clamp on one end of the chain fits over toes on the end of a slotted lever pivoted to a clamp on the other end of the chain, said lever being locked by a snap hook fitting through one of the links.

Claim.—The arrangement of the curved slotted lever C, with chain A, clamp E, and spring snap D, all combined and operated as and for the purpose described.

84,999.—A. T. DUNBAR, Alba, Pa.—*Horse Hay Rake.*—December 15, 1868.

Claim.—The runners A A, so constructed as to form raves, the ends of the raves extending beyond the ends of the runners, arranged in combination with the rake B, operating substantially as and for the purpose set forth.

85,000.—FRANCIS B. DUNN, New York, N. Y.—*Steam Generator.*—December 15, 1868.—A core sustained in position in the tube by pins, allows a thin stratum of water to be presented to the heated surface of the tube, causing a rapid evaporation.

Claim.—1. The core C, constructed with a series of supporting pins *a*, and arranged in the tube A, substantially as shown and described.

2. The arrangement of the core C eccentrically within the tubes A, by means of the pins *a* around its periphery, whereby to displace a portion of the water, as herein set forth.

85,001.—GEORGE M. DWIGHT, Oregon, Ill.—*Cultivator.*—December 15, 1868.—The parallel beams from which the cultivators are suspended can be raised or lowered, and are held in position by spring catches fitting in notches on the arch-plate.

Claim. — 1. The combination of the body platform C, with the draft bar D, the tongue E, and the guiding lever F, in such a manner that, when the said body platform is combined with the bent axle A, the said draft bar will be in the proper relative position for the combination therewith of the parallel beams G G, and the notched arch plates *k k*, all substantially in the manner and for the purpose herein set forth.

2. When the parallel beams G G are combined with the draft bar D, substantially in the manner herein set forth, the combination therewith of the cultivating points *i i*, the notched arch plates *k k*, and the spring catches *l l*, substantially in the manner herein set forth.

85,002.—F. EICHLER, New Lisbon, Wis.—*Portable Pump.*—December 15, 1868.—The chambers in the valve chest communicate with each other; the water is drawn through two of them and discharged into and forced from the third one. The valve chest is hinged to allow a lateral movement equal to that of the piston rod, which moves in the arc of a circle.

Claim.—A portable force pump, consisting of a reservoir or box A, having hinged therein by lugs *h* to a rod C a valve chest with three separate chambers B^1, B^2, and B^3, connected by three valves *c*, *e*, and *d*, all constructed as described, and arranged to be operated as set forth.

85,003.—Valentine Fath, Philip Fath, and **Julius Frielingsdorf,** St. Louis, Mo.—*Soldering Machine.*—December 15, 1868.—The sections of the gutter are held on the trough, while being soldered, by spring clamps. The stops prevent the trough from tipping over too far when it is turned over, to facilitate the soldering operation.

Claim.—The trough A, supported by trunnions *a* and the stops *a′*, and in combination with the clamps D D^1 D^2 D^3, substantially as and for the purpose set forth.

85,004.—John Graham, Grafton, W. Va.—*Signal Lantern.*—December 15, 1868.

Claim.—A signal lantern, provided with sockets on the blank sides, covered or otherwise, to receive and hold the spare glasses, substantially as described.

85,005.—Frederic Gutzkow, San Francisco, Cal.—*Preparation of Sulphates and the Manufacture of Fine Silver therefrom.*—December 15, 1868.—The sulphuric-acid bath, into which the sulphate of silver is to be poured, should have a specific gravity of 58° Baumé, and be heated to a temperature of 200° to 400° Fahrenheit.

Claim.—The preparation of crystals, consisting principally of sulphate of silver, by separating them from their solution in a sulphuric acid, in the manner as described above, the volume, the specific gravity, and the temperature of such acid to be within the limits as stated in my specification, for the purpose of converting such crystals into what is called in commerce fine silver.

85,006.—Charles Harrison, New York, N. Y.—*Slow-closing Valve for Water Closets.*—December 15, 1868.—A grooved way or notch is formed in the edge of the metallic piston, so that a leakage is produced that allows the water to pass from one side to the other of the piston as the valve is opened or closed, to prevent a concussive action.

Claim.—The metallic piston *m*, formed hollow, and provided with the notch *o*, in combination with the valve *f*, seat *d*, cylinder *a*, and chamber *n*, as and for the purposes specified.

85,007.—Henry Henley, Shoals, and **John J. Reinhart,** Loogootee, Ind.—*Grain Drier.*—December 15, 1868.—An interior-revolving steam cylinder is provided with hollow journals hung in an outer casing, in one of which is formed an elbow, extending to the inner surface of the steam cylinder, so as to scoop up water in the same and carry it off through the discharge pipe. Flanges on the cylinder serve to stir the grain.

Claim.—1. The revolving cylinder E, provided with the tubular journal G, for the introduction of steam, in combination with the journal H and elbow-shaped tube *m*, substantially as set forth.

2. The revolving cylinder E, provided with the flanges *a a*, journals G and H, elbow-shaped tube *m*, and casing A, substantially as set forth.

3. The hollow journal H, in combination with elbow-shaped tube *m*, substantially as described.

85,008.—Frank A. Huntington, San Francisco, Cal.—*Carriage Spring.*—December 15, 1868.—The body of the carriage rests upon springs of rubber or other elastic material, placed at each end of the adjustable cross bars.

Claim.—The rigid levers C C and springs G G, in combination with the adjustable bars F F, the whole arranged substantially in the manner and for the purposes described.

85,009.—Anthony William Jackson, La Crosse, Wis.—*Machine for Cutting and Splitting Wood.*—December 15, 1868.—The movable cutter is forced toward the stationary knife, and the cut pieces of wood fall upon an inclined plane below. On the opposite end of the follower are four cutting knives for splitting the wood.

Claim.—1. The follower F, provided at one end with a cutting knife, D, and at the other end with a four-bladed splitting knife, E, all constructed and operating substantially as and for the purposes herein set forth.

2. The arrangement of standards A A, rails B B, stationary knife D′, platform *e*, and inclined plane *f*, all constructed as described, and operating in combination with the follower F and knives D and E, substantially as and for the purposes herein set forth.

85,010.—Lewis Jones, Funk's Grove, Ill.—*Pulverizer, Leveler, and Marker.*—December 15, 1868.—Two parallel beams are connected together by cross bars, to one of which beams is attached a scraper, and to the other shovel teeth.

Claim.—1. The combination of the parallel beams A B, provided respectively with shovel teeth *a* and metallic plate *b*, and connected together by bars *d*, all constructed, arranged, and operating substantially as herein described.

2. The combined pulverizer, leveler, and marker, as herein described.

85,011.—Joseph R. Jordan and **James Campbell,** West Alexandria, Ohio.—*Combined Corn Crib and Thrashing Floor.*—December 15, 1868.—Upon a solid floor rests a slatted or grated floor, provided with legs and hinged at the lower edge of the crib.

Claim.—The combination of the crib E, grated floor G, and supporting base F, all arranged and used as specified.

85,012.—James M. King, Quincy, Minn.—*Apparatus for Tightening Belts.*—December 15, 1868.

Claim.—The belt-tightening device, consisting of the loose pulley C, mounted on a stud, D, attached to the plate E, arranged to slide in the frame F, and adjusted by the set screw G, or its equivalent, all substantially as herein described.

85,013.—George W. Lawbaugh, Geneseo, Ill.—*Harness-pad Press.*—December 15, 1868.—Improvement on his patent of February 25, 1868. The pad holder consists of a thin shell of cast iron, having on its bottom two ribs to form a support for the holder when clamped on the stitching horse.

Claim.—1. The harness-pad press, in which the dies are so constructed as to give the necessary curvature to the under side of the pad, to enable it to conform to the shape of the horse's back, substantially as herein shown and described.

2. The pad holder E, when curved in the manner described, and provided with the ribs *e e*, substantially as and for the purpose specified.

85,014.—Lemuel W. Leary, Norfolk, Va.—*Portable and Stationary Lantern.*—December 15, 1868.—Upon the top of the lamp and near the wick is secured an igniting plate, and a narrow vertical slot is cut in the inner and outer casings of the base, through which a match can be inserted to light the lamp without removing the latter.

Claim.—1. Lighting the match and wick within the base without removing the same, or opening any door, substantially as described.

2. The vertical friction plate E, secured upon the top of the lamp, in combination with the sections B^1 B^2, slots *b b*, and burner F, or an ordinary wick tube, as set forth.

3. The lugs D^1 D^2, and springs *d d*, in combination with the flange C, openings *c c′*, sections B^1 B^2, and slots b^2 b^3, the whole constructed and operating substantially as and for the purposes described.

85,015.—Karl Lieber, Charlottenburg, near Berlin, Prussia, assignor to **E. J. Keferstein,** Washington, D. C.—*Mode of Preparing Carbonated and Caustic Alkalies, &c.*—December 15, 1868.—Consists in heating together soda or potassa, saltpeter, and carbonate of lime, or chalk.

Claim.—1. The manufacture of caustic and carbonated alkalies, in the manner substantially above described and set forth.

2. The production and collection of nitrous acid and oxygen, useful for the manufacture of nitric acid by the process described and set forth.

85,016.—ALBERT LOVIE, Philadelphia, Pa., assignor one half to CHARLES F. STEINBACH.—*Curtain Fixture.*—December 15, 1868.—From the upper to the lower end of the frame is a vertical slot, having a cross slot at top, in which fits the shank of a button secured to a screw spindle. On the spindle is a nut, by which the pulley cord is tightened.

Claim.—The shouldered button *c*, cast or formed with the screw spindle B, in combination with the slotted frame A and nut D, when the parts are constructed and adapted to operate as herein represented and described.

85,017.—THOMAS E. MARABLE, Petersburg, Va.—*Toy Pistol.*—December 15, 1868.—A spring acts as an adjustable stop, to prevent the ball from accidentally falling out. The ball is forced out by a short cross rod fitted in a slot in the barrel, and operated by elastic cords.

Claim.—1. The spring N, when employed in a toy pistol or gun, substantially as and for the purpose described.

2. As an article of manufacture, a toy gun or pistol, having a barrel A, slotted at *b m*, a stock B, a trigger D, elastic cords C C, connected with a short rod E, operating in the slot *b*, and a spring N, operating in the slot *m*, the whole being constructed to operate substantially as and for the purposes specified.

85,018.—JOHN MUDGE MERRICK, Jr., Boston, Mass., assignor to NEW ENGLAND VULCANITE HIDE COMPANY.—*Material for the Manufacture of Boxes, Picture Frames, Buttons, Insulators, Inkstands, and other Articles.*—December 15, 1868.

Claim.—1. The new material for being molded into useful or ornamental forms, consisting of a combination of a powder of silica, chemically prepared, or occurring in the form of diatomaceous deposits or infusorial earth, with gum shellac, or other similar gums.

2. The molding of the aforesaid material into useful or ornamental articles by rollers and dies, substantially in the manner above described.

85,019.—LORING MOODY, Malden, Mass.—*Spading Machine.*—December 15, 1868.—The crank shafts are held in place by passing through sliding blocks, and are elevated or depressed by means of a lever.

Claim.—1. Hanging, upon cranks, spades, with handles passing through the axle, which serves as their fulcrum, operating substantially as and for the purposes described.

2. Connecting the spade handles with the crank by means of the sockets and screws, in order to lengthen or shorten them at pleasure, substantially as and for the purposes described.

3. The combination of the lever H with the axle, whereby the spades may be inclined at any angle with the earth, or thrown out of it, when desired, substantially as and for the purposes described.

4. The combination of the lever I, the rotating bar J, and the arm K, with the crank C, for throwing the machine out of or into gear, at pleasure, substantially as and for the purposes described.

5. The combination of the movable blocks M with the cranks C and the posts N, substantially as and for the purposes described.

85,020.—CHARLES A. MOORE, Westbrook, Conn.—*Manufacture of Knives and Forks.*—December 15, 1868.—A slit or opening is made in the butt end of the blade, and provided with a screw thread, over which is slipped a bolster. Through the bolster is screwed the tang.

Claim.—The blade A, with the opening *a a*, bolster C, with projections *b b*, and screw tang D, all arranged to operate as and for the purpose described.

85,021.—CHARLES MURDOCH, Hartford, Conn.—*Cylindrical Saw.*—December 15, 1868.—The saw is so constructed as to form a stave, with a transverse convex curvature on the outside, to correspond to the circle of the barrel at the bilge, and the inside concave to correspond to the inner circle of the barrel.

Claim.—1. A cylindrical or circle saw, composed of sections B B, having teeth C, and a longitudinal and transverse curvature, and secured together, and to flange A′, in the manner and for the purpose substantially as described.

2. A cylindrical or circle saw, with insertible teeth C, having two curvatures, one longitudinal and the other transverse to the blade of the saw, when constructed substantially in the manner as set forth.

85,022.—MICHAEL NECKERMANN, Pittsburg, Pa.—*Machine for Grinding Glass Fruit Jars.*—December 15, 1868.—The jars to be ground are placed in notches provided in the rotating wheel, when they are carried over the grinding plate by means of a belt, and gradually pressed down by an inclined plate under an adjustable cross piece.

Claim.—1. The adjustable cross piece L, provided with a semicircular inclined plate O, and arranged substantially as and for the purposes herein set forth.

2. The wheel F, constructed as described, of a cast-iron center piece *a*, and wooden frame *b*, the latter provided with semicircular notches *d d*, all substantially as herein set forth.

3. The combination of the inclined shaft E, wheel F, and inclined plate O, all arranged and operating substantially as and for the purposes herein set forth.

4. The arrangement of the grinding plate B and wheel F on the table A, so that another wheel may be added, if desired, substantially as herein set forth.

5. The arrangement of the sliding pulley J, operating on the belt G by means of a weight K, or its equivalent, for the purpose of holding the jars tightly in their places, substantially as herein set forth.

85,023.—GERRIT NIERMANN, Cincinnati, Ohio.—*Portable Wardrobe.*—December 15, 1868.—The separable parts of the wardrobe are connected by means of dowels, wedges, clamps, and a detachable cornice.

Claim.—The combination with the separable parts A B of the tapering dovetail cleats E H I, clamps F J, cornice L, dowels O, and sockets P, all constructed and arranged substantially as represented and described, for the purposes specified.

85,024.—BENJAMIN J. F. OWEN, Memphis, Tenn.—*Machine for Cleaning Cotton.*—December 15, 1868.—The arms of the fan are provided with prongs which pass between prongs in the sides of the box. A riddle at the discharge opening is made adjustable in inclination so as to project the cotton at a greater or less distance in separating the same from the burrs.

Claim.—1. A fan armed with spikes or prongs *c c*, arranged as described, and applied to and operating in a cotton cleaning machine, substantially as set forth.

2. An adjustable riddle or deflector, K, arranged, in relation to the discharge opening I, substantially as and for the purpose set forth.

3. The cotton box, composed of the detachable parts A A^1 A^2, substantially as and for the purpose explained.

85,025.—D. J. OWEN, Springville, Pa.—*Wagon Brake.*—December 15, 1868.—The brake or "support" is fixed to the hounds and to the reach, and is provided with a groove in which is a shaft having cranks at the outer ends carrying wedge-shaped brake blocks, which are forced down between the brake beam and the wheels.

Claim.—1. The combination of the fixed support I with the shaft K, cranks L L′, and brake blocks M, substantially as shown and described.

2. The arrangement of hand lever P, connecting rod O, and vertical arm N, with reference to the shaft K and crank L L′, substantially as shown and described.

85,026.—S. R. OWEN, Stewartsville, Mo.—*Churn.*—December 15, 1868.—Arms on the shaft revolve between inwardly projecting arms secured to a drum which has outwardly projecting arms that rotate between projecting arms fitting in sockets in the churn case. The shaft and drum are revolved in opposite directions by suitable gearing.

Claim.—The shaft A, sleeve B, and frame E, with their respective arms or beaters, herein described and shown, in combination with the racks H and sockets G, when constructed and operating substantially as herein specified.

85,027.—S. C. Richards, St. Louis, Mo.—*Steering Apparatus.*—December 15, 1868.—Surplus steam is applied directly or through force pumps, at the opposite ends and on different sides of the vessel against the water without, to steer the vessel.

Claim.—The combination of the steam cylinder or drum B with pipes D, stop valves d^5 d^6, end-nozzles d, d^1, d^2 and d^3, when constructed and arranged to operate substantially in the manner and for the purpose specified.

85,028.—William H. Rounds, North Bridgewater, Mass.—*Machine for Trimming Welted Seams.*—December 15, 1868.—The welt passes between a concave and convex finishing roll, pressure being applied to the lower roll to finish the welt. The shank of the upper forked cutter is secured to a spring to yield vertically to the irregular width of the seam.

Claim.—1. In combination with a mechanism for feeding a stitched welted seam, cutters for trimming the edges of such welt and seam, such cutters being each provided with prongs for straddling the welt or seam, and guiding it to the action of the cutter, substantially as described.

2. In combination with the feed and trimming mechanism, the edge-finishing rolls, substantially as shown and described.

3. Hanging the upper knife and the lower finishing roll, with provision for yielding, substantially as described.

85,029.—M. Samuels, New York, N. Y.—*Fountain Lamp.*—December 15, 1868.—A pear-shaped channel provided with an inclined bottom directs the oil from the fountain to the neck of the burner.

Claim.—The pear-shaped channel D, with its inclined bottom E, and provided with a top, B, which supports the fountain A and the neck C of the burner, substantially as herein shown and described.

85,030.—Christian Schmitz, Philadelphia, Pa.—*Mode of Shaving and Polishing Skins.*—December 15, 1868.

Claim.—The mode of shaving and polishing skins, by subjecting them to the action of a rotating wheel, having a grinding composition applied to its periphery, substantially as described.

85,031.—Edward Seeley, Scranton, Pa.—*Wash Boiler.*—December 15, 1868.—Steam is generated beneath the deflecting plate and rushes rapidly past its curved ends, compelling the water to ascend the passages formed by the plates with the side of the boiler.

Claim.—1. The dome-shaped deflecting plate, with its upwardly inclined edges, substantially as shown and described.

2. The arrangement of the deflecting plate B, with reference to the plates C C′, and to the plates forming the walls of the boiler, as a consequence of which, only a small amount of water is allowed to pass below such deflecting plate when the boiler is in use, substantially as shown and described.

3. The within-described construction of the passages for the ascending water.

85,032.—Clark R. Shelton, New Haven, Conn.—*Repairing Whips.*—December 15, 1868.—An improvement on his patent of February 11, 1868. The broken ends of the whip to be joined are first covered with ferrules, to prevent the covering from slipping off the stock; they are then joined by the tube.

Claim.—Preparing the ends of whips to be joined by the tube A, by securing thereon the ferrule d, substantially in the manner herein set forth.

85,033.—Daniel Shockey, Waynesborough, Pa.—*Farm Gate.*—December 15, 1868.—On pulling one of the cords, the spring bolt is withdrawn from the socket in the post so as to allow the gate to rise until the bolt strikes and is held by a pivoted dog. A guide on the end of the gate prevents it from swinging out too far when opened.

Claim.—1. The spring bolt I, in combination with the main arm or tilting lever of a gate, substantially as described.

2. The guide N, attached to the lower arm of a gate, substantially as described.

3. The combination of the spring bolt with the dog C, cam lever K, and cords, substantially as described.

4. The guide N, in combination with a circular flange on the post, substantially as described.

85,034.—L. S. Sisson, West Edmeston, N. Y.—*Car Brake.*—December 15, 1868; antedated December 5, 1868.—The cam rod having bearings in a pivoted hanger, is connected with a ratchet wheel on the rod operating the brake, and actuates the same when thrown in contact with the cam by the operating lever, which is raised and held in position by means of the fingers and spring on the guide. A lever, connecting with the plate to which the pawls are secured, can be raised to release the ratchet wheel and thus loosen the brakes.

Claim.—1. The combination of the pivoted hanger c, lever D, and springs c' and d, with the cam rod C, for the purpose of throwing the same into and out of gear, as set forth.

2. The guide E^1 and catch e, for governing the position and movements of the lever E, as set forth.

3. The guide D′, with its fingers d^2 and d^3, and spring d^4, arranged and operating as and for the purpose described.

85,035.—J. P. Smith, Hummelstown, Pa.—*Corn Sheller.*—December 15, 1868.—The teeth near the shaft of the shelling wheel feed the ears forward. The notches on the concave plate remove the corn from the tips of the ears.

Claim.—1. The teeth n n, near the shaft of the shelling wheel, arranged and operating, in combination with the concave plate, substantially as set forth.

2. The notches h h on the concave plate, arranged and operating, in combination with the shelling wheel, substantially as and for the purpose herein specified.

85,036.—W. S. Smoot, Washington, D. C., assignor to himself and James D. Bacon, *Neck Tie.*—December 15, 1868.—The two parts, each secured to one end of the collar, overlap and form a neck tie when the collar is fastened to the shirt band.

Claim.—As a new article of manufacture, a neck tie, consisting of two parts A, formed without button holes, and adapted to be attached to a collar, substantially as described.

85,037.—Charles Spofford and Charles H. Montague, Boston, Mass.—*Machine for Making Paper Collars.*—December 15, 1868.—Two reciprocating heads arranged parallel with each other are operated by levers on both sides of the machine, to which they are connected at different points by arms, one actuating the embossing and button-hole dies, and the other the cutting dies. The paper is fed through two rolls arranged between the two heads.

Claim.—1. The arrangement of the dies c c, with relation to each other, substantially as shown, and for the purpose set forth.

2. The heads B C, arranged as set forth, and operated by the lever G, to which they are attached at different points by the arms D E, one actuating the cutting die or dies, and the other the embossing dies, substantially as and for the purpose described.

3. The feed rolls g h, when arranged as described, in combination with the heads B, C, substantially as and for the purpose set forth.

85,038.—Leander R. Streeter, Chelsea, Mass.—*Plate for Artificial Teeth.*—December 15, 1868.—Tortoise shell or horn are disintegrated and subjected to the action of boiling water, then placed in the mold and subjected to heat and pressure.

Claim.—The use of tortoise shell, turtle shell, horn, and similar bodies, or those of similar composition, in making dental plates or bases for artificial teeth, substantially as described.

85,039.—RICHARD WALKER and GEORGE TRUMBULL, Batavia, N. Y.—*Draft Equalizer.*—December 15, 1868.—The slotted bar is provided with teeth which fit in serrations on the draught bar; the latter is perforated and can be adjusted to suit the draft of the horse.

Claim.—1. The bar A, constructed and formed substantially as and for the purpose described.

2. In combination with the above, the slotted bar B, operating as and for the purpose set forth.

85,040.—ALBIN WORTH, Stapleton, N. Y., assignor to himself and EBERHARD FABER.—*Shuttle for Sewing Machines.*—December 15, 1868.—The flange and shoulder on the back of the shuttle prevent the shuttle thread from being caught by the needle on its descent.

Claim.—The combination with the shuttle, of the projecting flange b and shoulder a, arranged and operating substantially as set forth.

85,041.—E. Z. WEBSTER, Norwich, Conn.—*Hat Conformator.*—December 15, 1868.

Claim.—1. The flexible ribs B and elastic band C, hinged or otherwise secured to a disk or tip, A, of suitable form, so that when placed upon the head, the band, with the ends of the ribs attached thereto, shall expand or contract, so as to conform to the size and shape of the head, substantially as and for the purpose set forth.

2. In combination with the tip disk A and supporting tablet E, the stud a, which rigidly attaches said parts together, and forms an axis for the slide F, substantially as shown and described.

3. The supporting tablet E, made detachable from the spindle a, substantially as and for the purpose herein specified.

4. In combination with the supporting tablet E, the springs I, for holding the paper thereon, substantially as shown and described.

5. The slide F, provided with a suitable tracing point, in combination with the arm G, provided with a guide finger or wheel resting upon the band C, by means of which, when pressed lightly against and caused to revolve around said band, a diagram of its contour is traced upon the surface of the tablet E, as and for the purpose specified.

6. The sliding piece f, rod f', and spiral spring o, in combination with the slide F, for the purpose herein specified.

7. The tube i, bolt k, spring l and slot s, in the slide F, by means of which the pencil may be adjusted to any desired distance from the stud a, and caused to press against the tablet E, substantially as herein shown and described.

85,042.—GUSTAV A. WEDEKIND and HELMUTH DUEBERG, New York, N. Y.—*Burning Kiln.*—December 15, 1868.—Designed as an improvement on the patent of F. E. Hoffman, June 13, 1865.

Claim.—The arrangement, within a progressive kiln, of the permanent perforated walls C C, one at each side of the fire chamber, whereby heated air is permitted to pass from one chamber to another, while, at the same time, the material being burned is protected from the direct action of the fire, as set forth.

85,043.—GEORGE A. WELLS, Oskaloosa, Iowa.—*Riddle for Grain Separators.*—December 15, 1868.—Transverse elliptical openings allow the grains to pass through, while oats will pass over, the same.

Claim.—1. A riddle for a grain separator, formed from a single sheet of metal, swaged into flat channels A, separated by parallel ribs B, substantially as set forth.

2. A riddle for a grain separator, constructed with transverse elliptical openings C, placed across the channels A, substantially as and for the purpose set forth.

85,044.—CYRENUS WHEELER, JR., Auburn, N. Y.—*Harvester Rake.*—December 15, 1868.—The tripper is adjustable in the arc of a circle, so as to release the rake at any desired point in its sweep over the platform, and is turned out of the way to allow the rake to sweep the platform when a gavel is formed. An adjustable arm carrying a friction roller upon the cam guide turns the rakes into gathering position before they descend into the uncut grain, and a button fastens them in such position when it is desired that they should act continually as rakes.

Claim.—1. In a combined rake and reel, the several arms of which may, at the option of the attendant, be made to act either as rake and reel arms, or as reel arms only, an adjustable device whereby the rake teeth may be made to rise out of the grain on the platform, at any desired point in their passage over said platform, without varying the point where said arms enter the grain for reeling it into the cutters.

2. A tripping device, adapted to release the rake, and permit it to roll up on its longitudinal axis at any desired point in its passage over the platform.

3. A rake, moving over the platform in the arc of a circle, and adapted to turn or roll upon a longitudinal axis, in combination with means for releasing the rake, and causing it to roll up at any desired point, for the purpose set forth.

4. An adjustable tripping device, operating to release the rake, for permitting its rotation on its longitudinal axis, as described, in combination with means controlled by the driver for moving said tripping device out of the path of the rake latch.

5. A button, or equivalent device, for preventing the rake head from rocking up when released by the tripping device, whereby any one or all the rakes may be made automatic when desired

6. The friction roller, or its equivalent, on the cam track, for returning the rake to its proper position for gathering and discharging the grain, as set forth.

7. The retracting friction roller J, or its equivalent, made adjustable, as set forth.

85,045.—WILLIAM N. WHITELEY, Springfield, Ohio.—*Harvester.*—December 15, 1868.

Claim.—1. The main frame A, cast in a single piece, with the disk P and tool box D, all as shown and described.

2. Making the bearing of the pinion shaft B through the center of the hub of the sector plate R, and the bearing of the latter through the center of the hub A', and securing these parts in place, in the manner shown.

3. The driver's seat e, and foot board f, mounted at the upper end of the standard d, said standard being rigidly secured to the main frame, and its upper end curved outward over the main wheel, as and for the purpose set forth.

4. The bevel wheel C, provided with the hollow hub, as shown, in connection with the bearing hub A', projecting from the main frame A, and the hub of the sector plate R, substantially as shown and described, and for the purpose set forth.

5. The lever V, provided with latches W and Y, in connection with the disk P and sector plate R, substantially as described.

6. The combination of the hemispherical or conoidal wrist pin with the corresponding socketed pitman head and the socketed washer, as shown and described.

7. The reel shaft k, made in two parts, as shown, and mounted in bearings in the post p, as shown, the two parts connected by a universal coupling, k', the lower part perpendicular to the surface of the platform, and the upper part inclined thereto, and always held in the same relative position, as and for the purpose shown and described.

8. The combination of the rake and reel, when constructed to operate substantially in the manner shown; *i. e.*, the reel, moving around the axis of the inclined shaft in fixed planes; a collar, which moves around the axis of the vertical shaft, in a plane at right angles thereto; and the rake, jointed to said collar in such a manner that it may rise and fall in a plane parallel with the axis of said vertical shaft, and all actuated by the same mechanism.

9. Making the guide way in two parts, C' D', C' being fixed, and D' jointed thereto, substantially as shown, so that the position of the part D' may be changed, at the will of the attendant, as regards the

fixed part C′, and the path of the rake be thereby raised from the platform, as and for the purpose set forth.

10. Elongating one end of the movable part D′, to form the lever E′, which extends to a position convenient to the hand of the driver, and acts directly upon said movable part, in the manner and to the effect shown and described.

11. The independent rake head *t*, provided with the arm *v*, jointed to the collar *w*, or its equivalent, hung around the reel shaft, and operated by a pendent arm, jointed to the reel head, substantially as and for the purpose set forth.

12. The combination of the driving arm *r* and rake head *t*, connected by the stationary ring *u*, and operating as shown and described.

13. The stops *s′ s′*, on the driving arm *r*, to limit the movement of said arm and the rake head upon each other.

85,046.—WILLIAM WILMINGTON, Toledo, Ohio.—*Chill for Casting Car Wheels.*—December 15, 1868.—The chill is formed with a groove in the angle, or curve thereof, between the inner periphery and the outer horizontal face of the said chill, which groove is filled with clay or sand preparatory to casting the car wheel.

Claim.—The within described improvement in the annular metallic portion, or chill, of a car wheel mold.

85,047.—S. R. WILMOT, Bridgeport, Conn.—*Lamp Chimney.*—December 15, 1868.

Claim.—As an article of manufacture, lamp chimneys, fluted or corrugated at the base, substantially in the manner and for the purpose herein set forth.

85,048.—JOHN S. WILSON, Harveysburg, Ohio.—*Sluice Gate.*—December 15, 1868.—An arrangement of devices for automatically shutting off the flow of water through a mill race whenever the stream from which the race is supplied becomes unusually high. Flood gates are also arranged to open automatically, so as to drain the mill race, to prevent the embankments from bursting by the excessive pressure of water.

Claim.—1. The head gate D *d d′*, shaft E, arm *e*, bolt G, levers H H′ and K *k*, supporting shoulder *j*, connecting rod *l*, arm L, and regulating valve M *m*, all combined and arranged to operate substantially as and for the purposes specified.

2. The combination of the stop valve O *o* with the gravitating lever H H′ and tripping apparatus *j*, K, *l*, L, M, for the object stated.

3. The combination of the flood gate P, releasing devices R, S, H, tripping devices K *k*, *j*, rod *l*, arm L, and valve M *m*, all arranged to operate in the manner and for the purposes explained.

85,049.—HENRY E. ANTHONY, Providence, R. I.—*Wrench.*—December 22, 1868.—The jaws are constructed with grooves extending from the side of the shank, the widest part of the latter being at right angles to such grooves.

Claim.—The combination of the grooved or angular jaws C D, wide shank B, and screw E, or its equivalent, for adjusting the jaws, all arranged substantially as described.

85,050.—J. H. APEL, Boston, Mass.—*Chair for Children.*—December 22, 1868.—For preventing the chair from upsetting.

Claim.—The combined chains and screw clamps for fastening children's chairs to tables, substantially as and for the purpose herein shown and described.

85,051.—JOHN BAIRD, New York, N. Y.—*Composite Vessel.*—December 22, 1868.

Claim.—1. A vessel, composed of a double planking, and an iron frame, in which the outside planking is secured to the inner planking only with wooden fastenings, whereby a composite ship may be coppered without serious risk of galvanic action, the combination of planking and frame being substantially such as described.

2. In combination with an iron frame, a planking, partly fore and aft, and partly diagonal, the latter drooping both ways from amidships, and being secured amidships, or nearly so, upon an iron plate, the whole construction being substantially such as specified.

3. In combination with an iron frame, having metallic chords secured to the outside thereof, fore and aft planking partly covering the chords, and diagonal planking abutting thereon, and covering the remainder of the chords, whereby the chords serve as lapping plates, and the frame and both sets of planking are all intimately and firmly secured together, substantially as described.

4. A diagonal planking, drooping both ways from about amidships, in combination with an outer fore-and-aft planking covering the diagonal planking, as described, the two sets occupying substantially such relative positions to each other as are described herein.

85,052.—JOSEPH BARKER, Champlain, N. Y.—*Horseshoe.*—December 22, 1868.—Designed to prevent "overreaching."

Claim.—Constructing horseshoes of a gradually decreasing thickness, the front shoes decreasing in thickness from their rear to their front ends, and the rear shoes gradually decreasing in thickness from their front to their rear ends, substantially as and for the purpose set forth.

85,053.—THOMAS S. BLAIR, Pittsburg, Pa.—*Manufacture of Steel.*—December 22, 1868.—The invention consists in preparing so-called "pig bloom" or "pig scrap," composed of oxides of iron or ores, and of cast iron. The melted pieces are then treated as a substitute for blistered steel or wrought iron in the manufacture of cast steel, the process being conducted in a furnace or crucible, as practiced in making crucible steel. The invention is designed as an improvement on patent No. 84,053.

Claim.—1. The manufacture of cast steel in the crucible, from "pig bloom" or "pig scrap," substantially as hereinbefore described.

2. The manufacture of steel by melting down, in an open furnace, "pig bloom" or "pig scrap," composed of a mixture of cast iron and an oxide or oxides, in such relative proportion of metal and oxide as to give the necessary ratio between the oxygen, carbon, and iron, to produce the desired result, substantially as hereinbefore described.

3. The manufacture of steel from cast iron, by adding to the cast iron, in a melted state, a conglomerate composed of cast iron and oxides of iron, substantially as hereinbefore described.

4. The production of steel from cast iron and malleable iron, by melting the cast iron and fusing in it a sponge of wrought iron obtained from "pig bloom" in the manner hereinbefore described.

85,054.—N. O. BOND, Hyannis, Mass.—*Summer Attachment for Stoves and Ranges.*—December 22, 1868.

Claim.—A summer attachment, A, formed to fit in the top plate of a stove or range, and to receive the stove plate C of the opening, in which it fits, and provided with a hollow extension, D, leading from the bottom of the attachment to any suitable air passage formed in the side, door, or front of the stove or range, and provided with an exit passage, *e*, all substantially as shown and described, and for the purpose set forth.

85,055.—CHARLES E. BONNET, Philadelphia, Pa., assignor to J. P. WILKINSON & SONS, same place.—*Composition for Ornamental Moldings.*—December 22, 1868.—Composed of glue dissolved in boiling water, to which paper pulp is added, and afterward zinc white and oil, and then whiting.

Claim.—A composition, formed substantially as herein described, for the manufacture of ornamental moldings.

85,056.—LEOPOLD BRANDEIS, Brooklyn, N. Y.—*Method of Making Cores for Molding Articles of Lead and Other Metals.*—December 22, 1868.

Claim.—The production and use of cores (fireproof or not) made of wire, paper, pasteboard, paper pulp, muslin, felt, and linen cloth, or of any textile fabric, or of oil-cloth, silk, or India-rubber, for casting of plumbers' traps or other curved articles made of lead, tin, zinc, bismuth, antimony, cadmium, and their respective and mutual alloys, and the application of paper or other materials, as described, for forming cores to be used in making castings from any metal or alloy.

85,057.—LEOPOLD BRANDEIS, Brooklyn, N. Y.—*Solder.*—December 22, 1868.
Claim.—The production of laminated solder, cut into pieces of desirable shape and weight by means of rollers and revolving shears, for the purposes of producing pieces of regular weight, so as to insure a perfect control over the workmen.

85,058.—JOSEPH BRAUN, Rochester, Pa.—*Apparatus for Drying and Pressing Coats.*—December 22, 1868; antedated December 11, 1868.—A metallic core is so formed that the several parts can be readily adjusted to coats and vests of different forms and sizes.
Claim.—The combination of the parts A, B, C, and *g*, adjusting screws 1, coupling 4, pipes 2, 3, *n*, *o'*, and *y*, constructed, arranged, and operating as herein described, and for the purpose set forth.

85,059.—JOSEPH BRAUN, Rochester, Pa.—*Apparatus for Drying and Pressing Pantaloons.*—December 22, 1868; antedated December 11, 1868.—A metallic core for pantaloons is formed in two parts and provided with pipes, couplings, and adjusting screws, by which the pantaloons can be cleansed, steamed, and pressed.
Claim.—The combination of the part B, concaved part B', adjusting screws 1, couplings 4, pipes A, C, 2, 3, and 5, constructed, arranged, and operating as herein described, and for the purpose set forth.

85,060.—JOSEPH BRAUN, Rochester, Pa.—*Apparatus for Cleansing Clothes.*—December 22, 1868; antedated December 8, 1868.
Claim.—The use of a hollow metallic core, the form of which corresponds to the form of the human body and its wearing apparel, said metallic core being provided with perforations and used with steam, substantially as herein described, and for the purpose set forth.

85,061.—JOHN BRETZ, WILLIAM SANGSTER, and JOHN F. BRETZ, Springfield, Ill.—*Brick Machine.*—December 22, 1868.—Pins extending downward from the sweep of the shaft of the pug mill strike against and operate a twisted lever, to which is attached a bar to push the molds under the pugging apparatus. The lever is retracted by a spring.
Claim.—The arrangement and combination of the sweep C and pins I I, with the lever K, (said lever being constructed as described,) with the twisted iron rod *f*, connecting bar L, stick M, and pivot *a*, and spring N, all operated as and for the purposes herein set forth.

85,062.—WILLIS S. BRONSON, Hartford, Conn.—*Base-burning Stove.*—December 22, 1868.
Claim.—1. A fire pot, made in two parts, so that one part, the inner one, can be removed and replaced at pleasure, having air space between the two, provided with orifices in the upper edge or side of the walls thereof, substantially as and for the purpose described.
2. Perforating the edge or sides of the fire pot, when said pot is made in two distinct parts, for the purpose of protecting the wall of the pot and facilitating combustion, substantially as described.
3. Air tubes *e*, in combination with a pot, constructed as described, and for the purpose set forth.
4. Forming the reservoir, below the cover, of two parts, having space between its inner and outer walls, substantially as and for the purpose described.
5. The combination of a two-plate cover, and a double or two-plate coal receiver, below said cover, whereby I am enabled to introduce air to the fire surface, upon the principle of the siphon, substantially as and for the purpose described.
6. The combination of air-conducting spaces *e n*, whereby I am enabled to bring two heated currents of air from opposite directions and discharge them at the fire surface, substantially as described.

84,063.—BENJAMIN F. BROWN, Woburn, Mass.—*Submerged Pump.*—December 22, 1868.
Claim.—The valves *a*, *b*, *c*, *d*, constructed as described, in combination with openings F and *g*, ports S and S', cylinders Q, Q', and Q'', piston B, piston rod D, air chamber C, eduction pipe E, cog-faced arm *m*, cogged holder P, sockets K and M, and lever H, all arranged and operating, relatively to each other, substantially as and for the purpose herein described.

85,064.—SAMUEL BROWN, Philadelphia, Pa., assignor to himself and C. R. CARVER, same place.—*Feed Attachment for Machinery.*—December 22, 1868.—For moving the fingers of a feed attachment for rotary cutters for cutting paper, sheet metal, rubber, &c. The fingers are actuated to move forward, in feeding the material to the machine, in a horizontal manner, and at the completion of the forward movement to withdraw below the surface of the feed board, return beneath the same, and again rise and repeat the movement.
Claim.—1. The combination of the finger plate *m*, guide plate *h*, upright *g*, projection *p*, grooved plate D, shaft *e*, connecting rod *f*, rod *b*, crank *d*, and cam shaft *a*, all arranged to operate as herein described, for the purpose specified.
2. The guide board *g*, substantially as described, in combination with the apron E, fingers *i*, and their actuating mechanism, all substantially as described, for the purpose set forth.
3. The guide plate *h*, carrying the fingers *i*, operated, as described, by the cam *n*, upon the shaft *a*, through the medium of the crank *d*, connecting rod *f*, shaft *e*, and upright *g*, sliding in the grooved plate D, as herein described, for the purpose specified.

85,065.—WILLIAM G. BROWN, Canton, N. Y.—*Reel.*—December 22, 1868.—The bent ends of the arms are inserted in holes in the reel head, and secured by a set screw. The inclination of the reels can be varied, to adjust them to skeins of different length. Prolongations in the heads admit of two skeins being reeled at the same time.
Claim.—The combination of the right-angled arms, having their heads provided with the prolongation *c*, with the reel head, provided with the sets of holes *a* and *a'*, and the set screw B, all constructed substantially as and for the purpose set forth.

85,066.—ISAAC N. BUCK, Elgin, Ill.—*Burglar Alarm.*—December 22, 1866.—A sliding bolt rests against the back edge of the door, and is so connected with the striking mechanism as to set it in motion in case the door is opened at night. During the day the striking bolt is held back by a key bolt, so as not to sound an alarm.
Claim.—1. The sliding bolt E, with its studs E E and D D, arranged and operating in connection with the vibrating or pallet rod D, substantially as described.
2. The key bolt F, arranged and operating substantially as described.
3. The key bolt F, spring H, sliding bolt E, and the striking mechanism, arranged substantially as described, for the purposes specified.

85,067.—ROBERT I. BURBANK, Boston, Mass.—*Machine for Cutting Hay, Straw, and Vegetables.*—December 22, 1868.—The teeth of the larger saws are designed to split or divide the stalks, and are aided by the smaller saws to crush the articles to be cut. Notched and forked plates pass between the saws, to clear the same.
Claim.—1. One or more series of K-tooth saws D, constructed and operating in connection with another, as described, and each or either in connection with a series of small saws, E, arranged at each side of the former, on an opposite shaft, the teeth of the latter pointing upward and outward while rotating inward and downward toward the other, and all arranged to operate substantially in the manner and for the purpose specified.
2. The notched and forked clearers N, constructed as described, in combination with the saws D and E, as and for the purpose specified.
3. The combination of all the operative parts speci-

fied, when arranged to operate substantially as and for the purpose set forth.

85,068.—R. B. Carsley, New York, N. Y.—*Alarm Rug.*—December 22, 1868.—The spring plate is secured to the floor or sill, and is connected with an alarm gong, so as to sound the latter when a person enters the door.

Claim.—The movable spring plate C, when covered with or forming part of a rug, and used in connection with a door or window, and connected with an ordinary gong, D, by the connecting wire E, arranged as shown and described, for the purpose specified.

85,069.—Charles E. Chase and Benjamin F. Devendorff, Wyoming Township, Mich., assignors to themselves and Joseph S. Randall.—*Grubbing Machine.*—December 22, 1868.—A curved hook is provided with notches, which engage with a bolt passed through the lever.

Claim.—The adjustable hook I, Fig. 3, when used in combination with the lever A and wheels B B, Fig. 1, substantially in the manner and for the purpose above set forth.

85,070.—William Juby Coleman, Bury St. Edmunds, and Alfred Coleman, London, England.—*Article of Food.*—December 22, 1868; patented in England November 19, 1867.

Claim.—The manufacture of biscuits, losenges, and similar articles of food, by compounding Liebig's extract of meat with farinaceous materials, then rolling or pressing the mixture together, so as to form sheets or thin pieces, and drying or baking the same.

85,071.—O. B. Collins, Carthage Landing, N. Y.—*Furniture Tip.*—December 22, 1868.

Claim.—The furniture tip, constructed, as described, of the grooved button *a*, around which the India-rubber block *b* is cast, whereby, when said rubber becomes worn off, a smooth, even bearing surface is presented, to avoid injury to carpets and floors, as herein shown and described.

85,072.—William H. Cowley, Cleveland, Ohio.—*Gate.*—December 22, 1868.—By means of the plates, levers, and connections in combination with the double-acting hinge, the gate is raised at its outer or swinging end, thus throwing it out of a vertical line and causing it to open.

Claim.—The combination of the plate D, attached to the inner end of the gate, and provided with curved slots *n*, with the plates *f h*, the former having pins *y*, the double-acting hinge *a b d*, levers *l l′ l″* I, and connections *r r′ k*, all constructed and arranged to operate substantially as herein set forth.

85,073.—Samuel G. Dare, New York, N. Y.—*Chuck.*—December 22, 1868.—The case is made in two pieces and a ring is interposed which is provided with notches on its face in which projections on the semicircular jaws fit. The ring is turned by a screw on the side of the case, and projects the jaws toward, or withdraws them from, the center of the chuck.

Claim.—The combination, with the case A and operating ring D of my improved chuck, of the semicircular or crescent-shaped jaws E E E, moving in counterpart recesses or slots formed (about independent centers) in said case A, upon circles intersecting at the center of the chuck, all substantially as herein set forth.

85,074.—D. H. Dotterer, Philadelphia, Pa.—*Car Brake.*—December 22, 1868; antedated December 5, 1868.—The brake beams are placed above the beams of the truck, and so connected thereto by means of links as to dispense with the ordinary suspension of the brakes.

Claim.—1. The brake beams F and F′, arranged above the beams of the truck, and connected thereto by links, substantially in the manner described.

2. The brake beam, composed of two bars, *d d′*, and intervening packing piece, and provided at the ends with blocks *f*, to which are hinged the shoes *f′*, all substantially as set forth.

3. The horizontal lever H, hung to a pin on the truck, but having a lateral play thereon, in combination with the system of levers and rods herein described, or their equivalents, by which the movement of the said lever H is imparted simultaneously to both brake beams, as set forth.

85,075.—John Dunlap, Madison Township, Pa.—*Horse Blinder.*—December 22, 1868.—Springs on the outside of the blind prevent the eyes from being injured and leave sufficient light for the animal to see to walk and graze.

Claim.—The application of a blind (constructed in such a manner as is more fully described in the accompanying specification) to a halter, to prevent breachy horses and cattle from breaking or jumping fences.

85,076.—Robert Francis Fairlie, London, England.—*Locomotive Steam Engine.*—December 22, 1868; patented in England, November 14, 1867.—The bogie frames of locomotive engines are combined with a carrying frame, and these frames with stowage compartments, to enable passengers and commodities to be transported upon the locomotive and thus increase its tractive power.

Claim.—1. The rigid carrier or cradle frame A, supported on the bogies or swivel frames B, to which the engines are attached, the said frames being constructed substantially in manner herein described and shown.

2. The combination of the rigid frame, bogie frames, and a coupling frame between the bogies, as and for the purpose herein described.

3. The combination, with the rigid frame A and bogies B, of the boiler C, which is dropped into its place and bolted only at the center of the fire box, free scope for expansion and contraction being thus permitted, substantially as herein described and shown.

4. The combination, with the rigid frame A, bogies B, and boiler C, of the fuel carrier D, substantially as herein described and shown.

5. The combination, with the rigid frame A, bogies B, and engines mounted thereon, and boiler C, of the luggage or merchandise compartment F, substantially as herein described and shown.

6. The combination, with the rigid frame A, bogies B supporting the engines, and boiler C, of the passenger carriages G H, substantially as herein described and shown.

7. The combination, with the rigid frame A, bogies B, and boilers C, of the water spaces I I, substantially as herein described and shown.

8. The combination, with the rigid frame A and bogies B, supporting the engines, of the springs *a* and *b*, substantially as herein described and shown.

9. The combination, with the rigid frame A and bogies B, of a double barreled boiler, the fire-boxes of which are fed through apertures O O in the dome, substantially as herein described and shown.

85,077.—L. H. Farnsworth, Hudson, Mass., assignor to himself and H. J. Watkins, of same place.—*Boot and Shoe Shave.*—December 22, 1868.—The face of the handle is recessed to receive the blade with its projections, in the latter of which the adjusting screws fit. By means of a central screw the guard can be raised or lowered to cut thick or thin shavings.

Claim.—1. The combination, with the handle A and guard C, of the screws *g g* and *k*, substantially as and for the purposes set forth.

2. The combination, with the handle A and blade B, of the blade seats D D, having slotted projections *b c*, substantially as and for the purposes set forth.

3. The combination, with the wooden handle A of the peculiarly constructed blade seats D D, blade B, guard piece C, and adjusting and holding screws *g g* and *k*, substantially as and for the purposes set forth.

85,078.—James D. Field, Wataga, Ill.—*Paper File.*—December 22, 1868.—The bills are secured in an open frame by a plate pressed against them by a spring.

Claim.—A bill holder, constructed of the parts A B C, plate D, with the hinged flap E, guides *f*, and spring G, arranged substantially as described, for the purposes set forth.

85,079.—C. C. Fitzgerald, Phœnix, N. Y.—*Paper Pulp.*—December 22, 1868.—The wood is passed through pressure rollers to extract the acids, and then reduced to pulp in the ordinary manner.

Claim.—Paper pulp, prepared from the fibers of the plantain tree, either in the manner herein set forth, or otherwise, as specified.

85,080.—C. W. Flint, Washington, D. C.—*Ice Cutter.*—December 22, 1868; antedated December 19, 1868.—A knife is arranged on the vertical rotating cylinder to cut or shave the ice placed on the shelf, and a scraper is arranged on the inside of the cylinder to remove the cut ice.

Claim.—An improved ice cutter formed by the combination of the plate A, shelf or flange B, two-armed brackets C, crank gear wheel G, small gear wheel F, vertical shaft D, vertical hollow cylinder E, adjustable knife or knives I, and scraper J, with each other, substantially as herein shown and described, and for the purpose set forth.

85,081.—Joseph Flint, Rochester, N. Y.—*Grinding Machine.*—December 22, 1868.—The saw is fed by the rollers between the grindstone and the cross bar, and then passed between rollers which carry it to an inclined apron. The apron is pulled up by a rope until the saw is caught between upper rollers which return it to the operator. The frame in which the rollers are journaled can be adjusted by means of screws to grind one side of the saw thinner than the other.

Claim.—1. The feed rollers F and F^1, cross bar H^2, in combination with the grinding stone C, for the purpose herein shown and described.

2. The vertically movable frame B^1, in combination with the grinding stone C, as and for the purpose herein set forth.

3. The arrangement of the platform F^3, slide L, and rope *o*, in combination with the rollers G and F, for the purpose of returning the saw to the operator, substantially as herein shown and described.

85,082.—Benjamin Flowers, Jerusalem, Ohio.—*Shingling Roofs.*—December 22, 1868.

Claim.—The angular metallic sections D, connecting the gutters or "valleys" of two roofs together, when applied as described, by having one wing of each of the sections laid up with the shingles on one roof, and the other wings of the same resting upon each other, and covered by the shingles on the other roof, as herein shown and described.

85,083.—John Gardner, Philadelphia, Pa.—*Machine for Making Confectionery.*—December 22, 1868.—A figure is formed in the mold made by the cavities on the two rollers coming opposite each other, and is pushed in an upright position upon a reciprocating plate which delivers it to a revolving belt.

Claim.—1. The forming of figures (either solid or hollow) in confectionery, by revolving rollers or cylinders, in an upright position, so that the figures formed by the revolution of the rollers or cylinders will stand in an upright position, substantially as and for the purposes described.

2. The movable plate J, or its equivalent, in combination with the rollers A B for carrying off or removing from the rollers the figures thus formed, in an upright position, substantially as described.

85,084.—Washington L. Gilroy, Philadelphia, Pa.—*Blacking Box.*—December 22, 1868.—A perforated disk fits over the face of the blacking in the box, and on being pressed down forces the blacking up through the perforations. Oiled paper fits under the disk and protects the blacking from the air until it is to be used.

Claim.—1. The application to a blacking box of the perforated plate or disk D, substantially as and for the purpose described.

2. The employment of the oiled paper E, in combination with the perforated plate or disk D, when the same are applied to a filled box of blacking, substantially as and for the purpose described.

85,085.—James H. Golding, Liverpool, England, assignor to himself and Patrick Martin, same place.—*Cylindrical Cutter for Leather and other Materials.*—December 22, 1868.—The end plane or base of each cylinder wears itself and fellow to a true plane.

Claim.—A cutting machine, in which are combined hollow cylindrical cutters, so arranged that their flat faces will wear each other in planes, substantially as described.

85,086.—George B. Goodwin and Samuel McCord Milwaukee, Wis.—*Dumping Car.*—December 22, 1868.—The car is supported on a tilting cradle which is held in a horizontal position by swing braces. The car is held, when tilted, by braces pivoted to the track way.

Claim.—1. A carriage or cradle, constructed in the roadway and resting upon trucks or shoes, and traveling upon a segmental track, substantially as described, and for the purpose set forth.

2. The arrangement of the cradle, trucks E and F, and segmental track G H, when constructed as described.

3. The swing braces *a a* and K K, or their equivalents, as and for the purpose set forth, in combination with the tilting cradle and segmental track, as set forth.

85,087.—J. S. Griffth, Philadelphia, Pa.—*Toy entitled Sibyl's Cave.*—December 22, 1868; antedated December 8, 1868.—The figure representing a sibyl is connected with the door and attached to a pendulum, so that on vibrating the latter the door opens and one of a series of lettered balls is allowed to escape from a tube.

Claim.—The toy, consisting of the elevated rock and temple A B, sibyl C, pendulum H, tube F, valve *f'*, and the numbered balls K K, the said parts being constructed and arranged to operate substantially as and for the purpose described.

85,088.—V. M. Griswold, Peekskill, N. Y.—*Filtering and Pouring Bottle.*—December 22, 1868.—The liquid is filtered by passing from the bottle into a filtering tube from which it is poured. With volatile liquids, a pipe connects the upper end of this tube with the bottle, so that an equilibrium will be constantly maintained.

Claim.—1. A combined filtering and pouring bottle, consisting of the bottle A and tube C, both arranged and combined, as set forth.

2. The pipe D, connecting the upper ends of the bottle A, and tube C, substantially as and for the purpose herein shown and described.

85,089.—William G. Hamilton, New York, N. Y.—*Metal for and Mode of Manufacturing Car Wheels.*—December 22, 1868.

Claim.—A car wheel composed of mixed steel, low steel, or steel sponge, and cast iron, with chilled tread, substantially as described.

85,090.—Edward Hamlin, Delanco, N. J.—*Swage for Saw Teeth.*—December 22, 1868.—The swage upsets the points of the saw teeth, and determines their width.

Claim.—A sleeve, having recesses *y y*, and fitted to a stem, and to a detachable die, substantially as and for the purpose described.

85,091.—Henry P. Haskin, Roscoe, Ill., assignor to himself and Joseph L. Brenton, Beloit, Wis.—*Gate.*—December 22, 1868.—The gate is made in two parts, one of which, operated by a rack and pinion, is attached to the endless belt, and when operated, causes the other part, which is also attached to the belt, to be opened in the opposite direction.

Claim.—1. Broadly, the employment of the endless band or chain J' J', in combination with the rack C, and pinion D, shaft *d* and cranks *d d*.

2. The inverted guide track *a a*, when the whole is constructed and arranged substantially as herein set forth, to operate as specified.

85,092.—Nehemiah L. Hatch, Cape Elizabeth, Me.—*Hay Loader.*—December 22, 1868.—The cord to which the fork is attached runs over blocks on the arms of a swinging derrick, and is then secured to a grooved wheel on a pinion shaft, which is journaled in the horizontal arm, by which latter the pinion can be thrown in and out of connection with a gear wheel on the hub of the cart wheel.

Claim. — The combination of the gear *a*, on the wheel hub, gear *g* on the arm *e*, arm *e*, wheel *h*, cord *r*, blocks *k* and *j*, arms *m* *n*, and blocks *o* *o*, as and for the purposes set forth.

85,093.—Nehemiah L. Hatch, Cape Elizabeth, Me., assignor to himself and Charles Dyer, same place.—*Carriage.*—December 22, 1868.—A stud on one of the perches fits in a slot in the other, which slot regulates the extent to which the wheels can be turned inwardly toward the perch. The jointed bolt gives a free vertical motion to the shafts.

Claim.—The combination, with the perches *b b b b*, rigidly connected to the axles *e f*, and united to each other by the sliding joint *c d*, of the rigid draw bar *m* and jointed bolt A, all as and for the purposes set forth.

85,094.—William Heupecke, Black Creek, Pa. —*Water Wheel.*—December 22, 1868.—An air chamber is constructed to buoy up a part of the weight of the wheel. One side of the floats is curved so that the water, escaping from the wheel, may leave it in a backwardly direction to the motion of the wheel, and in the direction of a tangent to the circumference.

Claim.—1. The air chamber E, above the wheel, so that, when the water is higher around the wheel than the floats, it will tend to lift the wheel, and lighten the pressure on the step of the shaft.

2. The hollow or box-form buckets D, having two curved sides, and one plane, or nearly so, substantially in the manner and for the purposes described.

85,095.—James Hinds and James Gee, Conologue, Ill. — *Cultivator.* — December 22, 1868.— The plow beams are connected by means of a belt with a lever for raising and lowering them. The plow-supporting arms are pivoted to the beam, and elevated or depressed by adjustable supporting arms.

Claim.—1. The arrangement of the belts D D′, pulleys F F′, and lever G, substantially as and for the purpose specified.

2. The combination, with plow-supporting arms L, pivoted to the beams A, of the adjustable supporting arms N, when provided with a loop which slides upon the arms L, substantially as and for the purpose described.

85,096.—Amos A. Hotchkiss, Hannibal, Mo.—*Fastening for Wagon Bodies.*—December 22, 1868.—Eye bolts fitting over the ends of rods on the tailboard secure the latter in position when the nuts are screwed up.

Claim.—The fastening for wagon bodies above described, consisting of hooks *g g′*, &c., *o o′*, &c., bolts *c c′*, &c., screws *d d′*, &c., and rods, all arranged and operating substantially as and for the purpose shown and specified.

85,097.—Henry E. Hull and Burlin T. Merritt, Sag Harbor, N. Y.—*Window Frame.*—December 22, 1868.

Claim.—1. The eccentric levers D, pivoted within the case E, or within the window jamb at G, and adapted to fit over the pin *i*, in the slot *g* of the stop or bead, all operating as described, whereby the depression of the lever draws the bead firmly within the casing, as herein shown and described, for the purpose specified.

2. The combination of the eccentric lever D and pin *i* with the window casing and the slotted bead C, whereby an increasing pressure is produced by the eccentric movement of the lever, substantially as described, for the purpose specified.

85,098. — William Inglis, Manchester, England.—*Steam Cylinder.* — December 22, 1868.—The inner cylindrical shell is cast separately from the steam jacket, and a secure steam joint is formed by casting, in separate pieces, the ends containing the valve chambers.

Claim.—The construction of the four valve chambers, the casing B, and the inner steam cylinder, arranged with reference to each other, and the ingress and egress ports, substantially as set forth.

85,099. — W. W. Jacobs, Hagerstown, Md.—*Lamp.* — December 22, 1868.—The lower burner, which is designed to force an ascending current of air to the upper burner, is supplied with oil from the main reservoir by means of a pipe in which is a regulating stop-cock.

Claim.—The metallic tube or pipe K and the stopcock for the purpose of supplying the lower burner N from the fountain or reservoir G of the lamp, as set forth.

85,100.—Nathan Johnson, Decatur, Mich.—*Water Wheel.*—December 22, 1868.—The wheel is to be placed where a current of water strikes the lower part of the casing, so as to be rotated.

Claim.—The arrangement of the horizontal wheel A′, and cylindrical case *a b*, provided with a single inlet, *c*, and a single outlet, *d*, both orifices being arranged in the lower side of the case, opposite to each other, and the inlet being provided with a slide or other gate *c′*, substantially as and for the purposes herein described.

85,101.—Edwin R. Kerr, Kewanee, Ill., assignor to himself and James L. Platt, same place.—*Wood and Coal Dumping Apparatus.*—December 22, 1868. —Improvement upon the patent of Kerr & Platt, October 2, 1866. The inner doors are in two parts, hung, one on each side of the body of the chute, instead of at the top. An additional weight is used to aid in raising the gate at first, but ceases to act when the gate is partially closed.

Claim.—1. The inner doors C C′, forming, when open, a continuation of the sides of the chute, in combination with the chute B and the counterpoised outer door E, substantially as and for the purposes specified.

2. The compound weight F K, in combination with the chute B, chute door E, chain G, and stop L, when constructed and operating substantially as and for the purposes specified.

85,102. — Simeon H. King, Tunbridge, Vt.—*Leather-cutting Machine.*—December 22, 1868.—The swinging table is so arranged, in relation to a triangularly-shaped knife, as to be swung to one side or the other, to cut only one edge of a strip of leather. The two gear wheels are arranged to be simultaneously turned to raise or level the knife.

Claim.—1. The combination of the swinging table B, the knife C, the gear wheels D D, and the shafts O O, substantially as described, and for the purpose set forth.

2. The tumbling shaft G, lever H, notched bar I, and thumb-screw M, substantially as and for the purpose set forth.

3. The arrangement of the whole enumerated parts, substantially as and for the purpose described.

85,103. — Charles A. Kinney and Charles Parker, Corry, Pa.—*Shingle Machine.*—December 22, 1868.—Consists of a series of devices for automatically operating an oscillating table, so as to form the two sides alternately of the shingles cut from four blocks secured in a rotating wheel.

Claim. — The automatic table L, when operated by shaft M, wheel *h*, cams *z* and *i*, and set screw *y*, and the revolving horizontal planer *k*, with knives *a′ a′*, for dressing the entire face of the block, in combination with the saw H, revolving frame A, trips *b*, springs *e*, and brake *g*, substantially as described, and operating as and for the purposes set forth.

85,104.—P. H. Lawler and William H. Gibson, Rochester, N. Y., assignors to themselves, G. Shelton, and Quincey Van Voorhis same place. —*Gas Machine.*—December 22, 1868.—A regulating float is suspended in a chamber separate from that in which the agitator operates, so as to secure steady action of the valve. Air passes from the outside into a chamber formed in one end of the agitator through spiral pipes into the fluid, and thence to the gasometer.

Claim.—1. The compartment *e*, in combination with the float B, lever *c*, valve *d*, and supply pipe E, as and for the purpose herein shown and described.

2. The air-supply pipe P, chamber K, and spiral pipe, H, all acting conjointly, as and for the purpose shown and described.

85,105.—Joah Lawson, Allegheny City, Pa.—*Steam-engine Slide Valve.*—December 22, 1868.—On the valve seat of an ordinary steam cylinder is placed a covering or false chest, forming an oblong or square box, in which the valve is reciprocated, and is provided with ports or recesses of similar size with those on the valve seat, for insuring equality of pressure on all sides.

Claim.—1. The covering B over the slide valve C, with steam or induction ports A^1 A^2, and corresponding ports B^1 B^2, and eduction ports A^3 and B^3 passing through and over the same, constructed substantially as described.

2. The construction of the slide valve C, with its central opening or passage C′, substantially as described.

3. The combination and arrangement of the covering B with its ports A^1 A^2 A^3 and B^1 B^2 B^3, with the valve C and its opening, C′, when constructed and arranged as herein described and set forth.

85,106.—William Bradshaw Leachman, Leeds, England.—*Rotary Steam Engine.*—December 22, 1868.

Claim.—1. The combination and arrangement, with the outer cylinder and its concentric double ring and the inner eccentric cylinder and shaft, of the slide blocks which move in the recess formed by said double ring, the bars, pivoted to said blocks, and the vanes or floats carried by said bar, in the manner described, whereby the vanes or floats are constantly retained in the desired position, not being allowed free action.

2. The arrangement, with the rotary engine, when constructed as described, of the rotating valve, provided with a number of ports, corresponding to the number of vanes or floats within the steam cylinder, so that steam may be admitted at any given point, and cut off, so as to work expansively, as set forth.

85,107.—C. W. Le Count, Norwalk, Conn.—*Drill.*—December 22, 1868.—The two sets of grooves are so placed that the ridges of one pair will be alternately cut out by the cutting edges between the grooves of the other cutting lip, thus preventing the drill from choking or clogging.

Claim.—1. Forming the two wings of the drill in parallel but different vanes, so that the cutting edge on each shall be in advance of the center of rotation, and that the portion intervening, or that which unites the said wings of substantially the same thickness of metal, shall present cutting edges at an angle of about forty-five degrees to the cutting edges of the wings, substantially as described.

2. The longitudinal grooves *a a* in the reëntering angles formed by the wing and intervening or central portion, substantially as described.

3. The longitudinal grooves *e e*, formed in the surface of the drill, as described.

85,108.—Philander Leek, Hartford, Conn.—*Door for Carriages, &c.*—December 22, 1868; antedated December 11, 1868.—Designed as a sash support, so that the sash may be easily raised and lowered and held firmly in position, and the door of the carriage be freely opened and closed.

Claim.—The combination of the two parts, *e* and *f*, with the catch or spring *h*, or its equivalent, and the frame work *a*, constructed and operated substantially as described.

85,109.—Windsor Leland and Volney E. Rusco, Chicago, Ill.—*Device for Suspending Slaughtered Animals.*—December 22, 1868.—A bar, curved at its upper end, and provided with a slot for the insertion of the hoisting tackle.

Claim.—The suspending bar A, when constructed and operated substantially as and for the purposes herein specified.

85,110.—John Lippincott, Pittsburg, Pa.—*Bar for Ax Bit Blanks.*—December 22, 1868.—Designed for blades or bits in which steel is made to overlap the iron on both sides.

Claim.—Grooved steel bars, made by rolling, substantially as described, as a step in the manufacture of bit blanks for axes.

85,111.—William A. Ludden, Brooklyn, N. Y.—*Bottle Lock.*—December 22, 1868.—A spring catch is attached to the inner lower end of the cap, its free end catching under the flanged nut of the bottle. The catch is released by drawing it forward by a screw key.

Claim.—A bottle cap, provided with a lock or catch, in which the spring or bolt acts directly on the flanged neck of the bottle, substantially as described.

85,112.—Ellis Luther, Platt Lyon, and Walter Edwards, West Troy, N. Y.—*Finishing Loose Hinge Butts.*—December 22, 1868.—This invention consists in the employment of 3 sets of dies and suitable mechanism to operate them. The 1st set forces one wing from the butt, while the 2d expands the cylinder which receives it, and the 3d clamps and points it by means of a revolving burr cutter.

Claim.—1. The combination of the block F, constructed with the recess *f*, with the reciprocating shaft D and shaft head E, substantially in the manner and for the purposes herein described and specified.

2. The combination of the block I, constructed with the recess *g*, with the reciprocating shaft G and drift H, substantially as and for the purposes herein described and specified.

3. The tube K, in combination with the block I, reciprocating shaft G, and drift H, substantially as and for the purposes herein described and specified.

4. The revolving shaft L, burr M, wedge R, and treadle S, in combination with the groove N, clamp O, and lever P, all arranged and combined substantially in the manner and for the purposes herein described and specified.

85,113.—Benjamin Mackerly, Paint, Ohio.—*Governor for Steam and other Engineery.*—December 22, 1868.—The cylinder is provided at each end with weighted valves, which govern the ingress and egress of air to the cylinder, and thereby the resistance of the piston to the machine by the force of the blast on the valves.

Claim.—1. The combination with the air cylinder A and plunger B, of the tubes D, having passages E and the weighted valves G, substantially as described.

2. The tubes D, provided with the gates F, adjustable plugs L, and pins K, substantially as described.

85,114.—H. R. Macomber, Shopiere, Wis.—*Windmill.*—December 22, 1868.—The outer ends of pivoted rings are attached by means of cords to a wheel turning freely on a main shaft provided with a brake and stops, so that by applying the brake the wings will collapse and thereby stop the mill.

Claim.—The pivoted wings *a*, a^1, a^2, &c., the cords *c*, the loose wheel C, provided with the pin *h*, the segmental piece D, provided with the sliding stops *f*, f^1, f^2, &c., and the brake P, when the whole are arranged and used substantially as and for the purpose described.

85,115.—William R. Manley, New York, N. Y.—*Pillow Block.*—December 22, 1868.—The stock of the pillow is made in two parts, each having cheek plates which can be applied to opposite sides of the arm, and secured to each other and to the arm between them, so as to draw the two parts of the stock closely against the arm.

Claim.—1. The construction of the stock of a pillow block, with side pieces provided with cheek plates, substantially as before described.

2. The construction of the stock of the pillow block with a cylindrical cavity for the lining, embracing more than half the shaft, and with a mouth large enough to admit the said shaft, substantially as before set forth.

85,116.—D. F. McKim, Austin, Nevada.—*Feed Water Heater for Steam Generators.*—December 22, 1868.—The heads to which the tubes are attached are cut out, and a cavity formed between alternate pairs of tubes, so that communication is made between the tubes.

Claim.—The heads *f*, constructed with detachable covers, arranged upon the outside of the boiler, and with relation to the side and bottom pipes *c*, as herein shown and described.

85,117.—John N. Meriam, Cambridgeport, assignor to North, Meriam & Co., Boston, Mass.—*Apparatus for Stirring and Cooling Lard.*—December 22, 1868.—Four radial arms attached to a shaft compose, each, the upper part of a rectangular frame containing stirrers, arranged at an angle with each other and vibrating longitudinally on an axis. The lower bars of the rectangular frames are joined by a ring, thus dispensing with a central shaft.

Claim.—1. In the machine, as described, for treating lard, the arrangement of slats K K′ of each series, with respect to each other, as set forth.

2. The combination and arrangement of the four slotted frames H, the connection ring I, and the shaft D.

85,118.—Samuel J. Miller and Luna Wright, Economy, Ind.—*Corn Plow.*—December 22, 1868.—The rod which holds the fender passes through a slotted upright attached to a slotted bar, by which the fender is adjusted toward or from the plow, and is raised by a lever under control of the operator.

Claim.—The fender, with the rod *b*. lever *d*, slotted bar *i*, and slotted standard *t*, in combination with a corn plow, substantially as set forth.

85,119.—William Morehouse, Buffalo, N. Y.—*Making Horseshoes.*—December 22, 1868.—The former which carries the blank is rotated first between two friction rollers placed on and under a stationary bridge, then under a reducing roll, a guide roll, finishing bending device, and hammering rolls, the shoe being discharged by a pin thrown up by a cam.

Claim.—1. The arrangement of a series of removable horseshoe pattern beds C C around the central hub *a* of the horseshoe-bending table, and in the relation shown to the mechanism specified for bending and condensing horseshoe blanks, all substantially as set forth.

2. The arrangement of the cams *k k*, bending devices *j j*, horizontal bed A, horizontal rotary table B, and patterns *g g′*, substantially in the manner and for the purpose described.

3. The combination of the cams *k k*, bending devices *j j*, horizontal bed A, horizontal rotary table B, patterns *g g′*, and rollers N′ P, substantially in the manner and for the purpose described.

4. The two rollers N′ P, rotary table B, and bridge U, arranged and operating substantially as described.

5. The percussive or condensing finishing mechanism G H, or the equivalent thereof, in combination with the guiding and bending mechanism, substantially as described.

85,120.—Pierre Jules Jacob Noël, Paris, France.—*Breech-loading Fire-arm.*—December 22, 1868.—The engaging lugs form a firm fastening and enable the breech to resist recoil.

Claim.—The recessed breech block D, having the lugs *d* arranged upon its interior, adapted to interlock with the lugs *c*, arranged upon the reduced portion *b* of the body A of the gun, as herein described, for the purpose specified.

85,121.—George P. Nutting, Chicago, Ill.—*Water-supply Regulator.*—December 22, 1868.—The steam pipe leading from the boiler terminates in a valve chest within the steam chamber, and has two valves opening in opposite directions. The said valves are connected by a system of levers with the whistle valve and the float.

Claim.—The arrangement of the chambers A B, pipes H J, valve chest I, valves *e e*, lever *b*, rod *d*, having adjustable pin *h*, lever G, float F, arm L, and whistle K, as herein set forth and shown.

85,122.—Peter Paradis, Rochester, N. Y.—*Coal Stove.*—December 22, 1868.—In the bottom of the stove are division plates, connecting with plates between the outside shell and inner plates extending up within the stove. A circular chamber provided with a regulating damper is arranged below the door.

Claim.—1. The flue plates *c* and *e*, in combination with the plates *a*, arranged as herein shown, and for the purpose set forth.

2. The chamber *x*, in combination with the regulating damper *f*, when constructed and arranged as herein shown and described and for the purposes set forth.

85,123.—G. W. Parrott, B. F. Parrott, and E. H. Timson, Lynn, Mass.—*Machine for Folding and Cutting Material for Shoe Uppers, &c.*—December 22, 1868.—The table is arranged so as to be turned to a vertical position for convenience in folding and attaching the material. A series of pins in a movable bar hold the cloth while being folded.

Claim.—1. In a machine for folding and cutting material for shoe uppers. &c., a table folding down, and operating substantially as described and for the purpose set forth.

2. In combination with the same, the pin bar P, working substantially as described and for the purpose set forth.

85,124.—John S. Perry and James Easterly, Albany, N. Y.—*Magazine Cook Stove.*—December 22, 1868.

Claim.—1. A cooking stove, having a fuel magazine arranged and supported wholly upon the top plate thereof, in combination with a deflecting plate, D^1, which will guide the coal into the fire pot, substantially as described.

2. The deflecting plate D^1, arranged over a fire pot so that it is removable, in combination with a fuel magazine, which is located on one side of the center of the fire pot, substantially as described.

3. In combination with a cooking stove which has its fuel magazine exterior to the body thereof, and which has a draught over and beneath the oven, a direct draught passage, g^1, leading from one side of the fire box into the main flue extension F, beneath the boiler, substantially as described.

4. An exposed fuel magazine, arranged over a fire pot, and provided with a conduit, P, which leads into a perforated pipe, *r*, above the combustion chamber, said conduit and pipe being adapted for conducting the gases rising above the coal in said magazine, together with air admitted through a register, E, into the combustion chamber, substantially as described.

5. The inlet register E^2, applied to the conduit P, on that side of the fuel magazine E next the pot holes through the top of the stove, for the purpose of carrying off, through the flues of the stove, the vapors rising from the top of the stove while cooking, substantially as described.

6. A fuel magazine, which is located on top of the top plate of a cooking stove, between an extended flue space, F, and the boiler holes D^2, substantially as described.

7. A base-burning cooking stove, which is so constructed that the products of combustion rising from the fire pot D shall circulate over and beneath the oven, beneath and up one side of the ash pit, and escape through a passage, *h*, which is made through the top plate in rear of the fuel magazine, substantially as described.

8. The relative arrangement of the fire pot D, flue extension F, water vessel I, and direct draught passage g^1, in a cooking stove, constructed substantially as described.

9. In a base-burning cooking stove having its flues *b* arranged around the oven and ash pit, as described, the dust-escape passage g^2, substantially as described.

10. The relative arrangement of windows *e e*, fire pot D, magazine E, and oven, substantially as and for the purpose described.

11. The fuel magazine, fire pot, and flues of a cooking stove, arranged substantially as described, in combination with a warming closet, H, arranged substantially as set forth.

85,125.—HERMAN PIETSCH, New York, N. Y. —*Cooler for Water, Milk, and Other Liquids.*—December 22, 1868.—The cooler is composed of four compartments, the outer one containing a non-conducting material; the inner one, ice; and the intermediate chambers, which are connected at the bottom, the liquid to be cooled.

Claim.—1. The combination of the walls A B C, bottoms D, E, F, and H, flanges G, pipe I, pipes L M, provided with stop cocks, and ingress pipes J K, either or both with each other, said parts being constructed and arranged substantially as herein shown and described and for the purposes set forth.

2. The receiver N n^1 n^2 n^3 n^4 n^5, constructed substantially as herein shown and described, in combination with the cooler A B C D E F G H, and for the purposes set forth.

3. The ice receiver N, formed by the combination of the body n^2, pipes n^3, receptacle n^4, and flanges n^5 with each other, substantially as herein shown and described and for the purpose set forth.

4. The formation, in a cooler, of a small space or chamber between the ice chamber and the waste water chamber, said space or chamber being provided with flanges G, substantially as herein shown and described, and for the purpose set forth.

85,126.—WILLIAM H. PITT, Philadelphia, Pa.—*Safety Bathing Apparatus.*—December 22, 1868.—To a hawser attached to two points on the shore is suspended a netting, and connected with the hawser are smaller lines, to which are suspended floats.

Claim.—The arrangement of netting, hawsers, or ropes, subtended from anchor buoys, substantially as above described, for the purpose of providing a means of support and safety to bathers at the sea and other shores.

85,127.—N. M. PLATT, North Fairfield, Ohio. —*Gate.*—December 22, 1868.—The gate rests upon rollers in slotted standards, which are pivoted in arms secured to the post.

Claim.—The deep-slotted standards A, as arranged in relation to each, and in combination with the rollers B and pivot, for the purpose specified.

85,128.—A. A. PORTER, Griffin, Ga.—*Cotton Gin.*—December 22, 1868.—The vibratory movement of the guiding strips causes the cotton to be brought more perfectly in contact with the saws.

Claim.—The combination with the saws of a cotton gin, of the guiding strips *a*, or their equivalent, and rod or bar *b*, arranged to have a vibrating motion imparted to them, substantially as and for the purpose described.

85,129.—T. W. PORTER and H. K. PORTER, Boston, Mass.—*Shawl and Blanket Strap.*—December 22, 1868.—The bail is riveted to the rigid bar. The straps pass between the bar and bail.

Claim.—In combination with bail D and straps C C, the rigid bar E, substantially as described and for the purposes specified.

85,130.—ABRAM REESE, McClure Township, Pa.—*Mode of Manufacturing Toe-calk Blanks.*—December 22, 1868.—A raised bead is first rolled along the edge of a bar, and this edge is then rolled down so as to leave standing the spurs by which to weld the calk to the horseshoe.

Claim.—The mode of making toe-calks, substantially as hereinbefore described.

85,131.—JOHN RICHARDS, Philadelphia, Pa.—*Expansive Gearing for Feeding Rolls.*—December 22, 1868.—The wheels fixed to the rolls rotate in different planes. The intermediate wheels are mounted on a pivoted radial arm having a cylindrical extension surrounding the axis of the second wheels, thereby holding the train of wheels rigidly in the plane of their rotation.

Claim.—The combination of wheels, in the manner described, with a pair of adjustable rolls, substantially as specified.

85,132.—HORACE T. ROBBINS, Boston, Mass.—*Locking Device for Umbrellas.*—December 22, 1868; antedated December 16, 1868.—A tube fits over the slide to which the braces are attached, and, when slidden over the catch, prevents the latter from being moved except by the key.

Claim.—1. The tube E, with or without the spring *d*, so arranged as to slide over and inclose the catch C, when the umbrella is locked, and to slide back from the catch when it is unlocked, substantially as described.

2. The arrangement of the runner B, the lock E, the catch C, the spring *a*, and key F.

85,133.—DANIEL H. ROWE, Pana, Ill.—*Attaching Card Clothing to Cylinders of Carding Engines.* —December 22, 1868.—The edges of the sheets of card clothing are sewn together and placed opposite longitudinal spaces on the periphery of the cylinder. The clothing is drawn into said spaces, and thereby tightened by screwing up nuts against bridge-pieces applied inside the cylinder and across the spaces, and through which pass screw bolts attached to tightening bars on the outside of the cylinder, and which have teeth on their edges for the purpose of taking firm hold of the edges of the clothing.

Claim.—1. Tightening bars C, applied by means of clamping devices to the card clothing opposite longitudinal spaces in the periphery of a cylinder, substantially as described.

2. The mechanism, substantially as described, or its equivalent, for tightening card clothing upon a carding-engine cylinder, and which will depress portions of such clothing toward the axis of such cylinder.

85,134.—VOLNEY E. RUSCO, Chicago, Ill.—*Gambrels and their Supports for Slaughtering Purposes.*—December 22, 1868.—The ways are provided with ribs which fit in the grooves on the ends of the gambrel, thus preventing the latter from assuming a diagonal position.

Claim.—The gambrel A and the supporting ways B, when constructed and operating substantially as herein set forth and shown.

85,135.—JESSE RYDER, Sing Sing, N. Y.—*Device for Extracting and Transporting Trees.*—December 22, 1868.—An adjustable bar is fitted to the draught pole to support the tree after it has been extracted.

Claim.—1. The device for taking up trees, consisting of the frame A, mounted upon wheels B, the axle of which supports the cushioned beam *b*, and receives the lever draught pole C, to which the adjustable bar E is attached, all arranged as described, for the purpose specified.

2. The cushion *c*, and adjustable bar E, in combination with the beam *b*, and lever C, as herein described, for the purpose specified.

85,136.—WILLIAM H. SCANLAN, Memphis, Tenn.—*Portable Service Heater.*—December 22, 1868; antedated December 9, 1868.—The compartments are adapted to receive the dishes to be warmed.

Claim.—1. The revolving dish or basin, having the inclosed chamber or reservoir, for containing hot water or steam, and one or more compartments, for the purpose described.

2. A portable revolving service heater or chafing dish, provided with any desired number of compartments, substantially as and for the purpose set forth.

85,137.—HENRY SCHREINER, Philadelphia, Pa. —*Car Replacer.*—December 22, 1868; antedated November 3, 1868.—A pair of sloping iron plates are each provided with two elevated ridges or bearings to guide the respective wheels of the car or locomotive to their proper positions on the track, with a groove and spike hole to keep them in their positions on the rails, and with an adjusting wedge to render them steady and firm on rails of different heights.

Claim.—A portable car replacer, consisting of the pair of sloping plates A B and C D, for the right and left rails, respectively, of a track, the plate A B having the elevated ridges or bearings *a′* and *b′*, and the plate C D having the elevated ridges or bearings *c′* and *d′*, and each plate having the rail groove H, and the adjusting wedge G, all the said parts being constructed and arranged in relation to the slopes of the respective plates A B and C D, as shown and described for the purposes specified.

85,138.—LODVER SCHYE, Chicago, Ill. — *Boot Shank Machine.*—December 22, 1868.—The leather being placed over the last, is inserted between the jaws which are pivoted to the plate. The screw connecting with the jaws by arms, is then turned and causes the jaws to be brought together, thus stretching the leather.

Claim.—1. The jaws A B, in combination with the arms D D, plate C, and screw F, all constructed and operating substantially as and for the purposes specified.

2. The jaws A B, when provided with the openings g, substantially as and for the purposes specified.

85,139.—SAMUEL S. SHERMAN and JEREMIAH G. SHERMAN, McHenry, Ill.—*Harvester Rake.*—December 22, 1868.—One of the arms is so arranged on the rotating shaft which receives motion from the collar and arm, as to push the grain off the platform and thus dispense with the rake.

Claim.—1. The combination of the beater E, arm J, or its equivalent, and sliding and rotating rod K, and its bearings $m\ m$, arranged and operating substantially in the manner and for the purposes specified.

2. In combination with the movable beater E, rod K, and arm H, the fulcrumed beater G, arranged to operate substantially as and for the purposes set forth.

3. The combination of the collar Q, the arm M, with the bearings $m\ m$, the rotating rod K and beater E, arranged and operating substantially as described.

4. The combination of the lever L, or its equivalent, and the arm O, with the rod K, bearings $m\ m$, and beater E, arranged and operating substantially in the manner and for the purposes set forth.

5. The combination of the lever L with said arm O and the reel, when said lever is provided with a roller S, or its equivalent, moving in a groove or grooves T T′, substantially as and for the purposes described.

6. The combination of the lever L, pins $a\ a$, and flange y, upon the bar M, operating in the manner herein specified.

85,140.—WILLIAM H. SINGER, Pittsburg, Pa.—*Method of Applying Cast Steel to Articles made of Iron.*—December 22, 1868.—The iron is cleaned in an acid bath, then taken out and placed in a lime bath to destroy any acid remaining on the iron. The iron is then placed in the mold in a cold state, and the melted steel is poured around it.

Claim.—The method of applying cast steel to iron, substantially as herein described.

85,141.—A. B. SMITH, Rochester, Pa.—*Grain Separator.*—December 22, 1868; antedated December 5, 1868.—The apron, made of inclined parallel slats, with guard strips of metal between to prevent the passage of straw to the sieve, is vibrated by means of knockers which are made of wood and held between metallic jaws on the adjustable flanch plate.

Claim.—1. The reciprocating knockers B B and C C, arranged and operating in combination with the stationary slatted or slotted apron D, substantially as and for the purpose herein specified.

2. Constructing the knockers of wooden quadrants, held between metallic jaws M N by bolts, substantially as specified.

3. Attaching the knockers by the flanch plate P, with its slot t and bolt u, so as to be adjustable on their shaft, substantially as set forth.

4. The inclined guard strips $d\ d$ between the slats of the apron D, in combination with the knockers B B, C C, for the purpose specified.

85,142.—EDWIN SPRAGUE, Allegheny City, Pa.—*Brick Machine.*—December 22, 1868; antedated December 11, 1868.—A projection on the end of the automatic mold feeder catches on the mold and forces it under the opening on the hopper. The cut-off operated by a cam on the shaft closes the aperture in the hopper, when the mold is full, and the delivering arm carries the mold along on the mold-way ready to be "carried off."

Claim.—The mold racks, automatic mold feeder l, cut-off S, delivering arm P, and mold-ways h and h', constructed, arranged, and made operative through the medium of the shaft e and cams f and y, in the manner substantially as herein described, and for the purpose set forth.

85,143.—W. C. STICKNEY and J. McGEE, Steubenville, Ohio.—*Device to Open Railway Car Ventilators.*—December 22, 1868.—The valve of the ventilator is attached to the slotted head of a rod which slides in a thimble, and is held in position by a friction block and spring in said thimble.

Claim.—The thimble E, hollow shank e^1, spring F, and friction block G, and the vertically-sliding rod D, having the slotted T-head d^1, in combination with the pivoted sash B and frame A, arranged and operating as described, for the purpose specified.

85,144.—ANSON C. STOWE, San José, Cal.—*Carriage Spring.*—December 22, 1868.—The supporting bars are suspended from arms on the coiled spring shaft, to which latter are also attached shorter arms which are joined by rods to the equalizing lever.

Claim.—The combination, with the supporting device, consisting of bars H, links I, arms G, shafts E, and springs F, of the equalizing device, consisting of arms K, rods L, and lever M, the whole being constructed and arranged substantially as herein described.

85,145.—JOHN EDSON SWEET, Syracuse, and J. BOYD ELLIOTT, New York, N. Y., assignors to OLANDER B. POTTER and SOLOMON J. GORDON, New York City.—*Machine for Making Cut Nails.*—December 22, 1868.—On the forward movement of the punch a projection is made to come in contact with an inclined block on the spring, so as to force the latter against the blank while the punch is operating. The spring is held in position by a locking lever until the punch is withdrawn, when a reciprocating stud comes in contact with an arm on the locking lever and releases the spring. The fingers which push the blanks between the grippers are held in reciprocating boxes by springs, so as to slide if any undue resistance is met. The grippers hold the cut blanks in position with the large ends projecting far enough for the headers to form the heads.

Claim.—1. The spring E, and inclined block a, in combination with the punch D and guide C, constructed and operating substantially as and for the purpose described.

2. The locking lever c, in combination with the spring E, inclined block a, punch D, and guide C, constructed and operating substantially as and for the purpose set forth.

3. The unlocking mechanism, consisting of the arm g, and reciprocating stud f, in combination with the locking lever c, spring E, inclined block a, punch D, and guide C, all constructed and operating substantially as and for the purpose described.

4. The fingers $j\ j'$, acting in opposite directions, in combination with the punch D, and stationary cutters $i\ i'$, constructed and operating substantially as and for the purpose set forth.

5. The grippers $m\ m'$ and headers H, in combination with the fingers $j\ j'$, punch D, and stationary cutters $i\ i$, constructed and operating substantially as and for the purpose described.

6. The safety boxes t, in combination with the fingers $j\ j'$, punch D, and cutters $i\ i$, constructed and operating substantially as and for the purpose set forth.

7. The combination, substantially as described, of the punch and cutters, (for cutting two nail blanks at a time,) with two sets of grippers and headers, for heading the two blanks so cut, so that each operation of the mechanism produces two headed nails.

85,146.—LEOPOLD THOMAS, Allegheny City, assignor to ANDREW KLOMAN, Pittsburg, Pa.—*Pointing Spikes.*—December 22, 1868.

Claim.—1. Tool posts a and pointing tools e, arranged on a reciprocating carriage, and in such relation to fixed guide posts or projections *s*, that, with the forward stroke of the carriage, the tool posts *a* or pointing tools *e* shall engage such guide posts, and the pointing tools shall thereby be made to engage the iron rod or bar fed in, and cut off and point a new spike, substantially as above described.

2. The pointing tools *e e*, mounted on a reciprocating carriage, in combination with fixed guide posts or projections *s* and square-faced dies *d d'*, above and below, such dies being either movable or stationary, the dies and tools being so arranged and operated, relatively to each other, that, while the pointing tools are cutting a spike from its bar, the upper and lower dies will prevent the spread of the iron in the point, substantially as above set forth.

3. The arms *f*, attached to or connected with the tool posts *a*, when so arranged, relatively to one or more fixed guide posts *g*, that, when the spike is severed from the rod or bar, and the carriage commences its return stroke, the pointing tools will be opened, substantially as above set forth.

85,147.—A. B. Thompson, Owego, N. Y.—*Railroad Car Coupling.*—December 22, 1868.—The pivoted hook is operated by means of a lever which is provided with a roller moving in a curved groove in the draw head, and is held in position by a coiled spring.

Claim.—The combination of the hook D and the lever O, with its spring and roller *e*, arranged to operate in the draw head A, substantially as and for the purpose herein specified.

85,148.—Thomas Urie, Springfield, Iowa.—*Wagon Brake.*—December 22, 1868.—A projection on the lever comes in contact with the lower side of the segmental rack when the lever is raised, by the locking of the eccentric, and effectively secures it. By means of the adjustable slide a greater or less leverage can be exerted against the brake.

Claim.—1. The lever D, having end play in the socket L, as and for the purpose described.

2. In combination with the brake, the adjustable slide G, as and for the purpose described.

85,149.—George E. Van Amringe, New York, N. Y.—*Tube for Steam Generators.*—December 22, 1868.—The tubes made in one piece are corrugated spirally or transversely.

Claim.—The construction of the tubes of steam generators, being composed of one piece, substantially as herein set forth.

85,150.—Joseph Wadleigh, Chebanse, Ill.—*Tongue for Harvesters.*—December 22, 1868.—The play of the tongue and doubletree is limited by the chains.

Claim.—1. Forming a lateral joint in the draught pole or tongue A B, by means of a pivoted connection, when a slight longitudinal movement is permitted in B, substantially in the manner and for the purposes shown and set forth.

2. In combination with a draught pole, A B, jointed as described, provided with a suitable stop, *p*, the chain G, arranged and operating in the manner shown and described.

3. The combination of the doubletree C and chain H with jointed draught pole A B, arranged and operating in the manner set forth.

85,151.—George Wesley Welsh and George Wylie, Arlington, Wis.—*Wagon Brake.*—December 22, 1868.—The hold-back straps are attached to a rod which connects with a bent rod or lever operating the brakes; the rod, on which the latter rest, is provided with spiral springs which press the brakes toward the wheels.

Claim.—The arrangement of the bent rod G, having the pendent portion *a*, the arms I I, shaft J, shoes K, spiral springs *d* and rod D, with relation to the bolt E, the hounds and the wheels B, all operating as described, for the purpose specified.

85,152.—Edward Wiard, Louisville, Ky., assignor to himself and Samuel W. Pope, same place.—*Plow.*—December 22, 1868.—The handle is arranged between lugs on the moldboard and is held by a bolt which fits in slotted hooks on the moldboard.

Claim.—The lugs *a a*, with their projecting points, in combination with the slotted hook or hooks *b*, the bolt *e*, handle B, and moldboard A, substantially as described, for the purpose specified.

85,153.—Eskridge J. Wilson, Fair Play, Cal.—*Machine for Crushing Rock.*—December 22, 1868; antedated December 12, 1868.—The stampers receive intermittent rising and falling movements from the inclined surfaces and operate to strike the rock, and act as grinders in rising from the lowest to the highest points of said inclined surfaces.

Claim.—1. One or more rows of stamps, arranged in inclined positions, and in upper and lower guides, and acted upon by springs, in combination with an annular battery or batteries, formed with inclined step surfaces, and furnished with a screen or screens, substantially as described.

2. In combination with circularly-moving stampers, working upon annular stepped surfaces, providing for feeding the rock from the center of the machine outwardly, substantially as described.

3. The arrangement of the driving mechanism, circularly-moving frame and cylinder, stationary annular-grooved bed, with inclined steps at the base of the groove or grooves, and the stationary table E of stationary frame A A', substantially as and for the purpose described.

85,154.—A. Winters, Washington, Pa.—*Hand Rake.*—December 22, 1858.—The tang is bent upward to permit the rake teeth to act on the surface of the ground together. The curved head retains the leaves and other substances.

Claim.—As a new article of manufacture, the metal rake head, consisting of the curved head A, the straight teeth having the bent points *a*, and the bent bifurcated tang B, constructed and arranged to operate in the manner described, for the purpose specified.

85,155.—L. R. Witherell and E. A. Witherell, Galesburg, Ill.—*Machine for Washing Dishes.*—December 22, 1868.—The rack on which the dishes are placed is caused to revolve under a stream of hot water by means of a screw, on the end of the shaft operating the pump, engaging with a worm wheel on the rack shaft.

Claim.—1. The arrangement of disk R, rack T, shaft *m*, socket *n*, worm wheel J, shaft F, worm G, and bearings P and *v*, when used in dish-washing machines, substantially as described, and for the purpose set forth.

2. The combination and arrangement of the vessel A, pump B, pipe X, crank E, shaft F, worm G, pinion J, shaft *m*, disk R, and rack T, substantially as described, and for the purpose set forth.

85,156.—John A. Wolfer, Rondout, N. Y.—*Automatic Ice Chute.*—December 22, 1868.—Guide rods are secured to the bottom and top of the chute on which a transverse bar slides which is connected by a rope with a chain or other weight so as to elevate the bar automatically when the ice is discharged.

Claim.—1. The chute B, provided with guide rods F, (or their equivalent,) so arranged that blocks of ice may be lowered thereon by a variable weight or chain, J, in combination with a bar, H, and chain or rope, I, substantially in the manner herein shown and described.

2. In combination with an ice chute, the bar H, rope or chain I, and variable weight or chain J, operating substantially as and for the purposes set forth.

85,157.—James Wrinkle, Lee, Mass.—*Machine for Mixing Coloring Matter with Paper Pulp.*—December 22, 1868.—The object of this invention is to prevent lumps and blue spots being formed, as the pulp and coloring matter are kept well mixed, and the fibers of the pulp prevented from uniting.

Claim.—The drawing of paper pulp from the vat and ejecting it into the compartment, from which it passes upon the wire cloth by means of a pump, rotary or reciprocating, substantially as and for the purpose herein set forth.

85,158.—S. V. R. York, Antwerp, N. Y.—*Safety Bridle.*—December 22, 1868.—When the horse plunges, the straps tighten the bit. By pulling the reins the rings on the nose strap, fitting on the bit, produce the same effect as the straps.

Claim.—1. The straps D D and check straps E, branching from the nose piece *b*, and all acting on the sliding rings B, and combined and operating together for the purpose and in the manner as described.

2. The combination of the check strap E and connection *i* with the straps *b* C C, and loose rings B B, substantially as herein set forth.

85,159.—George W. N. Yost, Corry, Pa. assignor to Corry Machine Company.—*Harvester.*—December 22, 1868.—The sleeve, fitting in a hole in the frame, forms a bearing for the crank shaft, and is rigidly united to the yoke bolt which connects the two halves of the main frames.

Claim.—The combination of the sleeve R with the yoke bolt I and I′, and the body A and A′, provided with the hole R′, made and used as described for grass and grain cutting machines.

85,160.—Lauren B. Arnold, Lansing, N. Y.—*Milk Cooler.*—December 22, 1868.—The milk drops from the reservoir upon, and passes over, a vertical series of corrugated plates from which it is collected, as it falls, by a basin attached to the frame.

Claim.—1. The series or plates B B, one over the other, between the reservoir A and collecting basin C, made substantially as described, whereby the milk is spread in sheets, and falls in streamlets through the air, for the purpose of cooling milk and depriving it of its animal odor and deleterious gases, as set forth.

2. The combination of the reservoir and diffuser A, plates B, and collecting basin C, in the frame F, for the purposes as set forth.

85,161.—Adam Baierle, Chicago, Ill.—*Ice House.*—December 22, 1868.—The metallic sheets of the flooring are jointed so that the water can easily run down the sloping surfaces without being arrested by the joints.

Claim.—1. A floor for ice houses, covering a store room, when said floor is made of trusses and lateral braces in the manner herein described, so as to form a series of inclined surfaces with gutters at their point of junction, substantially as and for the purpose set forth.

2. In combination with the above, the flooring, of metallic sheets, arranged substantially as herein described and specified.

85,162.—Hiram Berdan, New York, N. Y., assignor to the Berdan Fire-arms Manufacturing Company, same place.—*Breech-loading Fire-arm.*—December 22, 1868.—The extension of the shield serves as a stop to the breech piece while the latter is pushed forward when there is no cartridge in the gun.

Claim.—1. The extension of the extractor shield or projection C′ on the breech piece forward beyond the face of the breech piece, substantially as and for the purpose herein set forth.

2. The tail piece F^2, constructed to assist in guiding the breech piece, and to serve as a means of transmitting the blow of the hammer to the firing pin, substantially as herein described.

85,163.—Garret P. Bergen, Brooklyn, N. Y.—*Combined Scissors Sharpener and Screwdriver.*—December 22, 1868.

Claim.—The combination, in the one instrument or implement, of a scissors sharpener, A and B, a screwdriver point or blade, D, and a handle, C, substantially as described.

85,164.—M. T. Carson, Cleveland, Ohio.—*Lubricating Cup.*—December 22, 1868.—The journal is supplied with oil by capillary attraction while in motion, and none while at rest.

Claim.—The screw plug E, provided with the chamber F, openings or conduits H and G, in combination with an oil cup, substantially as set forth.

85,165.—James M. Clark, Lancaster, Pa.—*Door Fastener.*—December 22, 1868.—Two short bars are hinged together to admit of being compactly folded, and are provided with teeth at the ends which are to be placed against the floor and door on the inside.

Claim.—The construction and arrangement of the flat turning latch C, in combination with the catch flange D, and toothed and beveled end of the hinged pieces A B, substantially as set forth and shown.

85,166.—G. F. J. Colburn, Newark, N. J., assignor to John Davidson, same place.—*Dentifrice Paste.*—December 22, 1868.—Pulverized chalk, orris root, Castile soap and winter-green are mixed with glycerine.

Claim.—The mixing of the solids herein described, or their chemical equivalents, with glycerine, all substantially in the manner and for the purpose hereinbefore described.

85,167.—Moses Dennis, Barton, N. Y.—*Horse Hay Fork.*—December 22, 1868. The fork is tripped by pressing the upper end of the trip lever against the joint of "toggle bar" or brace.

Claim.—1. The arrangement of the jointed brace C, so that when flexed it holds the bail fast, and enables the bail to be used as a handle for entering the fork in loading, as set forth.

2. The arrangement of the ring L on the middle tooth before the rod B, and held by the tooth, in combination with the S-shaped trip lever I, as described.

3. The combination of the bail A, tines D E F, connecting toggle bar C, lever I, and trip rope, when constructed and arranged as described.

85,168.—John A. Dodge, Auburn, N. Y.—*Harvester.*—December 22, 1868.—The sliding sleeve or collar is moved by a lever operated by the driver's foot, the clutch being outside the periphery of the bevel wheel. A spring pawl takes in a ratchet on the sector and is provided with an arm projecting inwardly, so that the driver can at any moment release the finger beam.

Claim.—1. The combination, as described, of the bevel wheel K, on the main axle, with the bevel pinion L, and sliding sleeve *m*, both mounted on the counter shaft, and connected by a feather, the sliding sleeve being arranged outside of the periphery of the bevel wheel, as set forth.

2. The combination of the bevel wheel K, the bevel pinion L, the sliding sleeve *m*, the counter shaft M, and the shipping lever R, when all these parts are constructed and arranged for joint operation, as described.

3. The combination of the bevel wheel, the bevel pinion, the sliding sleeve, the shipping lever, the counter shaft and its spur pinion, with the internal spur wheel N and longitudinal crank shaft O, when all these parts are constructed and arranged for joint operation, as described.

4. The combination of the sector T and ratchet *v* with the spring pawl and projecting arm *v*′, constructed, arranged, and operating as described.

5. The combination of the main frame, the tongue, the driving wheels, the gearing, the removable driver's seat, the projecting arm F, the removable arm U, the drag bar, the coupling arm, the finger beam, the cutting apparatus, and the lifting apparatus, all constructed and arranged as described, for joint operation.

85,169.—Henry Fisher, Aurora, Ind., *Self-guarding Hook.*—December 22, 1868.—Attached to a tapering screw are two hooks, the upward turn of each of which is parallel with the downward turn of its fellow.

Claim.—The double hook A $a\ a^1\ a^2\ a^2$, constructed and arranged substantially as and for the purpose described.

85,170.—Gustav Graetz, Alexandria, Va.—*Combined Match and Cigar Box.*—December 22, 1868.—The holder is intended principally for the reception of a cigar which has been partially smoked, to be kept for future use.

Claim.—The combined match box, igniter, and cigar holder, composed of the compartment A, having one or more hinged covers, the cigar holder

F F′ and the slotted chamber B B′, *g*, with spring D, follower C *c′ h*, lining E, and serrated spring holders *e′*, all substantially as herein described.

85,171.—EDWARD M. GRANT, Macon, Ga.—*Wrought Iron Bridge Pier.*—December 22, 1868.

Claim.—1. The lower section A, when constructed with the "Phœnix Patent" columns *d d*, the plates D M, the stays *s s*, the wrought-iron straps *n n*, the inclined column Q, the caps E E, and the cast-iron plates *o o*, all constructed, arranged, and bolted together in the manner described.

2. The upper section B, when constructed with the columns *d d*, inclined as described and shown; the cast-iron plates M M′; the stays *s s* and F F, the latter strengthened by the braces *e e*; the caps E E; and the cast-iron plates *o o*; all constructed, arranged, and connected together in the manner described.

3. The intermediate sections C C, when constructed with the columns *d d*, plates M M, stays *s s* F F, braces *e e*, caps E E, plates *o o*, and trusses *m m′*, all constructed, arranged, and combined in the manner and for the purpose specified.

4. The described arrangement of sections A B C, when severally constructed and connected in the manner described, so as to form a single pier.

5. In any pier, the use of wrought-iron straps *n n*, and iron columns *d d* Q, arranged as described, and bolted together, the straps extending around the front and sides of the pier, for the purpose of protecting it from floating ice, drift-wood, &c.

6. The described method of attaching the stays to the columns, to wit, the arrangement and combination of the stays *s s*, columns *d d*, iron plates *o o*, and bolts *r r*, substantially as shown and specified.

85,172.—BENJAMIN IRVING, New York, assignor to H. A. TAYLOR, Malone, N. Y.—*Bark Crusher.*—December 22, 1868.—The different motions of the rollers are designed to prevent the bark from overworking or crowding the front and back rollers. The elevator consists of a series of buckets formed of sieve wire, which allows the escape of the liquid, and carries off the spent crushed bark.

Claim.—1. The combination of the rollers C and D, having a differential motion, with the roller E, having a uniform motion with the roller C, arranged and operated substantially as described, and for the purposes set forth.

2. In combination with the water bath and agitator wheel, the elevator P, substantially as described and for the purposes set forth.

85,173.—BENJAMIN IRVING, New York, assignor to H. A. TAYLOR, Malone, N. Y.—*Apparatus for Obtaining Extracts from Bark for Tanning, &c.*—December 22, 1868.—The bark, after being soaked in water, is placed on a table and fed in between two rollers rotating at a different speed, by which it is crushed and ground. The fibrous mass is then passed between two other rollers and reduced to a pulp, and then dropped into a water bath.

Claim.—The method or process of treating soaked slabs of bark, for obtaining the liquid extracts thereof, for tanning and other purposes, substantially as hereinbefore described.

85,174.—BENJAMIN IRVING, New York, assignor to H. A. TAYLOR, same place.—*Method of Concentrating the Extract of Bark for Tanning, &c.*—December 22, 1868.—The weak extract of the bark is passed in a thin stream through a trough divided by partitions, alternately from one end of the trough to near the other, and heated below by means of steam.

Claim.—The method or process of concentrating the liquid extract of bark for tanning and other purposes, by flowing it in a thin sheet continuously over the surface of an open evaporating pan, made and operating in combination with the steam and condensing chambers, or equivalents therefor, substantially as hereinbefore set forth.

85,175.—BENJAMIN IRVING, New York, assignor to H. A. TAYLOR, Malone, N. Y.—*Apparatus for Concentrating Extract of Tan Bark.*—December 22, 1868.—Over the evaporating box is a roof hinged to the sides of the box so that an opening may be made at the peak for the escape of vapor. A condenser at the side of the box condenses the vapor when the roof is closed.

Claim.—1. The combination of the evaporating pan, made substantially as hereinbefore described, with the compartments D and E of the evaporating box A, for the purpose of concentrating the liquid extract of bark for tanning purposes, substantially as hereinbefore set forth.

2. The combination of the hinged wings H with the evaporating box A, substantially as described, and for the purposes set forth.

3. In combination with the evaporating chamber E, a condenser J, or other equivalent device, substantially as described, and for the purposes set forth.

85,176.—JOHN JOHNSON, Saco, Me., assignor to NEW ENGLAND STEAM-HEATING COMPANY, Boston, Mass.—*Steam Heater.*—December 22, 1868.—On the top of the steam-heating apparatus is placed a vessel containing a coil of pipe, the end of which is brought up and turned down in the form of a siphon. The heated water at the lower part of the vessel rises and replaces the cooler water at the top.

Claim.—The automatic condenser and regulator attached to steam-heating apparatus, constructed substantially as herein described, and for the purpose set forth.

85,177.—JOHN JOHNSON, Saco, Me., assignor to NEW ENGLAND STEAM-HEATING COMPANY, Boston, Mass.—*Steam Heater.*—December 22, 1868.—Two hollow boxes are connected together by a series of vertical pipes, within which latter are pipes of a smaller diameter, to allow of the passage of air between the two.

Claim.—The combination of the central pipe E, the outer pipe D, and the top and bottom chambers B and C, substantially as described, and for the purpose specified.

85,178.—ZALMON LUDINGTON, Uniontown, Pa.—*Peat Machine.*—December 22, 1868.—The mold blocks being driven back and forth, the molds are alternately filled with peat and pressed into solid, square blocks. Springs allow the molds to be forced back when the pressure becomes too great.

Claim.—1. The arrangement of the gate H, secured to the mold blocks K K′ by metal plates I I′, in combination with the molds O O′, blocks P P′, and springs S S′, when operated, through shaft C, by crank F and connecting rod G, or their equivalents, substantially as and for the purpose set forth,

2. The blocks P P′ and springs S S′, in combination with the molds O O′, blocks K K′, and reciprocating gate H, as and for the purpose herein set forth.

85,179.—JOHN MARSHALL, Greenwich, assignor to JOHN CHRISTOPHER REES WEGUELIN, of London, England.—*Safety Gauge for Boilers.*—December 22, 1868; patented in England February 25, 1867.—A conical seating is formed in one end of the plug, in which is inserted a ball valve. At the other end is inserted a piece of metal bored out through its center, and through a reduced thickness are made apertures, forming a perforated seat.

Claim.—1. The ball valve E, or its equivalent, in combination with the conical seated plug A and the perforated seating C, the whole being constructed and arranged substantially as herein described.

2. The screw plug D, in combination with the valve E, the perforated seating C, and the conical seated plug A, the whole being constructed and arranged substantially as herein set forth.

85,180.—PALEMON POWELL, Cincinnati, Ohio.—*Cartridge Charger.*—December 22, 1868.—Between the shank of the stock and the outer shell is a space for the reception of the cartridge case, and on the end of the shank is a thimble provided with a groove, into which a spring crimping pin engages. In the upper part of the shell is arranged a small cylinder, into which is fitted a piston and spring for holding and inserting a cap into the cap cavity of the cartridge case.

Claim.—1. The arrangement of the stock A, shell

B, grooved plate a''', and spring crimping device G g', substantially as described.

2. The capping device D E, when constructed so as to be detachable, as described, and for the purpose specified.

3. In combination with the cartridge charger hereinbefore described, the thumb screw H h', constructed as specified, and adapted for use in connection with the capper D E, and aperture h, and pin c, in the manner explained.

85,181.—Lester Reynolds, Owatonna, Minn. —*Grain Weighing and Registering Machine.*—December 22, 1868.—Over two fixed measures are arranged rocking guide spouts, to which are attached rods and arms, connecting with valves at the lower ends of the measures, by which the measures are alternately and automatically filled and emptied.

Claim.—The arrangement of the measures M M', pivoted guide D D', hopper E, valves n n', and arms I and J, for connecting the valves to the sides of the pivoted guides, substantially as shown and described.

85,182.—Francis A. Roberts, North Vassalborough, Me.—*Potato Digger.*—December 22, 1868. —The scoop consists of two wings provided with a cutting tip, the part connecting the wings being provided with short fingers which project over the front end of a hinged riddle.

Claim.—1. The scoop A E, e, substantially as described, having a hinged riddle, a a a, &c., and fixed riddle b b, all as and for the purpose set forth.

2. The scoop A E, e, and a fixed riddle b b, substantially as shown and described, in combination with a plow beam, B, and handle D, all as and for the purpose set forth.

85,183.—Freeman K. Sibley, Auburndale, and Levi C. Wade, Newton Upper Falls, Mass.—*Device for Receiving and Delivering Mails.*—December 22, 1868.—A hinged brace made to hook on to the edge of the scoop bears under springs which restrain the scoop from swinging out too far. The concussion of the mail bag as it is caught from the crane closes the scoop and releases the hinged brace from it, and the mail to be delivered is thrown from the hook upon the car.

Claim.—1. The scoop D, arranged to swing on a vertical axis within or through an opening made in the side of the car, and operating, in connection with devices for suspending the bags or packages to be received or delivered, substantially as specified.

2. The reversible swinging scoop D, operating in connection with catches for holding it in reverse positions, having an angular relationship to the side of the car, essentially as herein set forth.

3. The combination of the hinged braces F F' and springs e e' with the scoop D, for operation as specified.

4. The arrangement, on the outside surface of the swinging scoop, of projections or formations G G, to direct delivery of the bag or package, as herein set forth.

85,184.—Thomas Sim, Charleston, S. C.—*Process and Apparatus for Preserving Meat and other Perishable Articles.*—December 22, 1868.—Sulphur is introduced through a pipe into a well situated below a retort filled with incandescent charcoal into which the sulphur passes through a perforated plate, and is converted into bisulphide of carbon. The gas is forced in large quantities, by means of a pump, into the exhausted receiver.

Claim.—1. The employment or use, for preserving meat or animal matter, of any of the sulphides of carbon applied in gaseous form, and made to permeate the matter to be preserved, after the latter has been exhausted or partially exhausted of air.

2. The use, in connection with any of the sulphides of carbon, of phonic acid, methyl, or other product of the destructive distillation of wood or coal.

3. The apparatus, constructed and arranged to operate substantially as herein described.

85,185.—Jacob D. Spang, Dayton, Ohio.—*Gas Machine.*—December 22, 1868.—Hydrocarbon passes from the tank through the involutions of the pipe over the heated vessel and, being vaporized, enters the gasometer in the form of gas. The fire is now extinguished in the vessel and the burner under the pipes is lighted and heats the pipes. The quality of the gas is tried, and if found poor it is improved in the vessel, if rich, it is diluted by air from the pump.

Claim.—The arrangement of the tank A, coiled or involuted pipe B, gasometer E, burner F, vessel D, pipe I, vessels L and M, air-pump Q, and gasometer N, when the said parts are provided with suitable cocks, and constructed to operate in the manner and for the purpose indicated.

85,186.—P. J. Stoll, Marshallsville, Ohio.—*Hitching Strap Buckle.*—December 22, 1868.—By means of the end and center tongues the hitching strap is prevented from being unfastened by the movements of the animal.

Claim.—The within described buckle, consisting of the frame A, with cross bars F and G and loop C, the front tongue E, center tongues D D, and rear retaining tongue B, the several parts being constructed, combined, and arranged as and for the purpose herein specified.

85,187.—Charles Sweeney, East Bloomfield, N. Y.—*Churn.*—December 22, 1868.—By adjusting the pin in the holes on the rod, the resilient power of the spring is increased or diminished so as to lengthen or shorten the stroke of the dasher rod.

Claim.—The adjusting pin a, receiving holes c in the dasher rod B, in combination with the collar C, spring H, and head A, for the purposes set forth.

85,188.—George W. Thompson, Brooklyn, N. Y.—*Medicated Paper for the Water Closet.*—December 22, 1868.—Tar is introduced into the pulp in the vat; the paper when made retains the properties of the tar.

Claim.—1. The water closet paper, prepared in the manner specified, to impart the medicinal properties set forth.

2. The package of water closet paper, formed by the introduction of sheets into the wrapper, as set forth.

85,189.—Dudley W. Travis, Enfield, N. Y.—*Corn Cultivator.*—December 22, 1868.—The plows are adjusted by means of slotted plates on the standards.

Claim.—The herein described mode of adjusting the plows and hoes, in combination with the posts or standards H and I, bars F G, and frames D, when the whole is constructed and arranged substantially in the manner shown and described, and for the purpose set forth.

85,190.—George B. Turrell, New York, N. Y. —*Cooler for Beer and other Liquids.*—December 22, 1868.—The beer runs from a sprinkling trough over a series of flattened tubes, through which water circulates, and is cooled in its descent.

Claim.—A cooler, for beer and other liquids, formed of a series of flattened tubes, with their longest diameters horizontally, substantially as specified, so that the stratum of liquid passes in the manner described.

85,191.—Joseph Edwin Ward, Bredbury, Great Britain, assignor to Andrew Dwight Campbell.—*Mold for Forming Hats.*—December 22, 1868.

Claim.—The mold F F', constructed perfect, or entire, with a reduction, m, where it is required to establish the joint, so as to form a jagged or ragged fracture when separating the mold into sections, essentially as and for the purpose herein set forth.

85,192.—Darius Wellington, Boston, Mass.—*Water Closet.*—December 22, 1868.—The crank on the pan-supporting shaft is joined to a lever which is provided with a fulcrum slot having a vertical slot opening out of it into which the fulcrum pin slips when the pan closes, and locks the pan shaft in position. The cup is secured to the seat board by keys in the stirrup. The outwardly projecting flange of the receiver supports the bowl, and the fingers serve as stops for the pan.

Claim.—1. In combination with the pan, the tongue *i*, entering the slot of the shaft *n*, after the shaft is thrust through the receiver, and confined in said slot, and to the shaft, by a screw, *l*, substantially as described.

2. For operating the pan, a lever having an end movement by means of the fulcrum slot, and also having the locking slot, by means of which, by locking the pan shaft from rotative movement, the pan is locked from tipping movement, substantially as described.

3. The weight hung loosely to the rod *u*, and slotted, to allow the lever *p* to run loosely through it, substantially as described.

4. In combination with the cup, the stirrup frame, provided with key slots, substantially as shown and described.

5. The receiver *a*, with an outwardly projecting flange *b′*, and inwardly projecting fingers *d*, substantially as shown and described.

85,193.—ALBERT M. WHITE, Thompsonville, assignor to the AMERICAN BRUSH COMPANY, New Haven, Conn.—*Brush Making Machine.*—December 22, 1868.—An improvement on his patent of April 4, 1865. The bristles are divided into knots or tufts and inserted and secured into the brush stock or back by the various devices automatically.

Claim.—1. In combination with the belt or other suitable feed of the bristles, a divider, E, of any suitable construction, operating to space the bristles into knots or tufts, substantially as described.

2. The fingers F F, so constructed and operating as to spread out laterally to effect or complete the separation of the bristles into knots or tufts, and afterwards to carry or push forward the same for insertion in the brush back or block, substantially as specified.

3. The combination of the divider E and fingers F F, for operation together, essentially as set forth, and whereby the fingers are made to lift and release the divider, to secure the spacing of the bristles, as specified.

4. The combination with the fingers F F, of the slide G, or their equivalents, for operation together, essentially as and for the purpose or purposes herein set forth.

5. The combination with the fingers F F of the slides C and H, slots *o o*, pins *n n*, inclined plane *r*, and arm *s*, or the equivalents of these devices, in such manner as that the fingers are first expanded, afterward moved forward, and, subsequently, in their back stroke, made to rise for the purpose of lifting the divider which spaces the bristles into knots or tufts.

6. The combination, in a brush making machine, of a wire cutter, V, and staple former X, for operation together, substantially as specified.

7. The jaws *j′ j′*, having a reciprocating movement, and opening and closing, as described, in combination with a reciprocating punch, B′, for operation together, and on or relatively to the tuft, substantially as described.

8. The combination, with the recessed slide G, of the jaws *j′ j′* and punch B′, for action together, as herein set forth.

9. The punch B′, constructed at its lower end of a concave form, in directions at right angles to each other, essentially as and for the purposes specified.

10. The combination of the jaws *j′ j′*, punch B′, wire cutter V, and a staple former X, or their equivalents, for action together, or relatively to each other, essentially as and for the purposes specified.

11. In combination with devices for inserting and securing the bristles in tufts, the brush block carriage D, arranged to travel intermittently in the one direction, then crosswise of such motion for a distance corresponding to the width of the two adjacent rows of perforations apart, and subsequently to travel intermittently in a reverse direction to its first movement, substantially as described.

12. The combination of the slide G′ with its pawls h^2 h^2, notched wheel H′, pinion O′, rack N′, stops M^1 M^2, and shifter K′, essentially as specified.

13. The combination of the cam P′, slide Q′, spring m^2, spring catch S^1, and arm R^4 of the shifter K′, constructed to release the catch, substantially as herein set forth.

14. The combination, with the pawl shifter K′, of mechanism whereby the carriage-operating pawls are made first to be thrown out of gear with the notched wheel which they drive, afterward to be reciprocated independently of the same, and, subsequently, either one of said pawls made to gear with such wheel, for the purpose of establishing the adjustment of the carriage in a crosswise direction, and afterwards reversing its action at right angles thereto, as herein described.

15. A combination of mechanism for spacing or separating the bristles into tufts, and suitably locating them over a perforated brush back or block; also, serving automatically to insert and secure said tufts by staples within the back or block, essentially as herein set forth.

85,194.—RALPH C. WHITEHOUSE, Boothbay, Me.—*Stove Oven.*—December 22, 1868.—The revolving table is provided with a pivot which fits in a hole in the bottom of the oven, and with trucks, which prevent the table from tipping.

Claim.—The improvement in stove ovens herein set forth, consisting of the table *a*, with pivot *b*, and trucks *e*, together with the hole *c*, as and to operate for the purposes herein set forth and described.

85,195.—WESLEY YOUNG, Bloomington, Ill.—*Hedge Planter.*—December 22, 1868.—The coulter, hinged to the front of the shoe, has a lateral motion to change the direction of the shoe. An endless belt, carrying the hedge plants into the shoe, deposits them on the pins of the setting wheel, which sets the plants in the furrow.

Claim.—1. The shoe A, constructed as described, and provided with hinged coulter C, notched cut A′, and springs *h h*, substantially as and for the purpose set forth.

2. The setting wheel D, partially incased by the said shoe A, and provided with radially arranged pins *i i*, substantially as above described, and for the purpose specified.

3. In combination with the above, the endless belt F, rear coulter *k*, and roller E, the whole arranged and operating substantially as herein set forth and specified.

85,196.—JOHN ADAMS, Findlay, Ohio.—*Stove Drum.*—December 22, 1868.—When the damper in the apex of the central cone is closed, the smoke and steam pass outside of that cone through the outer flues into the upper cone, then through the inner flues into the central cone to the escape pipe.

Claim.—1. The double flues G, when constructed and arranged substantially as shown and described.

2. The combination of the cones or chambers B C and the damper D, substantially as shown and described.

3. The combination of the cones or chambers B F and the flues G, substantially as shown and described.

85,197.—HENRY AIKIN, Pittsburg, Pa.—*Brick Machine.*—December 22, 1868.—The mold wheel receives an intermittent motion from the spur pinion. The segmental flange fits in recesses in the mold wheel and prevents any movement until the pinion again acts. A space is formed between the teeth in which the last tooth on the pinion operates. The plungers are operated by a toggle joint. The guides in which the plungers work are adjustable so as to be set up when worn.

Claim.—1. In combination with a pinion, B^3, having teeth upon only part of its periphery, and the mold wheel D, the segmental flange b^3 and the recesses d^1, arranged to operate substantially as and for the purpose set forth.

2. The spur pinion B^3 and mold wheel D, having cogs, respectively, as set forth, when the respective cogs *b* and *d* are constructed with a pitch uniform with the other cogs of the respective wheels, and a space is formed in front of the tooth *d*, and between it and the next cog in the series, to receive said teeth *b*, substantially as set forth and shown in the drawings.

3. The knife E^1, when attached to a cast block in-

serted in the upper plate E, said block having also an inclined lip, *e'*, arranged in relation to the mold wheel and the knife, substantially as and for the purpose set forth.

4. In combination with the bed plate E and frame X of the brick machine, the auxiliary frame F, F^3, F^4, and F^5, to which the press and press plate are so attached that the strain of the press shall be sustained upon said auxiliary frame, and not by the main frame or bed plate, substantially as herein described.

5. The combination of the toggle joint press, and the frame formed of the parts F, F^3, and F^4, and the shaft of the mold wheel, substantially as set forth.

6. The combination of two bed plates inclosing the mold wheel, and having the upper one supported by rods and double nuts, so as to be adjustable, substantially as and for the purpose set forth.

7. The combination of the sweep L^1, and rods and levers L, K, I^3, I^2, and I, and the cam B^1, which operates the same, substantially as set forth.

8. The upper bed plate, with openings for knife E^1 and press plate F^1, as set forth.

9. In combination with the plungers, adjustable guides D^4, arranged in relation thereto, substantially as set forth.

85,198.—RICHARD ANTHONY, Scranton, Pa.—*Railway Rail.*—December 22, 1868.—A cap, placed over the head of the rails, is secured by means of a flange on the side bars fitting in the beveled lower edge of the cap, and when the spikes are inserted the cap is held perfectly tight.

Claim.—The combination of the rails A A, cap B, and side bars C C, the latter being provided with shoulder *e* and flange *a*, all substantially as and for the purposes herein set forth.

85,199.—E. B. BEACH, West Meriden, Conn.—*Fish Trap.*—December 22, 1868.—A central spindle is surrounded by a spiral spring which acts on a hooped stretcher covered with netting, operated by a trigger, on which the bait is affixed.

Claim.—1. The central spindle B, hollow, or partly hollow, at its lower end, and having the spring lever *a* inclosed therein, in combination with the toothed ring C, and its netted covering, and the plate A, substantially as described, for the purposes of a trap, as set forth.

2. The pivoted lever *a*, inclosed within the spindle B, on which the trap C has its sliding motion, substantially as and for the purpose described.

3. The combination and arrangement of the central spindle B, spring lever *a*, plate A, and the toothed ring C, substantially as and for the purpose described.

85,200.—LEVI A. BEARDSLEY, Fredericksburg, Va.—*Self-loading Cart.*—December 22, 1868.—The wheel is provided with elevating buckets working in a suitable channel way, which is attached to the body of the cart and is provided with a scraper to remove the soil adhering to the buckets, and a friction roller, against which the sides of the buckets strike before entering the channel-way.

Claim.—The inclined scraper F and friction roller *e*, in combination with the elevating wheel B^1 D, and channel-way E, substantially as and for the purpose set forth.

85,201.—ALVIN F. BENT, Antwerp, N. Y.—*Cheese Hoop.*—December 22, 1868; antedated December 11, 1868.

Claim.—The arrangement of the hoop A A', its strip C, flange E, movable bottom B, and follower D, with their cloths *b*, *d*, and *e*, all constructed and used substantially as herein specified.

85,202.—SOLOMON BEYL, Osborn, Ohio.—*Chalk Line Box.*—December 22, 1868.—The chalk line wound around a drum actuated by a coiled spring, passes through sponges and chalk in a tube attached to the sides of the cases. A measuring rule is attached to a swivel on the tube, to measure the line as it is withdrawn from the case.

Claim.—The arrangement of the sponge and cases F F, chalk receptacle G, measuring rule L, and spring chalk line C, as herein described, and for the purposes set forth.

85,203.—T. G. BOGGS, Philadelphia, Pa.—*Medicine Glass.*—December 22, 1868.—The dose, and time of taking the same, defined by the prescription, can be written on the roughened glass covers.

Claim.—1. As a new article of manufacture, a vessel, A, to which is adapted a cover, B, prepared for the reception of memoranda, substantially as described.

2. A cover for medicine glasses, having a roughened surface, as herein described, and, upon the same surface, words and other markings, arranged substantially as and for the purpose specified.

85,204.—CHARLES F. BRIGHAM, Worcester, Mass.—*Runner Attachment for Carriages.*—December 22, 1868.—The journal boxes are attached above the raves and fencers in front, and below them in the rear, so that when the axles are inserted the body of the carriage will be level. The boxes may be shifted backward or forward at pleasure.

Claim.—1. The combination, with the long runners C, raves D, and fenders E, of the boxes H, arranged, in relation to each other, substantially as shown in the drawings for supporting the carriage-body in an even and proper manner, as described.

2. The combination, with the raves D, fenders E, and carriage body A, of the adjustable axle boxes H, substantially as and for the purposes set forth.

85,205.—CHARLES BRINCKERHOFF, Fishkill, N. Y.—*India-rubber Fender for Interfering Horses.*—December 22, 1868.—A number of India-rubber balls are strung on a strap, which is secured around the ankle or leg of the horse liable to be struck by the hoof on the opposite leg.

Claim.—The arrangement of a series of perforated, hollow, and flexible rubber balls, *a*, upon a leather strap, *b*, for forming a fender for interfering horses, all as herein shown and described.

85,206.—JOHN H. BROWN, Watertown, Mass., assignor to MOSES H. MOODY, New York City.—*Machine for Pegging Shoes.*—December 22, 1868.

Claim.—1. The combination of the traversing head, carrying both the awl and the driver, with the plunger, so that the awl and driver shall be alternately brought under the action of said plunger, and both driven by it, substantially as described.

2. In combination with an awl and driver, both arranged on and moving with a traversing head, and the plunger, the T-shaped grooves and terminus, so that said awl and driver can be connected to and detached from the plunger, as and for the purpose herein described and represented.

3. The arrangement of the feeding, clamping, and cutting mechanism, so that a wire may be properly fed up, cut into pegs or screws, and delivered, so as to be conveyed to the point where they are driven, substantially as described.

4. In combination with a machine for making and driving its pegs or screws, an intermittently rotating cylinder, with apartments or divisions in it, for receiving said pegs or screws where cut off, and carrying them to the place where they are driven, substantially as described.

5. Feeding the shoe along under the awl and driver, by means of a point that is forced into the sole, whilst or by the act of drawing out the awl, and then moved in the direction of the feed, substantially as described.

6. The combination of the screw socket and jam nut with the frame of the machine, for the purpose of adapting one and the same spring to the driving of pegs of variable lengths, substantially as described.

7. The driving of the pegs or screws through or from their chambers in the revolving carrier, and through the same hole in the foot piece of the machine that the awl passes through, substantially as described.

8. In combination with a pegging machine that is controlled and driven by hand, an arm-suppport that will carry or transfer a portion of the weight of the machine on to the arm of the operator, and thus very much relieve him from the burden of the machine, substantially as described.

85,207.—John H. Brown, Watertown, Mass., assignor to Moses K. Moody, New York City.—*Machine-made Channeled and Pierced Sole for Boots and Shoes.*—December 22, 1868.

Claim.—A boot or shoe sole, channeled and pierced, so as to facilitate its afterward being sewed to the upper by machinery, as herein described and represented.

85,208.—Walter Burrow, Great Malvern, Great Britain.—*Rack for Bottles.*—December 22, 1868.—The rests are so arranged that a greater number of bottles may be stored within a given space. The hinged frame is for the purpose of securing the bottles in place during transportation.

Claim.—1. The frame, carrying a series of perforated or recessed bars, and a series of rods or rests arranged above the openings in the bars, but parallel to and on opposite sides of the latter, as and for the purpose described.

2. The combination, with the frame, of the movable wire guards *f*, hinged to the frame, substantially as specified.

85,209.—S. D. Carpenter, Madison, Wis.—*Grain-Binder.*—December 22, 1868.—For holding and carrying the wire around a bundle of grain, and then twisting the wire and cutting it off. The device consists of a shuttle, within which are a twisting wheel, a cutter, and a stop which operates the cutter. The tension device of the spool permits a spring within the spool to take up the slack of the wire.

Claim.—1. A shuttle, consisting of the shell A, having the twister B and cutter D arranged therein, all constructed and arranged to operate substantially as described.

2. The twister, consisting of the flanged and toothed wheel B, having a slit for the entry of the wire, substantially as described.

3. The cutter, consisting of the axis C, blade D, and arm E, substantially as described.

4. The combination of the wheel B, and cutter D, constructed and arranged to operate substantially as and for the purpose set forth.

5. The combination of the wheel B, cutter D, with its arm E, and the stop F, all constructed and arranged to operate substantially as described.

6. In combination with a spool for holding the wire, the spring *a*, when arranged to operate as set forth, for taking up the slack.

7. The combination of the friction spring O, the loose shaft *d*, with the collar *y* attached rigidly thereto, and mounted in a support, R, with the adjustable nut *h*, all arranged to operate substantially as described.

85,210.—S. D. Carpenter, Madison, Wis.—*Grain Binder.*—December 22, 1868.—Certain devices are employed for conveying the grain from the platform to the binding mechanism, and there compressing it into a bundle and binding the same automatically. Means are also provided for catching and saving the grain that may be dropped in the process of conveying and binding it.

Claim.—1. The combination in a grain-cutting and binding machine, of the horizontal apron I, with its guards or rods *d*, the inclined aprons G and H, the cut-off J', the revolving rake U, and the rotating binder arm O, all constructed and arranged to operate substantially as and for the purpose herein described.

2. The slats f^2, with the staples, or equivalent devices, applied to the apron H, as shown and described.

3. The revolving rake, when arranged to move at stated intervals, substantially as described, for the purpose of sweeping the grain from the cradle, and holding it under the compresser while being bound.

4. A rotating binder arm, constructed and arranged to operate substantially as described, for carrying the band around the bundle, and then removing the bundle, as set forth.

5. The combination of the arm P, having the sliding hook *t* attached, and the cam B^2, when constructed and arranged to operate substantially as described, for the purpose of drawing the wire to the center of the twister, to insure the operation of the latter, as set forth.

6. The shuttle race or frame M, provided with the rack *m*, when arranged in relation to the binder arm, substantially as described.

7. The receptacle F, located under the binding mechanism, for receiving and saving the grain, as herein described.

8. The compresser N, constructed and arranged to operate as and for the purpose set forth.

9. The cut-off, consisting of the rock shaft J provided with the curved arms J', arranged to be operated by means of the cam g^3 on the binder shaft Q, through the medium of the lever g^2, rod g^1, and arm *g*, substantially as described.

10. The swinging rollers W, arranged to operate in connection with the apron G, as set forth.

11. Changing the speed of the binder, independently of the cutting or carrying mechanism, by means of gear wheels I^3, of varying sizes, applied to the shaft E'', as herein described.

12. The combination of the wheel Y, carrying the pivoted pawl *a*, the notched collar *b*, and wheel Z, with its cam *l*, when arranged to operate as and for the purpose set forth.

85,211.—John Carrier, Southington, Conn.—*Pocket Cutlery.*—December 22, 1868.—One extremity of the spring is confined in a dovetail recess, while the other end is made fast in the act of attaching the blade, so as to avoid rivets in securing the spring.

Claim.—The spring D, constructed as described, and secured to the back by a dovetail projection, C, and resting upon a shoulder, a', and combined and arranged with the blade, so as to operate in the manner specified.

85,212.—Charles H. Cassiday, Philadelphia, Pa., assignor to himself, Wilson Jewell, and Joseph White, same place.—*Toy.*—December 22, 1868.—Consists of a handle to hold a top while it is spun, and a trigger to disengage it at pleasure.

Claim.—The spring frame D, arranged for the reception and the retention or releasing of a top, substantially as specified.

85,213.—Patrick Clark, Rahway, N. J.—*Fan Blower.*—December 22, 1868.—As the air leaves the fan wheel its rotary motion is arrested by the deflectors, and hence the air is directed toward the center of the next fan chamber. The fan case is made to conform to the direction the air takes in passing through the machine.

Claim.—1. The stops or deflectors G G, in combination with the diaphragms or partitions F F, for the purpose named in the annexed specification.

2. The plano-convex ring L L, in combination with the compound hub O K, when so made that the journal box I will slip lengthwise through it, to facilitate the longitudinal adjustment of the shaft C.

3. The case or shell of the blower, substantially as described, in combination with the other parts of a multiplying fan blower.

85,214.—Charles J. Converse, Boston, Mass.—*Bottle Stopper.*—December 22, 1868; antedated December 11, 1868.—The stopper may, by rotation, be made to admit of the influx or efflux of liquids, without being withdrawn from the bottle.

Claim.—1. A through-perforated, elastic, rotary bottle stopper, larger at the bottom than at the top, shaped to fit in the neck of a bottle, the opening at the bottom of said stopper being located upon one side of the center, in combination with an obstruction across the neck of the bottle, the same made with an opening upon one side, thus admitting or emitting the contents of the bottle on a partial rotation of the stopper.

2. In combination with a bottle stopper, with a through-longitudinal perforation, the through-perforated, removable neck piece C, (or lower part of the stopper,) whether the same be thick or thin, and of whatsoever substance it be made, when constructed and used substantially as and for the purpose described.

3. The bottle neck herein described, when used in combination with a rotary stopper, substantially as described.

85,215.—Hiram Culver, Dansville, N. Y.—*Upsetting Machine.*—December 22, 1868.—This machine has the form of a vise, and its jaws or posts carry pairs of eccentrics that hold the metal under action, a loose bar forming the bed upon which the article rests, and a follower attached to a hand lever holding the article down.

Claim.—1. The combination of the loose bar *g*, lever presser *k h*, eccentrics *d d d d*, and bed plate *c*, with the jaws A A, all arranged and operating substantially as herein described.

2. The upsetting machine, consisting of the jaws A, levers *a*, screw *b*, loose bar *g*, eccentrics *d*, lever presser *k h*, and bed plates *c*, all constructed and arranged to operate substantially as herein set forth.

85,216.—Daniel M. Cummings, Enfield, N. H., assignor to himself and Washington Irving Conant, same place.—*Composition for Water-proof Paint, &c.*—December 22, 1868.

Claim.—A water-proof coating or painting mixture, composed of clay, tar, oil, ashes, and oxide of iron, in about the proportions herein described.

85,217.—George L. Cummings, New York, N. Y.—*Ice Cutter.*—December 22, 1868; antedated December 15, 1868.—The instrument is held in position by means of the pointed guide rod, while the weight is caused to rise and fall on said rod, in the act of cutting the ice.

Claim.—The combination of the guide rod R, the weight S, and the flat cutter C, attached to the weight, as and for the purpose specified.

85,218.—Alexander M. Damon and Simeon G. Lyford, Lowell, Mass.—*Combination of Name Plate and Letter Chute.*—December 22, 1868.—A letter slide or chute is combined with an ordinary name plate upon a door, so as to conceal the former when not in use. The arms which support the cover are pressed by spiral springs, to keep the same in place. A plate is fitted within a groove, so as to make a water-tight joint.

Claim.—1. The combined name plate and cover, by which a letter passage is concealed.

2. The depressed flange I, in Fig. 2, and the beveled projection of the cover, which serves as a guide to the letter passage in the door.

3. The arms C, and spiral springs K, together with their arrangement, when used for the purpose heretofore described.

4. The groove P, substantially as and for the purpose heretofore explained.

85,219.—Richard Dexter and Hamor Gledhill, Worcester, Mass.—*Wool Oiling Machine.*—December 22, 1868. For oiling or moistening wool for carding and spinning.

Claim.—1. The employment of a continuously-revolving driving shaft, B, to which, or to arms or disks on which, are secured pivoted arms E, provided with dripping devices, all so constructed that at each revolution of the driving shaft the pivoted arms will fall forward, and deliver the oil directly onto the wool, without the aid of intervening mechanism.

2. The combination of a dripping mechanism, delivering the lubricating material directly upon the wool, with loosely-pivoted arms carrying the same, substantially as above set forth and described.

3. The combination of the pivoted arms E, and the dripping devices F F, with the continuously revolving shaft B and the trough A, all constructed and operating substantially as described.

85,220.—Doctor Alois Drasch, St. Egidi, Austria.—*Rotating Ball Motor.*—December 22, 1868.—By means of a hand lever the tray is continually tilted in advance of the rolling ball, so that said ball is kept in motion upon a constantly-changing inclined plane. As the ball progresses in its orbit, it acts on a lever, which transmits motion.

Claim.—1. The combination and arrangement of the tilting disk A, rolling ball B, lever E, tubular shaft F, concentric rim *c*, and its support, when the rolling ball is entirely disconnected, and actuates the lever E simply by pressure, as it rolls, as herein described.

2. In a rotating ball motor, the bent lever E, rigidly secured to the tubular shaft F, and actuated by contact with the freely-rolling ball, as it traverses its path on the tilting platform, as herein set forth.

3. The free rolling ball B, tubular shaft F, and rigid bent arm E, in combination with the tilting platform A, as and for the purpose herein set forth.

4. The application, to the tilting platform, of a rigid arm, *d*, moving in a vertical guide, *e*, attached to the supporting circle C, as and for the purpose herein set forth.

85,221.—George Esterly, Whitewater, Wis.—*Seeding Machine.*—December 22, 1868.—Especially applicable to the combined seeder and cultivator patented by the same inventor June 30, 1868.

Claim.—1. The arrangement of the rubber e^2, or its equivalent, on a line with the seed cells, and in relation to the upwardly-flaring throat of the cap E, substantially as and for the purpose described.

2. The beveled collar or flange *r* on the distributor F, fitted into a beveled seat formed in the side of the cap E and bearing E′, substantially as described.

3. Gauge plate O′, gauge lever O, longitudinally-adjustable shaft G, carrying distributor F, and sleeve *c*, with cone or teat *d*, for connecting lever O to it, all combined and adapted to operate substantially as described.

4. Connecting the lever M, which operates clutch T, to a segment, L, on the shaft I′ of hand lever J, in combination with cultivators, which are connected to segments L, for the purposes and in the manner substantially as described.

5. In a machine, constructed to operate substantially as described, the arrangement of the shafts G and 2 in the vertical plane of the axle V, substantially as and for the purposes described.

6. The thimble bearings 1, secured to the drag bars C, substantially as described.

7. The suspension bar H, hung by flexible connections from lifting segments L, and connected by chains, or the equivalent thereof, to the drag bars C, substantially as described.

8. In combination with a cultivator tooth or standard, D, which passes through a drag bar, self-releasing clamp plates D^1 D^1, confined to said tooth, substantially as described.

9. In combination with the combined seeder and cultivator herein described, a grass seed sower, N N′, arranged and operated substantially as set forth.

85,222.—William Fischer, New York, N. Y.—*Wind Musical Instrument.*—December 22, 1868.—Relates to instruments made of wood, hard rubber, or other non-metallic substance. The object is to guard against splitting, and render the body cheaply renewable.

Claim.—1. The combination of an open band, B, having the keys permanently attached to it, with the body A of the instrument, substantially as herein shown and described, and for the purpose set forth.

2. Permanently attaching the keys C to the open removable band B, substantially as herein shown and described, and for the purpose set forth.

3. Cutting the band B away around the finger and key stops, either or both, substantially as herein shown and described, and for the purpose set forth.

85,223.—J. A. Fremon, Montgomery, Ala.—*Mortar.*—December 22, 1868.—This invention has reference to the connection of a mortar with a revolving disk, rotating on a circular rail, secured to a frame and operated by a belt and pulleys attached to a crank shaft, the bearings of which are supported by uprights. A sliding frame is furnished near its center with openings, and on its lower side with cleaners. The pestle is hinged to a rod that connects with the crank shaft.

Claim.—1. The circular grooved platform or disk K, rotated on a circular rail secured to the platform or table N N′, in combination with the mortar A, operated and arranged substantially as and for the purpose set forth.

2. The sliding frame or cap C, provided with the openings D and P, and cleaners L L, in combination with the uprights M and frame or boards N N′, all arranged and operated substantially as and for the purpose set forth.

3. The pestle B, hinged to the connecting rod F of

crank shaft E, arranged and operated substantially as described.

4. Frame or boards N N′, uprights M, axle *j*, pulleys J J, cap or sliding frame C, revolving disk or platform K, mortar A, cleaners L L, pestle B, connecting rod F, pin G, crank shaft E, handle *e*, driving wheel or pulley H, and band or belt I, when combined, arranged, and operated substantially as and for the purpose set forth.

85,224.—A. J. French, Bridgeport, Conn.—*Feeding Percussion Cap.*—December 22, 1868.—The disk has hooks upon its periphery, so as to transfer the blanks to a tubular channel, and deliver them in the position and at the time desired.

Claim.—The arrangement of the hooked carrying wheel C, with a delivering tube H, and a hopper to supply the carrying wheel, the whole operating substantially in the manner herein set forth.

85,225.—A. J. Gibson, Cincinnati, Ohio, assignor to himself and Thomas A. Harrow, same place.—*Apparatus for Purifying and Aging Liquors.*—December 22, 1868.—The liquid is agitated by the arms of the revolving spindle, and air is simultaneously forced into the liquid near the bottom of the vessel. This air ascends and takes up the impurities of the spirits, and before escaping at top, passes through an alkali bath, which absorbs the valuable non-condensed gases that rise with the air.

Claim.—1. The spindle C, in an apparatus for ageing and purifying liquors, constructed and used substantially as and for the purpose described.

2. The introduction of a current of air into the vessel containing the liquor to be operated upon, in an apparatus for ageing and purifying liquors, in combination with the spindle C, and constructed and used substantially as and for the purpose described.

3. The vessel R, when used in the construction, in an apparatus for ageing and purifying liquors, constructed and used substantially as described.

4. The inverted cup Q, when used in an apparatus for ageing and refining liquors, in combination with the vessel R, substantially as and for the purpose described.

5. The described bath fluid, when used in an apparatus for ageing and purifying liquors, when composed and used substantially as described and set forth.

6. The vessel B, when used in combination with the spindle C, vessel R, and inverted cup Q, and constructed substantially as and for the purpose described.

85,226.—Jackson Golder, Fort Recovery, Ohio.—*Poultry Coop.*—December 22, 1868.—The coop is folded in a condition convenient for transportation by pressing in spring catches, removing the top, and turning down the hinged ends and sides.

Claim.—A poultry coop, constructed substantially in the manner shown and described.

85,227.—Anson Hardy, Boston, Mass.—*Indicator for Permutation Locks.*—December 22, 1868.—By making the indicator detachable and in separate parts, the said parts may be given to different persons intrusted with a knowledge of the combination, so that neither one can open the lock without the knowledge and consent of the others.

Claim.—The detachable indicator for combination locks, constructed in two or more parts, as and for the purpose described.

85,228.—Frederic Howes, Boston, Mass.—*Anchor.*—December 22, 1868.—Upon the shank, above two ridgidly fixed arms, are two other arms attached to a sleeve. Notches are made in the square portion of the shank to receive catches attached to the adjustable arms.

Claim.—1. The adjustable arms, when constructed substantially as shown, and for the purpose specified.

2. The combination of the shank, adjustable arms, and catch, substantially as and for the purpose specified.

85,229.—Alonzo Johnson, Springfield, Mass., assignor to Sylvester Bissell and Andrew B West, Hartford, Conn.—*Calculating Apparatus.*—December 22, 1868.—Designed to ascertain and indicate, within certain defined limits, the sum or amount of numbers which are to be added together, and at the same time to indicate how many such numbers have been added.

Claim.—The combination and arrangement of the recessed base plate A, revolving dial plate B, perforated at *h h*, and both graduated as described, differential gears, index I and pointer P, the whole constructed and operating substantially as described.

85,230.—Amasa C. Kasson, Milwaukee, Wis., assignor to himself and Nelson C. Gridley, same place.—*Bushing for Tool Handles.*—December 22, 1868.

Claim.—The packing or bushing D, composed of rubber or gutter percha, either raw or vulcanized, when applied to a tool handle, substantially as and for the purpose described.

85,231.—John Leffler, Rochester, N. Y.—*Building Block and Artificial Stone.*—December 22, 1868.—Composed of gravel, Rosendale cement, quicklime, and sea sand.

Claim.—1. Building blocks, of artificial stone, compounded of the materials and in the proportions substantially as herein set forth.

2. The method herein described, of producing blocks of artificial stone, by molding the same of the materials herein set forth, and subsequently kneading sea sand into the surface portion of said blocks, after they leave the molds, substantially as set forth.

85,232.—D. B. Maynard, Worcester, Mass.—*Folding Bureau Bedstead.*—December 22, 1868.—

Claim.—1. The combination, with the base, A, and folding cases B B′, of the movable drop or bottom F, substantially as and for the purposes set forth.

2. The combination, with the folding cases B B′, mattress K, and drop, of the springs M, substantially as set forth and described.

3. The combination, with the cases B B′, and movable bottom or drop F, of hinged arms or connections, G, substantially as set forth.

4. The combination, with the folding bedstead, of a mattress, together with the devices for raising and supporting the center of the same, substantially as described, whereby, when the bedstead is folded up, the center of the mattress will be depressed, and when the bedstead is unfolded will be elevated or raised and supported, for the purposes stated.

5. The combination, with a folding bedstead, of a central base or receptacle, to receive the center of the mattress, and the supporting devices thereof, when the bedstead is folded up, substantially in the manner shown and described.

6. The combination, with the cases B B′, of the hinged top C, and its holding pin and spring, together with the locking devices, arranged substantially as and for the purposes stated.

85,233.—L. D. McClintock, Glenwood, Iowa.—*Cultivator.*—December 22, 1868.—The machine is capable of being used by a person either walking or riding.

Claim.—The combination of the double plows *a a*, handles *d d*, shovels *c c*, frame A, wheels C, bent axles B, bars D D, lever *g*, chains *e*, bars *m*, and seat F, all constructed and used substantially as herein specified.

85,234.—William McKay, Newburyport, Mass., assignor to himself and Charles E. Bayley, same place.—*Mast Hoop.*—December 22, 1868.—The hoop is composed partly of wood and partly of metal, the metallic portion being provided with friction rollers.

Claim.—The improved arrangement, as described and represented, of the parts *a b*, and the series of friction rollers *d d*, the same being productive of an improved manufacture of mast hoop provided with friction rollers.

85,235.—A. O. Morgan, Nashville, Ohio, assignor to himself and William B. Loller, same place.—*Tire Tightener.*—December 22, 1868.—Outside of the wooden felloe and opposite the center of the metal felloe or "box," is an oblong slot in which is a projecting piece which holds the tire in the center. Apertures in the metal felloe or box are closed by dovetailed lids.

Claim.—The tire A, beveled at each end, as shown and provided with the oblong projection *d*, in combination with the metallic box C, having dovtailed tongues *a a*, and sliding door *b*, shielding the screw F, all substantially as set forth.

85,236.—GEORGE H. MYERS, Philadelphia, Pa., assignor to S. B. ROWLEY, same place.—*Fruit Jar.*—December 22, 1868.

Claim.—1. The annular nut or screw ring C, having a screw thread adapted to a similar thread on the neck of a vessel, and a flange, *a*, for confining a plate and packing to the said neck, all substantially as and for the purpose herein set forth.

2. An annular projection or projections on the neck or on the plate, for indenting the rubber packing, as set forth.

85,237.—WILLIAM LISTER NEWILL, Cincinnati, Ohio, assignor to himself and REDWAY & BURTON, same place.—*Mode of Attaching Stove Legs.*—December 22, 1868.—The notched shank forms a part of the leg, and fits over a projection cast on the bottom of the stove plate.

Claim.—The notched and beveled shank C, and dovetailed projection D, when constructed and combined as herein described, and for the purpose set forth.

85,238.—WILLIAM B. ODENATT, Philadelphia, Pa.—*Swing.*—December 22, 1868.—The suspension bars are hung on knife-edged projections to admit of easy oscillation. The back is made adjustable in inclination.

Claim.—1. The seat, with its rods *f f*, and slides H, in combination with the suspension bars *e e*, on which the slides are adjustable, and having openings to which are adapted detachable pins, all substantially as described.

2. The bars *e*, connected to the seat, and having knife-edge projections adapted to bearings *b*, as described.

3. The seat, with its adjustable back, in combination with the notched plate *i* and spring catch *b*, arranged and operating substantially as set forth.

85,239.—JAMES B. OLNEY, New York, N. Y.—*Gas Generating and Carbureting Apparatus.*—December 22, 1868.—Within the annular water chamber is a tank containing water and acids, above which is a supply of hydrocarbon liquid. A piece of zinc or other suitable metal is suspended from the roof of the gasometer and serves to decompose the water and liberate the hydrogen gas.

Claim.—1. Carbureting hydrogen gas by the process and in the manner herein specified.

2. A gas-generating and carbureting apparatus, having shells A and B, gasometer D, tank E, pipes H, I, J, and K, combined with the zinc or substance F, constructed and arranged substantially as herein described.

85,240.—JAMES T. PAGE, Rochester, N. Y., assignor to himself and WILLIAM H. BROWN, same place.—*Coal Scuttle.*—December 22, 1868.—The rear point or angle of the hod rests above the ground, the front being sustained by legs whose shank passes centrally back and turns up over the rear.

Claim.—1. A coal scuttle in which the angle *h* forms the base, and in which the incline *m* extends from said angle to the discharge point.

2. The combination of legs *i i* and shank *k* with the coal scuttle, as herein set forth.

85,241.—HIRAM E. PAINE, Troy, N. Y., assignor to HENRY H. PAINE, Rutland, Vt.—*Cartridge Box.*—December 22, 1868; antedated December 16, 1868.

Claim.—1. As a new article of manufacture, a cartridge box, constructed substantially in the manner and for the purposes herein described and set forth.

2. The metallic strip or brace B D, applied to the back and sides of the box, to strengthen the same, substantially as hereinbefore specified and described.

3. A cartridge box, with the back and sides of thick, heavy leather, and the front of thin, soft leather, arranged and constructed in the manner and for the purposes substantially as hereinbefore specified and set forth.

85,242.—DARIUS C. RANDALL, Niles City, Mich.—*Liniment, or Medical Compound.*—December 22, 1868.—Composed of alcohol, oils of origanum, sassafras, and hemlock, aqua ammonia, and tincture of guaicum.

Claim.—The combination of the ingredients, substantially as herein described, as a new medical compound, for the purposes set forth.

85,243.—JOHN O. REILLEY, Baltimore, Md.—*Door Fastener.*—December 22, 1863.—A piece of metal formed with a shoulder and claw is fastened to the casing. The fastener consists of a dovetailed tenon and an eccentrically pivoted button.

Claim.—A door fastener, composed of the parts A, F, G, and H, made and combined substantially in the manner described.

85,244.—REUBEN ROWLEY, Rochester, N. Y.—*Training Grape Vines.*—December 22, 1868.—The object is to check the too rapid flow and concentration of sap at the top of the vines, as usually trained.

Claim.—The spiral training of grape vines around a circular trellis, first to the top and then back to the bottom, and entirely exposed to the light and air, as herein set forth.

85,245.—JAMES SARGENT, Rochester, N. Y.—*Permutation Lock.*—December 22, 1868.—The object is to connect with the dog that falls into the notches of the tumblers devices for elevating and retaining the dog from contact with the tumblers, in all positions of the lock.

Claim.—The combination of the pawl P, or its equivalent, and arm H, with the dog F, for the purpose of retaining the dog elevated in all positions of the lock, as herein set forth.

85,246.—JAMES SARGENT, Rochester, N. Y.—*Bolt for Safe Doors.*—December 22, 1868.

Claim.—So connecting the heavy bolt work of safe doors with the lock bolts, when two locks or sets of lock work are employed, that the bolt work may be set to open, either by the action of one lock or of both, by means of the lever C and rock arm D, arranged and operating substantially as set forth.

85,247.—JOHN A. SCOTT, Lexington, Va.—*Photographic Camera.*—December 22, 1868.—Above the magnetic needle is suspended a wire netting, which is dropped upon the compass plate at the instant the sensitized plate is exposed to the light, thus arresting the needle, and indicating the magnetic meridian of the place represented by the picture.

Claim.—1. The method, substantially as herein described, of producing pictures from considerable heighths above the earth's surface, consisting in the employment of a balloon, or other analogous elevating apparatus, which has suspended from it a photographic instrument, provided with devices for exposing and closing the image plate, and which is controlled by means substantially as described.

2. The combination of a magnetic compass with an instrument which is adapted for producing photographic pictures from considerable heights above the surface of the earth, substantially as described.

3. The netting V, or its equivalent, applied over the compass needle Y′, so as to operate substantially as and for the purposes described.

4. Providing the photographic instrument with a contrivance which will automatically, or at the will of the operator, expose the image plate, substantially as described.

85,248.—CHARLES SEYMOUR, La Porte, Ind.—*Propelling Wheel.*—December 22, 1868.—So constructed and pivoted that when submerged in water the blades will assume a perpendicular position or nearly so.

Claim.—A pivoted paddle, the face of which is in ogee form in cross section, or concave on one side of its longitudinal axis, and convex on the other, constructed to operate in the manner and for the purpose set forth.

85,249.—ALFRED J. SHIPLEY, Waterbury, Conn., assignor to the SCOVILLE MANUFACTURING COMPANY, same place.—*Feed Motion.*—December 22, 1868.—Additional ratchet wheels are so connected with the main operating parts as to effect an adjustable feed to enable combs to be readily cut from long strips of sheet metal.

Claim.—Combining, with the aforesaid combination of devices, an auxiliary set of devices, for imparting at intervals a feed movement of accelerated velocity, and of greater extent than that imparted by the aforesaid combination, constructed and arranged substantially as herein described.

85,250.—THOMAS SKELTON, Rockford, Ill.—*Hames Fastener.*—December 22, 1868.—Attached to the hames is a hook plate provided at one end with a spring catch, and at the other end with a bent lever which is held in position by a spring catch.

Claim.—In a hames fastener the combination of hook plate a, bent lever b, having stud f, and pivoted together as described; stud c, spring catch d, with the rings h and strap i, arranged with relation to each other, and to operate together, in the manner and for the purpose described.

85,251.—JOHN T. SLINGERLAND, New York, N. Y., assignor to ALDEN TYPE SETTING AND DISTRIBUTING MACHINE COMPANY, same place.—*Type Setting and Distributing Machine.*—December 22, 1868.—Relates to improvements on machines for which patents were granted to T. Alden, September 15, 1857, and Alden & Mackey, January 23, 1866.

Claim.—1. The arrangement of an adjustable manuscript supporter or desk C on the central arbor a of the carrier wheel B, substantially as and for the purpose set forth.

2. The adjustable rule and weight e, suspended from cords f, which wind on the friction arbor g, in combinatioa with the desk C, substantially as described.

3. Constructing the carrier wheel B of two concentric rings m and k, substantially as and for the purpose described.

4. The protecting flange r on the central ring m of the carrier wheel, to prevent the fulcrum pins of the conveyers from working out, as described.

5. The friction steady rollers u, bearing on the inner edge of the lower ring l of the carrier wheel, substantially as and for the purpose set forth.

6. The gallery K, under the outer ends of the radiating type cases D, substantially as and for the purpose described.

7. The lever d^{12} on the conveyers p q, in combination with the cams d^{14}, to pull said conveyers back out of the excavations in the ring F, substantially as set forth.

8. The hook z projecting from the griper jaw w of the setting conveyors, and catching in the serrated rail v, to open the griper, substantially as described.

9. The projections v^{41} on the inner ends of the plates of the cases D, to act in connection with the distributing conveyers, substantially as and for the purpose set forth.

10. The cam c^1 on the rail H, acting on the rollers b^1 of the setting conveyers, substantially as and for the purpose set forth.

11. The segmental flange or projection d^1, cast solid with the foundation J of the radiating type cases D, and provided with recesses to sustain said cases, substantially as described.

12. The lip t^1 on the pusher e^1, to prevent the type in the type cases from rising, substantially as described.

13. The projections f^2 on the type cases, to prevent the pusher from rising, substantially as set forth.

14. The projections c^9 on the pusher e^1, to act on the levers a^2 b^2, substantially as and for the purpose described.

15. Giving to the tilting levers u, under the type cases D, a double fulcrum, substantially as and for the purpose described.

16. The latch x^3, at the inner end of the distributing galley gauge g^3, substantially as and for the purpose described.

17. The adjustable shield z^2 on the distributing type channel G, substantially as and for the purpose described.

18. The roller breaker a^3, in combination with a cavity in the bottom of the type channel G, substanially as and for the purpose described.

19. Making the movable floor p^2 with a serrated, inclined, or curved edge, substantially as and for the purpose set forth.

20. The latch w^2, at the head of the distributing galley, substantially as and for the purpose set forth.

21. The alarm arrangement on the distributing galley, consisting of the pin r^2, spring arm s^2, rock shaft t^2, and alarm click u^2, or equivalent devices, as described.

22. The oscillating breaker d^3, in one wall of the type channel; and opposite a cavity in the other wall, substantially as and for the purpose set forth.

23. The false yielding channel piece f^3, in combination with the cavity opposite the breaker d^3, substantially as and for the purpose described.

24. The oblique slot m^{31}, for the purpose of adjusting the roller m^3, in relation to the type channel G, substantially as described.

25. The method herein described of separating the first type in the distributing type channel from the line, consisting of the abutment n^3 and lifter a^4, substantially as set forth.

26. The spring detents j^4, arranged in regular or zigzag position, near the mouth of the distributing type channel, to prevent more than one type being lifted on the abutment, substantially as described.

27. The self-adjusting gate l^4, arranged to open freely, and then be locked by the lever u^4 and bolt p^4, substantially as set forth.

28. The latch y^4, at the end of the gate l^4, substantially as and for the purpose described.

29. The vibratory lifter o^4, to take hold of the type and raise it on the abutment n^3, substantially as set forth.

30. The additional spring i^4, to carry the lifter back under the type, substantially as set forth.

31. The mechanism which I term "the governor," consisting of the rod c^5, hook e^5, latch f^5, and spring arm i^5, to stop the motion of the lifter, if the type on the abutment n^3 is not pushed off, substantially as described.

32. The cam v^3 and levers u^3 t^3, to throw the type levers z^4 out of the nicks of the type by a positive action, substantially as set forth.

33. Giving to the composition type channel E a vibrating motion toward and from the carrier wheel B, substantially as and for the purpose described.

34. Ending the channel E directly over the center of its fulcrum pin, to allow the last type passing out with the least possible motion, as set forth.

35. The arrangement of the transfer channel N, in combination with the composition type channel E, substantially as and for the purpose described.

36. The flanged roller leveler O, in combination with the transfer channel N, substantially as and for the purpose set forth.

37. The revolving pressure shot k^5 in the type channel E, substantially as and for the purpose described.

38. The combination of a movable jaw y^5 with the vibrating type channel E, substantially as and for the purpose set forth.

39. The plunger v^5, having both a vibrating and a reciprocating motion, independent of the vibrating motion of the channel E, and operating in combination with said channel, substantially as and for the purpose described.

40. The spring d^6, in combination with spring c^6, made to close the movable jaw y^5 with the requisite force upon the type, and to release said jaw at the proper intervals.

85,252.—C. E. SNEIDER, Baltimore, Md.—*Breech-loading Arm.*—December 22, 1868.—A block arranged before the bridge, is provided with a hook or shoulder, which, when the breech of the barrels is thrown up, comes against the projecting head of a bolt attached to the breech piece, so as to prevent injury to the pivot that connects the breech piece and barrels. Just above and behind the pivot is a spring catch so arranged that when the breech is open, the retractor can be slid into place, without coming into contact with the catch.

Claim.—1. In connection with the bolt I, locking the barrels down, as above described, the combination and arrangement of the two springs M and L, and pin *m*, with the projection *f*, when said parts are constructed to operate in such a manner as to hold the tongues of the bolt I out of the way of the barrel, when the latter is raised, until, as it is brought down again, it strikes the spring M, thereby releasing the bolt I, and allowing the spring L to turn the bolt and lock the breech, substantially as described.

2. The combination of the pivot *d′*, block F′, and bolt G, having the eccentric head *a*, when constructed to operate in the manner described.

3. The combination of a cartridge retractor, R, with the spring catch *t* and the pivot *d′*, when the parts are constructed to operate together, substantially as described.

85,253.—George W. Starr, Washington, D. C.—*Envelope.*—December 22, 1868.—Designed to prevent letters from being opened and closed again by unauthorized persons.

Claim.—The cuts and perforations 1, 2, 3, 4, and 8, in combination with the flaps B, C, D, and E, of an envelope, all constructed and arranged substantially as and for the purpose set forth.

85,254.—George W. Stewart, Adairsville, assignor to himself and Warren Akin, Cartersville, Ga.—*Harvester.*—December 22, 1868.—An arrangement of devices whereby the apparatus may be raised or lowered without changing the angle of cut, while by the same movement the reel is raised or lowered, so as to preserve its distance from the cutters. The dropping platform is attached to a rod by means of lugs arranged in two parallel lines and bent inward to clasp the rod, by which means the dropper may be readily removed.

Claim.—1. The combination and arrangement of the devices, by means of which the cutting apparatus may be elevated or depressed, while preserving the horizontality of the plane of the cutters, consisting of the dragging frame J, block *c*, post *g*, bar *h*, rods *a* and Y, grain wheel Z, arm *d*, rod *e*, and post *f*, substantially as and for the purpose shown.

2. The arm *h*, jointed to the main frame at its forward end, and the dragging frame J, in combination with the block *c*, to which said arm and frame are jointed at the front and rear edges, so that as the rear end of the dragging frame J is raised up, the plane of the block *c* and cutting apparatus will in all positions be parallel with the ground, substantially as shown and described.

3. The arms *b* and *e*, jointed to portions of the main frame at their forward ends, in combination with the arm *d*, rods *a* and Y, grain wheel Z, and cutting apparatus of a harvester, so that as the inner end of said cutting apparatus is raised up, the outer end will be equally raised, substantially in the manner and for the purpose set forth.

4. The manner of suspending the reel, by means of the post *m*, sleeve *o*, collar *p*, and rod *r*, the latter being pivoted at its lower end to the head of the post *g*, substantially as shown and described.

5. Suspending the reel shaft *g* by means of the sleeve *o* (made to slide upon the reel post *m*) and the rod *r*, which connects said sleeve with the block *c*, and preserves a constant distance between the reel and cutting apparatus, substantially as herein specified.

6. The means used for attaching the dropper to the rod Y, consisting of the lugs *z′ z′ z′*, arranged substantially as herein shown and described.

85,255.—John M. Thatcher, Bergen, N. J.—*Fireplace Heater.*—December 22, 1868.

Claim.—1. The double walled fire pot, in combination with the air passages, whereby air passes into and between its walls, and is supplied to the fire pot, in a heated state, below the grate, constituting the air supply or draught, for combustion in the heater, substantially as described.

2. In combination with the fire pot of a fireplace heater, the double walled vertical central feeder, placed centrally over the fire pot, and extending vertically upward through the heater, to and through the top thereof, so that coals may be filled within the feeder to the top of the fireplace heater, thereby giving the feeder the full capacity, in height, of the fireplace heater, for holding the coals, the double walls extending from the lower part of the feeder to the top of the heater, and serving as a passageway for a current of air, admitted through suitable apertures at the top of the heater, to pass down to the fire for the purpose of cooling the lower part of the feeder, and aiding combustion, substantially as described.

3. In combination with the fire pot, a double-walled central feeder, which has the lower part of the outer wall extended downward below the lower part of the inner wall, and air outlets, substantially as described, whereby the air passing from the annular passage between the walls of the feeder, to the fire, is caused to impinge upon or come more closely in contact with the inclined surfaces of the burning coal next to the bottom of the feeder, as set forth.

4. In a fireplace heater, the combination and arrangement of the fire pot, combustion chamber, and the vertical air-heating tubes in the rear of and partly surrounding the fire pot, and connecting an air-receiving chamber, below the fire pot, with a hot air collecting chamber above the combustion chamber, substantially as hereinbefore described, the arrangement of the tubes, with reference to the fire pot, combustion chamber, and its outlet, being such that the products of combustion pass first in contact with the upper part of the tubes, and then downward, in contact with the lower part of the tubes, to the outlet.

5. In a fireplace heater, the arrangement of the outlet for products of combustion, at the lower part of the stationary concave, whereby the concave becomes an air-heating plate, when in operation, substantially as described.

6. In combination with the clinker-cleaning opening, the lip on the grate for opening and closing the same by turning the grate, substantially as described.

7. In combination with the stationary concave, having the slightly conical collar or outlet passage, the slides or guides, whereby the movable part is guided, so that the exit funnel will enter and fit said outlet passage, substantially as described.

85,256.—Henry Torstrick, New York, N. Y.—*Bone Coal and other Filters.*—December 22, 1868.—The object is to utilize, for filtering purposes, bone dust that has been of little value, which is effected by mixing the same with fine anthracite coal or other similar insoluble substance.

Claim.—1. The use of a dividing agent substantially as described, in connection with the filtering material, for the purpose of filtration.

2. The use of a dividing agent, in reburning or otherwise restoring bone dust.

85,257.—John E. Tucker, Boston, assignor to himself and Lewis Bonney, same place, and Joseph C. Snow, Mansfield, Mass.—*Faucet.*—December 22, 1868.—At the inner end of the screw plug is fitted a perforated, movable cap, which, as the faucet is screwed in the plug, is forced into the barrel far enough to uncover the holes.

Claim.—The combination of the plug A, provided with a perforated partition B, the headed screw-bolt C, inverted perforated cap D, and faucet E, all constructed and arranged substantially as and for the purposes herein set forth.

85,258.—John Turnbridge, Newark, N. J.—*Method of Extracting Gold and Silver from their Ores.*—December 22, 1868.

Claim.—1. The method of combining metallic mercury, salt, or chloride of soda, and sulphate of copper, substantially as and for the purpose set forth.

2. The application and use of sulphur and its salts, substantially as and for the purpose set forth.

3. The application and use of the cyanides, for the extraction of gold, substantially as and for the purpose set forth.

85,259.—S. W. H. WARD, New York, N. Y.—*Carriage Wheel.*—December 22, 1868.

Claim.—A carriage wheel, consisting of a rim B, of rubber, fitted on a hub A, having projections *a*, to prevent the rim slipping around, the lateral movement of the rim being prevented by metallic plates *b*, secured to the hub, in the manner herein described.

85,260.—GEORGE WEAVER and H. NELSON ALLEN, Boston, Mass., assignors to themselves and E. R. CHENEY, same place.—*Barrel Head and Tap.*—December 22, 1868.—The key is made detachable and is only used when it is desired to draw the contents from the cask, and obviates the necessity of a separate stop-cock. Together with a cap, a yoke and spring, it forms the tap.

Claim.—1. As a new article of manufacture, a cask head, as described, that is, composed of the disk A, of cast metal, and having a bung opening, with female screw molded and cast therewith, and corresponding bung, with male screw cast in the same way.

2. The key *g*, constructed as described, and used in connection with the tap C, or tap C′, and bung B′, for the purposes specified.

3. The combination and arrangement of the tap C with and upon the disk A, substantially as set forth.

85,261.—EMANUEL WEISS, Basle, Switzerland.—*Treating Cereals for the Manufacture of Flour, Meal, &c.*—December 22, 1868.—For more perfectly separating the nutritious and indigestible portions of cereals.

Claim.—Subjecting cereals to the action of an alkaline solution, substantially as and for the purpose described.

85,262.—RICHARD MONTGOMERY, New York, N. Y.—*Machine for Corrugating Metal.*—December 22, 1868.—A series of parallel grooves, alternating with parallel elevations, is cut in the circumference of the central roll, and counterpart grooves and elevations are formed in the upper and lower roll, so that the iron is passed consecutively between the rolls in opposite directions.

Claim.—In a rolling mill, consisting of three high rolls, arranged in the same vertical plane, and used for corrugating metal by passing it through a series of gradually-diminishing grooves alternately above and below the center roll, the construction of the grooves as and for the purpose specified.

85,263.—H. G. LUDLOW, Troy, N. Y.—*Stop Valve for Steam and other Enginery.*—December 22, 1868.—In opening the valve, the stem which raises it draws the wedge upward on the inclined planes, allowing the two parts of the valve to come together, and thus relieving them of all wedge pressure against the faces of the openings before any upward motion of the valve occurs.

Claim.—1. The valve box A, with its guides H H, constructed substantially as described.

2. The valve, composed of the parts B and B′, constructed substantially as shown and described.

3. The combination of the strips or guides H H, the stops G G, and circular flanges *d d*, substantially as shown and described.

4. The arrangement of the rod or stem C, wedge D, with its projections *a a* and inclined planes E E, all substantially as set forth.

5. The combination and arrangement of the wedge D, inclined planes E E, projections *a a*, stops G G, and strips or guides H H, substantially as shown and described.

6. The arrangement of the wedge D, inclined planes and ways E E, F F, gates B B, stops G G, and stem C, substantially as set forth.

85,264.—WILBUR F. ARNOLD, New Britain, Conn.—*Lifting Jack.*—December 29, 1868.—A small pinion meshes into a rack on an upright, and is operated by a combined lever and pawl to raise a slide on said upright, which slide is held in position by another pawl meshing into the rack.

Claim.—The combination of the sleeve *d* with handle *f*, and projection *e*, rack *c*, pinion *k*, pawl *h*, and spring *i*, all combined and arranged substantially as described, and for the purposes herein set forth.

85,265.—JAMES AYRES, Branchville, N. J.—*Device for Sharpening Rails.*—December 29, 1868.—The rail is clamped to a feeding table, so as to be fed obliquely to the saw, and thus have its corners cut off. The clamp is swiveled and may be released to change the position of the rail, so as to bring its corners successively under the action of the saw, without detaching the rail from the clamp.

Claim.—The swiveled holding and clamping block H, and the rock shaft G, arranged and operating as described.

85,266.—EARLE C. BACON, New York, N. Y.—*Pitman.*—December 29, 1868.—A rod is extended through the pitman, and so connected with the bearing brasses at both ends that when a key is driven in, or withdrawn, at one end, the brasses will be tightened or loosened at both ends.

Claim.—1. The rod F, or its equivalent, in combination with the bearing brasses to a pitman and connecting rod, &c., when the rod F, or its equivalents, is arranged within the pitman or connecting rod, &c., for operation upon one set of the bearing brasses thereof, substantially as and for the purpose described.

2. The rod F, or its equivalent, in combination with the bearing brasses, to a pitman and connecting rod, &c., and a gib, key, and strap, or their respective equivalents, when all arranged together for operation, substantially as and for the purpose described.

3. The plate N, interposed between bearing brasses and rod F, substantially as described, for the purpose specified.

85,267.—HARRY J. BAILEY, Pittsburg, Pa.—*Hydrant.*—December 29, 1868.

Claim.—1. A double-faced valve *a*, so made as to close down on the supply pipe, to cut off the flow of water, and upward against the stationary packing ring *b*, to close the waste, substantially as hereinbefore set forth.

2. The waste groove *i* of a hydrant, in the outer face of the outlet pipe, so arranged, relatively to the annular stationary packing ring *b* and valve *a*, as to be opened and closed by the closing and opening of the valve, and so as to be removable, substantially as and for the purposes hereinbefore expressed.

3. The outlet pipe B, working vertically through the stationary packing ring *b*, to open and close the valve, substantially as and for the purposes hereinbefore set forth.

85,268.—SALMON BELDEN and JOHN FRANKLIN CRABTREE, Visalia, Cal.—*Breech-loading Fire-arm.*—December 29, 1868.—As the breech block rises by half cocking the gun, its two parts separate, and the empty shell is held at one side of the chamber, so that the entrance of a new cartridge will eject it, the entering cartridge being retained by a stop on the other side until the breech block has been returned to its place, and the two sides closed, which is done by fully cocking the gun.

Claim.—1. The double sliding breech block C, with chamber J, and the opening spring *b*, the whole constructed and operating substantially as and for the purpose herein described.

2. The lever B′, and the two operating pins I and K, on the tumbler D, or an equivalent device for elevating and depressing the breech block at one motion, substantially as described.

3. The bent spring *g*, for holding the shell to one side, substantially as herein described.

4. In combination with the barrel A and magazine D, the double-sliding breech block C, the lever B′ with its two operating pins I and K, and the shell-extracting spring *g*, the whole operating as a repeating arm, substantially as described.

85,269.—SALMON BELDEN, Visalia, and JOHNSON P. FORD, Santa Clara, Cal.—*Expansion Wagon Wheel.*—December 29, 1868; antedated December 24, 1868.—The wedges are driven between the arms of the clamp, at each side of the wheel, to force together the sections of the felloe.

Claim.—The double clamp E E and wedges F F, for forcing the joints of the felloes together, substantially as described.

85,270.—Samuel Benson, Allegheny City, Pa. —*Pump.*—December 29, 1868.—The grating protects the valve, and the valve box is applied in such a manner that it may be removed with facility when the valves are to be removed. The method of applying the valve box is designed to secure a more durable structure than the ordinary pump in which the box is fastened by screws.

Claim.—A valve box *d*, resting against and inclosing the lower end of a bilge-water pump, such box having a grated bottom d', flap valves *o*, of India-rubber or other like material, and being secured to the pump tube *a* by screw bolts *m* and nuts *n*, substantially as and for the purposes hereinbefore set forth.

85,271.—David P. Bird, Richwood, Ohio.—*Flood Fence.*—December 29, 1868.—The force of the current or of floating drift wood during a freshet draws the braces from their moorings and prostrates the fence. The fence may be thus thrown down without injury, and set up again at will.

Claim.—The eye bolts B, to which the posts *a* of the panels are hinged, in combination with the braces D and their wedges, substantially as and for the purpose described.

85,272.—C. W. Brewer, Racine, Wis.—*Churn.* —December 29, 1868.—The churn has three compartments, the dasher operating in the central one, in such a manner as to force the cream through openings in the partitions into the outer compartments, whence the cream returns to the dash chamber.

Claim.—The combination of the circular box A and box H with movable T-shaped partitions B B, boards E E, and shaft F, with its arms G G, all constructed, arranged, and operating substantially as herein set forth.

85,273.—William Bunton, Pittsburg, and John Davis, Birmingham, Pa.—*Method of Rolling Bars of Metal.*—December 29, 1868.—Round or oval and flat or square bars of iron are rolled from a flat bar, which is passed through on its edge between rolls grooved for forming the square and round parts successively, the thickness of the bar to be operated upon being somewhat less than the breadth of the grooves, to afford room for the spread of the iron, without its being forced into the "parb" of the rolls.

Claim.—The method, herein described, of rolling successively different sections of a bar of metal to different forms.

85,274.—George E. Burt, Harvard, Mass.—*Harvester.*—December 29, 1868.—The revolving cutter shaft is constructed with a series of thimbles or sleeves, so arranged that all the revolving shears are effectually held in their proper position by a single screw-nut on the end of the shaft. Two sets of guards are attached to the cutter bar, the upper set being so arranged as to cover the space between the lower set.

Claim.—1. The combination of the lower guard finger B, the upper guard finger A, the stationary cutter *a*, on the upper guard finger, and the vertically revolving cutter I, all arranged and operating substantially as described.

2. The combination of the revolving shaft F, the cutters I I, the collars N, held in position by the screw nut *m*, substantially as described.

3. The stationary cutters *a*, when attached to the guard finger by a bolt in such a manner that said cutters may be removed, ground, and replaced without disturbing the moving cutters, substantially as herein set forth.

4. The spring L, when so arranged and applied that it will tend to lift the outer end of the cutter bar, substantially as described, for the purpose set forth.

5. The rotary cutter I, so arranged that, if submitted to undue strain, it will yield to the pressure, and allow the shaft to turn without injury to the machine, substantially in the manner and for the purpose set forth.

85,275.—George E. Burt, Harvard, Mass.—*Horse Rake.*—December 29, 1868.—A lever and springs are so combined with the teeth as to enable the operator to hold the teeth down in heavy hay, and yet allow each tooth to spring upward, in order to override high abrupt obstacles.

Claim.—1. The tooth A, when pivoted to and held in position by two independent arms, B and C, substantially as described for the purpose set forth.

2. The arrangement of the tooth A, bars B and C, and springs *v*, the whole operating in the manner and for the purpose described.

85,276.—John Burt, Fall River, Mass., assignor to himself, and Willet M. Slocum, same place.—*Wrench.*—December 29, 1868.—The spring maintains a continuous pressure on the nut, so that when the nut is removed from the bolt the wrench holds it.

Claim.—Spring C^1, constructed, applied, and operating as herein set forth, for the purpose specified.

85,277.—Thomas Bushby, Manchester, England.—*Pill-making Machine.*—December 29, 1868; antedated December 17, 1868.—The feeding mechanism and a knife deliver the material to the space between the roller and segmental plate in the form of bars or strips. The latter are caught by the roller and cut into pieces, which, in passing and being rolled between the roller and segmental plate, are shaped into pills.

Claim.—1. The combination, with grooved roller I, of the segmental grooved plate L, substantially as and for the purpose described.

2. The combination of the grooved rollers, segmental plate, and the reciprocating knife, substantially as and for the purpose described.

3. The feeding mechanism, constructed as described, in combination with a pill-forming mechanism, substantially as and for the purpose set forth.

85,278.—Hampton R. Camfield, Susquehanna Depot, Pa., assignor to himself, John H. Fitz Simmons, and George Boyd, same place.—*Steam Port of Steam Engine.*—December 29, 1868.—Has reference to valves for promptly releasing the inactive steam from the cylinder. These valves are inserted in the induction ports, and are opened by the escape of the exhaust steam and closed by the motion of the slide valve.

Claim.—1. The construction of releasing devices F, having two or more bearings or hinges, substantially as described.

2. The combination of the device F with the seat B and valve A, as set forth.

85,279.—Angus Campbell, Downieville, Cal.—*Derrick.*—December 29, 1868.—The truck is made to slide on the boom, and the latter is braced by an endless rope without interfering with the motion of the truck. A safety hook is employed to adjust and suspend the tripping device.

Claim.—1. The truck D, consisting of the bow *a*, swinging frames *b c*, and concave rollers *d*, substantially as herein shown and described.

2. The rope G, when arranged as described, to brace the boom, by being fastened to the truck sliding thereon, for the purpose of relieving the topping lift C, as specified.

3. The hook H, having the nut *x*, ring *w*, and link *v*, arranged substantially as and for the purpose herein shown and described.

4. The chain O, bar P, lever R, and arm c' in combination with the hook H, nut *x*, ring *w*, and link *v*, arranged as described for the purpose specified.

85,280.—Duncan McDougald Campbell and John Stevens, Oswego, N. Y.—*Marble-sawing Machine.*—December 29, 1868—Guide blocks are provided with rollers, over which the belts pass, are secured within slots on each side of the saw frame, by which the saws are readily adjusted to operate at various angles and at different distances from each other.

Claim.—The laterally adjustable guides *e e*, rollers *k k*, belts *f f*, and clamping loops *n n*, in connection with the saws G *g h* and feeding frame B, all constructed and operating as herein shown and described, and for the purpose set forth.

85,281.—John Carlin, New York, N. Y.—*Game called Vinco.*—December 29, 1868.—A board similar to a chess board, is divided in thirty-five squares, 5 by 7, of uniform color. A king, aided by his captains and guards, endeavors to capture a central castle defended by a general and his aid.

Claim.—The arrangement of a new game, as is fully explained in the above.

85,282.—S. D. Carpenter, Madison, Wis.—*Revolving Harrow and Cultivator Combined.*—December 29, 1868.—When distended to the full length of the rear curved bars, the toothed bars rotate and act as harrows, but when contracted to pass between rows of corn they act as cultivators without rotating.

Claim.—1. The revolving bars F, in connection with the universal joint at G and *h*, as and substantially for the purpose set forth.

2. The combination of the block A, the revolving bars F, the stationary bar E, the adjustable curved bars H and I, the bearing pin *h*, and the slotted wrist bearing G, as and for the purposes herein set forth.

85,283.—Thomas S. Clark, Lena, Ill.—*Blacksmith's Forge.*—December 29, 1868.—The fire rests on a so-called "fire cup" located just below an orifice in the apex of a dome-shaped hearth, so arranged that it may be turned over to allow the ashes to fall through a tube which passes vertically through the air chamber. A second dome is placed inside of the outer or hearth dome, and the blast passes through the space between the two domes to the fire.

Claim.—The combination, substantially as set forth, in a blacksmith's forge, of the turning fire-cup, the two flanged domes, forming the air conduit, and the blast regulating valve, for the purposes specified.

85,284.—Elisha H. Cook, Clarendon, Mich.—*Seed and Fertilizer Sower.*—December 29, 1868.—Two of the three horizontal arms are fixed in the shaft, and operate respectively the slides for depositing the seeds and the plaster. The other arm is connected to the crank shaft.

Claim.—1. The flaring notches *f* in the reciprocating feed bar D, in combination with the seed hopper B, having a perforated bottom, substantially as and for the use specified.

2. The mode of operating the reciprocating or vibrating feed devices of a plaster and seed hopper, by the arrangement and combination therewith of the three-armed rocking shaft J, connecting rods *r*, R′ R″, and driving crank E, substantially in the manner as set forth.

85,285.—Charles S. Coolidge and Joseph A. Rollins, Jersey Mills, Pa.—*Portable Fence.*—December 29, 1868.—The notched ends of two of the panels fit into notches in the post, and the lower panels are secured in position by a button in the post.

Claim.—The post A, when provided with the upper notch *a a* and side notch *b b b b b*, in combination with the ends of the rails C D, and the button G, arranged as specified.

85,286.—William Corfield, Philadelphia, Pa.—*Distilling Apparatus.*—December 29, 1868.—The material for distillation is heated by direct application of steam before the same is introduced into the distilling apparatus, so that the process of distillation is rendered continuous, and not liable to interruption.

Claim.—1. The combination, with a still, of an auxiliary closed vessel or vessels, B, with the valve *e* intermediate between the receiver into which the material is first pumped and an upper chamber of the still, M, for the purposes specified.

2. The introduction into the closed vessel B of the steam pipe *m*, terminating therein, for the purpose of agitating and heating the material contained in said closed vessel, preparatory to its introduction into an upper chamber of the still, the whole arranged substantially as and for the purposes specified.

3. The communicating pipe *h*, provided with the safety valve *i*, as and for the purposes specified.

4. Heating the mash, beer, or other substance by discharging steam in broken or continuous jets into the preparatory vessel or vessels before depositing said material in the still, or subjecting it to the distillatory process.

85,287.—William Corfield, Philadelphia, Pa.—*Distilling Apparatus.*—December 29, 1868.—A combination of the well-known still, column, &c., with an auxiliary heating chamber, for securing a continuous process of distillation.

Claim.—1. The combination of the still A, the pipes *a* and *b*, and the column B, goose C, and worm D, with their usual respective connections and attachments, together with the auxiliary closed vessel E, and the pipe *c*, and pipe or valve *d*, as and for the purposes specified.

2. Heating the mash, beer, or other substance, before being used in the process of continuous distillation, in an apparatus composed of the ordinary whisky still, the ordinary alcohol column, and the goose, worm, and attachments, substantially as and for the purposes specified.

85,288.—Joseph H. Davis, Allegheny, Pa.—*Stop Valve for Steam and Other Enginery.*—December 29, 1868.—A slight bend is made in the coupling pipe by which the latter can be made of the same diameter with the valve chamber.

Claim.—The construction and combination of the valve chamber of a "valve cock" with a coupling pipe, whereby the bore of said pipe, chamber, and opening in the valve-seat shall, under all sizes of construction, be the same, substantially as herein described.

85,289.—Thomas S. Davis, Jersey City, N. J.—*Steam Engine Exhaust Valve.*—December 29, 1868; antedated December 23, 1868.—The valve is so arranged as to freely open to allow the exhaust steam to escape from the cylinder and close the moment the pressure becomes equal to or less than that of the atmosphere within the smoke box, so as to prevent the entrance of cinders, &c., to the cylinder.

Claim.—The construction of the valve B, and its arrangement with the seat D, guide bar F, and exhaust passage A, substantially as herein set forth.

85,290.—Le Grand Dodge, Syracuse, N. Y.—*Shutter Fastener.*—December 29, 1868.—The rod which opens the blind is held in position by the friction of the cam portion of the pivoted lever, so as to retain the blinds at any desired point of their swing.

Claim.—The lever, pivoted centrally at *h*, and provided with a cam-shaped end and a weighted handle, *f*, when used in connection with the pinion formed on the hinge and the plain bar E, to press the latter down in its seat, and, simply by friction therewith, preventing its movement, as herein set forth.

85,291.—Lewis Dodge and Lewis J. Magnusson, Chicago, Ill.—*Concrete-block Machine.*—December 29, 1868.—The follower is attached to the upper part of a knuckle-joint lever connected by a pitman to an eccentric shaft, so that the follower is operated twice at each revolution of the wheel. A double spout leads from the hopper and is divided into compartments by transverse slides.

Claim.—1. The combination of the eccentric O, pitman *t*, arms *b* and *d*, and the independently-movable follower C, operating in connection with the mold *m* and cover I, all constructed and arranged to operate as herein described.

2. The mixing tub or hopper F, provided with the gates *k* and spouts T, having the slides *i* and *g*, arranged therein, all substantially as set forth.

85,292.—William A. Dryden, Monmouth, Ill., assignor to himself and John M. Turnbull, same place.—*Cultivator.*—December 29, 1868.—The axle is cast with a vertical spindle, on which and to which the plows may be hinged.

Claim.—The metal axle, with a vertical coupling spindle, F, cast thereon as a part of the same, substantially as described and for the purpose set forth.

85,293.—Henry S. Fairbanks, Central Falls, R. I.—*Machine for Drilling and Boring Flanges of Pipes and Cylinders.*—December 29, 1868.—The drill stock is arranged horizontally in a radial slot passing through a vertically-rotating face plate, and is adjustable in relation to the center of the said face plate.

Claim.—In combination with the rotary head B, the drill arbor *k*, the driving shaft *p*, and the gears *m o*, arranged as set forth, the connection gear *n*, the movable box *e*, and their adjusting devices, substantially as described, applied to them and the head B, whereby the box *e* may be adjusted and fixed at different radial distances relatively to the axis of the head B, and the gear *n* may be adjusted and fixed so as to engage with the gears *m o*, after any such adjustment of the said arbor, the whole being for the purpose and to operate as explained.

85,294.—Amos Fellker, Bay City, Mich.—*Hanging Saws.*—December 29, 1868.—An oscillating motion is given to the saws by means of suitable connections at top and bottom of the frame, so that on their upward motion they will be thrown from the cut to allow the sawdust to fall.

Claim.—The arrangement of the horizontal pitman O, saw frame H, rock shaft F, having eccentric journals M, pitmen E and L, and stationary shafts J and P, all arranged to operate the saw frame H, substantially as and for the purposes set forth.

85,295.—Henry Fininley, New York, N. Y.—*Curtain Fixture.*—December 29, 1868.—Depending from the bracket is a stem provided with two friction rollers, between which and the upper pulley the cord is crossed. The weight of the curtain is sustained by lateral pressure exerted by an elastic ring upon the recessed surface of the pulley and upon the washer.

Claim.—1. The curved brackets *a* and *a′*, with the spur *g* and feet *f f*, attached to the casing, by means of the eye *h*, substantially as and for the purposes set forth.

2. The pendent stem *b*, (cast upon the bracket,) the friction rolls *o o*, guard *p*, cord *l*, and pulley *k*, all arranged to coöperate substantially in the manner and for the purposes set forth.

3. The general arrangement and combination of the pendent stem *b*, friction rolls *o o*, recessed pulley *k*, elastic ring *m*, washer *n*, and shaft *i*, the latter having its outer end riveted or upset, as shown, all arranged to co-operate substantially as and for the purposes set forth.

85,296.—R. H. Fisher, Beaver Falls, Pa., assignor to Beaver Falls Cutlery Company, same place.—*Knife.*—December 29, 1868.

Claim.—The knife A, provided with two slots *a a*, and handle B, cut with a tenon, which projects between said slots, in combination with the bolster C, all constructed substantially as herein set forth.

85,297.—William Hutson Ford and Samuel Logan, New Orleans, La., assignors to Wheelock, Finlay, and Company, same place.—*Disinfectant or Ozone Generator.*—December 29, 1868.

Claim.—The compound herein described; that is to say, the combination of acid sulphates, in the form of dry powder, with alkaline permanganate, substantially in the proportions herein given, with or without the admixture of a chloride or other deliquescent substance, as a joint disinfectant and ozone generator.

85,298.—Dan P. Foster, Waltham, assignor to himself and N. M. Lowe, Boston, Mass.—*Suspending Clamp.*—December 29, 1868.—The connecting link operates to raise both cams when one of the same is pushed up.

Claim.—A suspending clamp, formed of two segment cams B B′, pivoted to the supporting frame A, and connected by a link, C, substantially as described, and for the purpose set forth.

85,299.—Samuel M. Gaines, Glasgow, Ky.—*Method of Teaching the Rudiments of Chemistry.*—December 29, 1868.—Simple elementary bodies are represented by cubes, hydrogen being taken for the base, and so increasing according to the relative weight of the bodies.

Claim.—1. The method of teaching the rudiments of chemistry by means of movable material bodies, varying in size, and marked with numbers, so as to represent the relative weight of the ultimate particles of matter of different chemical substances, known as simple or elementary bodies, substantially as described.

2. A series of movable material bodies, varying in size, and marked with numbers, so as to represent the weight of the ultimate particles of matter of different chemical substances known as simple bodies, substantially as and for the purpose set forth.

85,300.—Alfred C. Garratt, Boston, Mass.—*Voltaic Pile for Medical Purposes.*—December 29, 1868.—Plates of zinc and copper are soldered together and attached in pairs by a thread to a flexible non-conducting base, each pair being insulated from the next pair by a strip of rubber cloth.

Claim.—An electro-physiological battery, constructed by arranging a series of pairs of dissimilar metal plates, as elements completely insulated from each other, and from the base, as described, and the plates of each pair firmly connected, as shown, all arranged upon a flexible non-conducting base, as and for the purposes described in this specification.

85,301.—William Gates and David J. Lloyd, Frankfort, and Samuel Miller, South Hammond, N. Y., assignors to William Gates.—*Machine for Making Paper Boxes.*—December 29, 1868.—An adjustable stop prevents the plungers from casually moving too far back. The stationary cam causes the rear end of the plungers to be pressed toward the center of the plate in which they move. The springs allow the folding jaws to accommodate themselves to the different thicknesses of paper to be folded. The pressure roller comes in contact with and smooths the lapped surfaces of the paper on the plungers.

Claim.—1. The moistening of one edge, *c*, of the continuous paper roll E, by means of a wooden and a metal roller, $D\ D^{\times}$, applied to a paper box, substantially as shown and described.

2. The elevated paste fountain F, arranged in connection with the paste boxes $G\ G^{\times}$, substantially in the manner as and for the purpose set forth.

3. The plate M, provided with the radial recesses $j^{\times}$, block *k*, guide pins *l*, and springs *m*, all arranged as shown, for the purpose of balancing the plungers, as set forth.

4. The plate O, in combination with the plate M, for the purpose of keeping the plungers in place during their operation, or when forced down in the recesses $j^{\times}$ of the plate M.

5. The adjustable stop P, arranged in relation with the plungers L, substantially in the manner as and for the purpose set forth.

6. The stationary cam R, placed relatively with the plate M, for the purpose of regulating the movement of the plungers, as set forth.

7. The adjustable stops *w*, in the hub *a′* of the plate M, for the purpose of limiting the inward movement of the plungers, as specified.

8. The application of the springs *p′* to the folding jaws *q*, substantially in the manner as and for the purpose set forth.

9. The finishing or pressure roller K′, when arranged or applied in the manner substantially as and for the purpose set forth.

10. The discharging fork or slide N′, provided with the rods *s′ s′*, and operated in the manner substantially as and for the purpose set forth.

85,302.—Joseph G. Guthrie, Pittsburg, Pa.—*Railway Car Brake.*—December 29, 1868.—To the outer ends of the levers are pivoted the brakes, which are held in the desired position by pivoted guides.

Claim.—1. The arrangement of the levers D, provided with spring bearings, and used in connection with guided shoes, hereinbefore described, and for the purpose set forth,

2. The pivoted guides 5, when used in connection with the brakes *l*, as herein described, for the purpose set forth.

85,303.—John D. Hadfield, M. D., Cincinnati, Ohio.—*Mode of Treating Diseases by Vacuum.*—December 29, 1868; antedated December 15, 1868.—By the arrangement of the tube and two-way cock the air pump can be used to exhaust two vessels at once. The rests can be adjusted without removing the limb or admitting air.

Claim.—1. The combination, with the chamber of an air pump, of the tube or tubes B, with the passage or hole *n*, and the cock C, having the passages *a* and *e*, arranged substantially as described.

2. The combination of the external adjustable rests E with the vacuum vessels D, substantially as described.

85,304.—James E. Halsey, New York, assignor to himself, Morris H. Smith, and Samuel F. Noyes, Brooklyn, N. Y.—*Foundation for Railroad Tracks.*—December 29, 1868.—The cross ties are laid upon, or partially in, a bed of stone and earthy material, cemented together by asphaltum, coal tar, or other bituminous material.

Claim.—A foundation for railway ties, formed in the manner and for the purposes specified.

85,305.—E. B. Harding, Northampton, Mass.—*Truss.*—December 29, 1868.—An improvement on his patent of August 20, 1868. The auxiliary pad rests above the hernia, and forms a fulcrum for the main pad.

Claim.—The construction and arrangement of the hinged auxiliary pad C, connected to the main pad of truss by means of the extension arm B, and to the belt by means of auxiliary straps D and D, substantially in the manner and for the purpose described.

85,306.—Uriah W. Hardy, Abingdon, Ill.—*Gate.*—December 29, 1868.—On pulling down the lever the latch bar is drawn back by the action of the pivot hinges and the rod. When the gate has been raised to an angle of 45 degrees the weight carries it to a vertical position.

Claim.—1. The manner of attaching the horizontal bars *b b b* to alternate sides of the post A and cross bars *k k*, with bolts and washers to prevent friction, in such a manner that they will fold closely together, and making the hinge post A supply the place of a cross bar to the gate, and the rod R, and guide bar, (Fig. 4,) all operating in combination, substantially as described and for the purpose set forth.

2. The combination and arrangement of the levers D D, the rods, ropes, or chains *f f*, the latch bar L, the hinges *h h h*, and the rod R, acting with a proper adjustment of the weight *c*, substantially as described and for the purposes set forth.

85,307.—Francis P. Hart, Strasburg, Pa., assignor to himself and Samuel Kneagy, same place.—*Breaking the Surge on Harness or Vehicles.*—December 29, 1868.—A flat piece of rubber is inserted between the plates near that part of the trace attached to the singletree.

Claim.—The application of a flat piece of gum elastic G, introduced between the plates or straps A B T, when constructed substantially in the manner shown and described, for the purpose specified.

85,308.—Russel P. Hinds, Chicago, Ill.—*Paint Composition.*—December 29, 1868.—Composed of asphaltum, litharge, gum shellac, hot residuum of coal tar, rice flour, naphtha of coal tar, naphtha of petroleum, unslaked lime, and china clay.

Claim.—1. The composition for paint, composed of the ingredients herein specified, or their equivalents, compounded substantially as herein described.

2. The application of unslaked lime, in connection with gasoline or naphtha, for the purpose of causing it to unite with other ingredients used to constitute a composition paint.

85,309.—William Johnson, Philadelphia, Pa.—*Cock for Water Pipes.*—December 29, 1868.—When the stem is depressed for drawing water the conical rubber valve is forced away from the main body, so as to allow water to pass through inlet holes in the packing box. When the valve is closed the water passes out of the stem through a waste hole above the packing.

Claim.—1. The hydrant water cock, made by the thick conical rubber valve H upon the sliding stem K; the said valve bearing against the interior of the conical body A, and being operated by the hollow stem M, through which the water passes, the parts being combined in the manner substantially as set forth.

2. The combination of the bottom cap D, body A, conical valve H, hollow stem M, and stuffing box B, arranged in relation to each other; substantially as shown and described.

85,310.—John W. Jordan, Lexington, Va.—*Butt Hinge.*—December 29, 1868.—The eye of one leaf screws on to a helical pintle on the other leaf, so that the shutter or door is raised as it is opened to clear the carpet or sill piece.

Claim.—Fitting the eye bracket *b* of the hinge leaf B upon the helical or screw pintle C, between the eye brackets *a a* of the leaf A, so that the eye bracket of leaf B is free to traverse up and down upon the pintle, between the eye brackets *a a*, substantially as and for the purpose described.

85,311.—William Kerr, Jr., and Joseph A. Robbins, Boston, Mass.—*Fountain Comb.*—December 29, 1868.

Claim.—1. As an improved article of manufacture, a comb whose teeth are hollow, and capable of containing liquid, for the purpose substantially as before explained.

2. A comb, having its body and teeth hollow, and with the latter foraminous or punctured, in order to allow of escape of liquid therefrom, in manner and to operate essentially as herein shown and described.

3. In combination with a comb, the body and teeth of which are hollow, an elastic bulb, or its equivalent, for the purpose of filling and emptying such comb of its liquid contents, substantially as hereinbefore explained.

85,312.—L. W. Kimball, Pittsford, Vt.—*Molding, Cornice, and the Like, from Paper.*—December 29, 1868.—An improvement on his patent of August 16, 1868. The hollow sections are braced by internal stays.

Claim.—The molding or cornice A, when constructed of paper, provided with internal braces or stays A′, in the manner substantially as and for the purpose specified, as a new article of manufacture.

85,313.—Joseph S. Kirk, Pittsburg, Pa.—*Food for Animals.*—December 29, 1868.

Claim.—An improved article of food for animals, composed of hay, corn, oats, or barley, or all of them, ground and mixed together, in the proportions herein named, and pressed into suitable packages for transportation.

85,314.—J. E. Long, Norway, Me.—*Staging.*—December 29, 1868.—The ends of the portable staging support are provided with toothed plates, which fit into the roof and prevent the scaffolding placed on said support from slipping.

Claim.—The improved portable and self-fastening staging, as described, and for the purposes set forth.

85,315.—John Leib, Akron, Ohio.—*Washing Machine.*—December 29, 1868.—The pressure on the rubber can be varied by adjusting the elastic notched arms on the collar.

Claim.—The peculiar arrangement and combination of the frame piece H with the elastic arms I I, having notches *k k* cut therein, the collar K, with beveled inner end faces, the spring L, presser J, and axle arm N of the rubber frame, the several parts being arranged and combined substantially as and for the purpose herein specified.

85,316.—John Lewis, New York, N. Y.—*Shingle.*—December 29, 1868.—Recesses are made in the thick ends of the shingles, to prevent the water from being drawn by capillary action between the lower end of one shingle and the surface of the one below. A rib between the recesses covers the joint of the lower shingles.

Claim.—A shingle, formed with the recesses *b b* and rib *c* upon the under side, at the lower portion, for the purposes set forth.

85,317.—CURTIS O. LUCE and CYREL W. GREEN, Brandon, assignors to themselves and CYRENIUS M. WILLARD, Castleton, Vt.—*Stone-quarrying Machine.*—December 29, 1868.—A reciprocating saw, armed with diamond points, is so formed as to cut from the terminal holes formed by the drills, both saw and drills operating simultaneously.

Claim.—1. The reciprocating saw F, provided with diamond teeth f^{x} and f^{x1}, arranged substantially in the manner described.

2. Constructing the saw blade F^1, with rigid ends projecting beyond the end bars f^{4} of the frame, substantially as represented.

3. The combination of a reciprocating saw, F, with a drill or drills, P, employed to free the ends of the saw kerf or channel, substantially as described.

4. The combination of the driving shaft B, mounted in an adjustable box or bearing, *b*, the crank B′, connecting rods C E, slides E *e*, and guide rod G, with the saw F, all constructed and operating substantially as described, for the purposes specified.

5. The combination of the saw F *f* f^1, cross head H *h h′*, screws H′, vertical guide rods I, gear nuts J, idle wheel K, and ratchet lever L *l*, or its equivalent, substantially as and for the purpose described.

6. In combination with the drills P, the shafts B N R, bevel gearing B^2, N^1, N^2, R^1 R^2, P′, and forks S, for the purpose of adapting said drills to receive a continuous rotary motion, or be separately stopped, substantially as set forth.

7. In combination with the revolving drills P, the cam bars Q *q*, operated by means of the saw F and presser bar H, in the manner described, to reciprocate and feed said drills.

85,318.—MORRIS MATTSON, New York, N. Y.—*Breast Pump.*—December 29, 1868.—An improvement on his patent of September 8, 1868. A loose floating valve, such as described in his patent of April 4, 1854, is employed.

Claim.—The combination, with a vacuum glass, of an exhausting mechanism or instrument, having or employing a single valve or valvular apparatus, substantially as and for the purposes set forth.

85,319.—ROBERT Y. MCCONNELL and GEORGE PRINGLE, Rochester, N. Y.—*Street Sweeper.*—December 29, 1868.—An improvement on their patent of December 10, 1867. The wings throw the dirt swept past their projections within reach of the brooms.

Claim.—1. The application of the projecting contracting wings y^2 to the plate y^2 of apron H^2 for the purposes herein shown and described.

2. The relative arrangement of apron H^2 with the broom shaft L, operating substantially as and for the purpose set forth.

85,320.—HUGH MCDONALD, Pittsburg, Pa.—*Shield for Puddling Furnaces.*—December 29, 1868.—A hollow shield, through which water passes, is provided with a hollow sliding door for operating the furnace.

Claim.—Providing furnaces, used for the manufacture of iron or steel, with a shield, unattached to the furnace, and so constructed and arranged, with relation to the furnace, that a body of cold water will be between the workman and the furnace, as herein described, and for the purpose set forth.

85,321.—J. H. MCELROY and JAMES H. HOLLY, Warwick, N. Y.—*Door Fastener.*—December 29, 1868.—The alarm mechanism, placed in one of the plates, operates, when the door is opened, by means of a catch sliding back and releasing the escape wheel.

Claim.—The combination of the door fastener A B *a* and the alarm mechanism, constructed substantially as shown and described, for the purpose specified.

85,322.—THEODORE J. MCGOWAN, Cincinnati, Ohio.—*Hydraulic Pressure Regulator.*—December 29, 1868.—The object of this invention is to allow the water to escape when pressure is in excess of the resistance, without stopping the pumps.

Claim.—1. In a hydraulic pressure regulator the piston A, provided with the means shown at Figs. 3 and 4, for the surplus water to escape, when the hydraulic pressure regulator contains more than sufficient water to produce the power required, as previously regulated by the weight on the lever P, substantially as and for the purpose specified.

2. An automatic hydraulic pressure regulator, containing the piston A, having the means of escape, *c c*, for the water, and aperture I, the nut L, having the space X, with the packing B, as and for the purpose specified.

85,323.—JOHN M. MILLER, Cincinnati, Ohio.—*Carriage Spring.*—December 29, 1868.—This device dispenses with perches and with inflexible connections between the axles.

Claim.—The rocking spring bars D, fulcrumed to the body sills, and connected at their outer parts to the axle or axle beds, and at their inner ends to central springs B attached to the body sills.

85,324.—JAMES W. MILROY, Galveston, Ind., assignor to himself and S. B. SHANER, Xenia, Ohio.—*Corn and Cotton Plow.*—December 29, 1868.—The right and left hand plows run in nearly the same track. The front plow throws the dirt from the row, and the rear plow throws the dirt thus pulverized back to the row.

Claim.—The combination of the right and left mold-board plows A and B, substantially in the manner and for the purpose as herein described.

85,325.—JOSEPH MONTGOMERY, Baltimore, Md.—*Grain Cleaner.*—December 29, 1868; antedated December 22, 1868.—The shoe has bearings on a shaft, one end of which receives a vertical motion and the other a vibratory motion when the shoe is reciprocated.

Claim.—1. Wheels D, in combination with plates F and shoe P, substantially in the manner and for the purpose as described.

2. The combination and arrangement of plates A, rods B, shafts C, wheels D, axles or shake rods E, and boxes R, plates F, bars or slides L, and supports M, substantially as described.

3. The adjustable curved or corrugated plates or bars G and H, separately, or in combination with stationary plates, for the purpose as described.

4. The combination and arrangement of the braces K, rod C, and shoe P, substantially as described.

85,326.—JOSEPH H. MOORE and JOSEPH E. GARY, Chicago, Ill.—*Car Brake.*—December 29, 1868.—An improvement on their patent of February 11, 1868. By means of the cord and lever the pressure of the friction wheel operating the brakes can be regulated.

Claim.—1. The friction wheel, composed of a disk D, and band E, and regulated by the friction clutch, substantially as and for the purposes specified.

2. The friction wheel D E and shaft F, in combination with the lever G and cord H, for bringing the friction wheel in contact with the sleeve C or axle, substantially as specified.

3. The cord H, lever G, wheel D E, and shaft F, with the chain *f*, and levers for operating the brake bars, substantially as specified.

85,327.—CESARE OSMANI, Tolentino, Italy.—*Tanning Hides and Skins.*—December 29, 1868; patented in England, January 23, 1868.

Claim.—The subjecting hides and skins to the action of a bath of mustard seed or oil of mustard, substantially as herein described, to open the pores of the skins, and thus render the process of tanning them by bark or other tanning material much more speedy than has heretofore been practicable.

85,328.—NANCY PATTON, Kansas, Ill.—*Composition for Preserving Eggs.*—December 29, 1868.—Composed of bituminous coal, charcoal, leached ashes, lime, common salt, saltpeter, borax, cream tartar, and soda.

Claim.—The dry composition, compounded and prepared as herein described, for preserving eggs.

85,329.—Charles H. Reid, Danbury, Conn.—*Tool Holder.*—December 29, 1868.—The turning tool is held in a dovetailed recess in one side of a split stock, forming two jaws, which are clamped together by a screw. The planing tool is inserted in a cylindrical socket in the other end, and there held by a gib and screw.

Claim.—1. The improved tool holder A, when constructed as set forth, to hold both the tools H and I, in the manner described.

2. The tools H b, in combination with a tool holder, A, all constructed substantially as set forth.

85,330.—Charles G. Riggs, Turin, and Homer C. Markham, West Turin, N. Y.—*Milk Cooler.*—December 29, 1868.—Cool water is passed through the lower vat, and milk is made to flow over the bottom of the upper vat. Deflecting plates give a zigzag course to the liquids in order to retard the transit sufficiently to insure the cooling of the milk.

Claim.—The combination of the vats A and B, constructed and operating substantially as described.

85,331.—Thomas C. Robinson and George P. Clark, Boston, Mass.—*Steam Street Car.*—December 29, 1868.—Consists in the mode of applying the boiler and certain accessories, whereby the truck is adapted to turn on curves and switches without interfering with the supply of steam from the boiler to the propelling cylinders.

Claim.—1. In locomotive cars, the use of the boiler as a transient bolt, when arranged and used substantially as described.

2. In locomotive cars, when the boiler is used as a transient bolt, the transient ring, and the rollers to diminish friction, whether with or without the inner ring, all substantially as described.

3. In locomotive cars, with the boiler, transient bolt, and friction rollers, and transient ring, above described, the use of trunnions on the transient ring, all substantially as and for the purpose described.

85,332.—Robert W. Rogers, Pittsburg, Pa.—*Bridge.*—December 29, 1868.—The bridge consists of an arch constructed of subordinate arches whose lines of juncture converge to a common point, and which are connected in such a manner that they may be drawn tightly together.

Claim.—The construction and arrangement of bridges in sections, when supported, arranged, and connected together in the manner and for the purpose herein described.

85,333.—Roger Sandiford, Joliet, Ill.—*Land Roller.*—December 29, 1868.—The land rollers are so coupled together that they may travel in different planes, and left free to pass over obstructions independently.

Claim.—1. The combination of the hinged cross bar d, the hub i, and the double-oscillating coupling box c, all arranged, constructed, and operating as described.

2. The device called a knuckle, shown in Figs. 6 and 7, for the purpose of allowing an oscillating motion to the inner section of the tongue, in the manner and for the purpose set forth.

3. The mode of hinging the main frame to the cross bar d, by means of hinges, such as are shown in Fig. 8.

4. The rollers, constructed as set forth, with metal heads, having the staves dovetailed into the same, as set forth, in combination with the frame e, double oscillating coupling box c, hub i, and cross bar d, all arranged and constructed as and for the purposes set forth.

85,334.—Jeremiah L. Sayles, Gloucester, R. I.—*Expanding Drill.*—December 29, 1868.—The slide has an inclined tongue on each side, which fits in a groove on the inner surface of the cutters, and is operated by a screw which expands or contracts the cutting edge, as may be desired.

Claim.—The combination of the tongued slide D with the screw b and cutters B and E′, the whole constructed and arranged substantially as described, for the purposes specified.

85,335.—John Siddons, Rochester, N. Y.—*Hot Air Furnace.*—December 29, 1868; antedated December 15, 1868.—An additional chamber is formed by placing connecting plates between the air tubes, by which the heat is longer kept in contact with the air tubes. The plates are provided with exit ports, made largest toward the front of the furnace, to equalize the draft.

Claim.—1. The plates d, in combination with the air flues C, for the purpose of adding an additional caloric chamber to ordinary hot air furnaces, as herein shown and described.

2. The plates d, having suitable openings at the top, the caloric flues K, air flues C, in combination with inner and outer shells B, acting conjointly, substantially as and for the purposes herein shown and described.

85,336.—John Siddons, Rochester, N. Y.—*Machine for Making Rings.*—December 29, 1868; antedated December 17, 1868.—The wire is placed between the feed rollers and passed through a hole in the fixed cutting die. The forming die is then forced down by the eccentric, cuts off the wire and bends the ends. The forming dies, being brought together, the ends of the wire are joined together in the form of the bottom shaping iron.

Claim.—1. The forming dies F, and the forming and cutting die B, and the fixed cutting die b^2, in combination with the shaping iron a, all acting conjointly, for the purposes herein shown and described.

2. The eccentric cam wheel T, in combination with the die B, levers W, and forming dies F, as and for the purpose set forth.

3. The spring lever B^2, with its pin h and cam Y, in combination with the shaping iron a and reciprocating cutting die B, as and for the purposes herein shown and described.

4. The half-blank wheel R, pinion L, and shaft J, in combination with the feed rollers P^2 and P^3, all arranged in relation to the cam T, lever W, and cutting die B, as described.

85,337.—Samuel M. Skidmore, Brooklyn, N. Y.—*Velocipede.*—December 29, 1868.—Two large wheels in front are driven by means of levers attached to a crank axle, and operated by hand. Steering wheels are arranged in the rear.

Claim.—A "velocipede," arranged, constructed, and to operate substantially as described.

85,338.—John B. Smith, Sunapee, N. H.—*Machine for Making Clothes Pins.*—December 29, 1868.—In this machine a square billet of wood, of proper length, is carried to the cutters, turned, headed and slotted, by successive automatic movements, and delivered from the machine a finished clothes pin.

Claim.—1. The lifting and depositing arms G, constructed and operated substantially as described, to carry the blanks to and deposit the same upon the seats or pin rests i i^1, to be clamped by the turning centers.

2. The combination of the lifting and depositing arms G with the curved spring guide N, for holding the pin blank to the arms while being carried over to the turning centers, substantially as described.

3. The fixed and movable seats or pin rests i i^1, with the turning centers, operating substantially as described.

4. The grasping and carrying arm or goose neck W, constructed and operated substantially as described, to carry the turned pin from the seats or pin rests i i^1 to the seat y, to be slotted.

5. The combination of the seat y and the releasing springs y y', and their arrangement, in reference to the carrying arm W, the pushing arm X, and the clamping jaws q q, substantially as shown and described.

6. In combination with the seat y and spring holders y' y', the piston rod X, operating substantially as described.

7. The clamping levers 7 and 8, or their equivalent, in combination with the seat y, the piston rod X,

and the slotting saw Z, operating substantially as described.

8. The transverse traversing cutter carriage D, connected with and operating the longitudinally-reciprocating cutter gouge, substantially as described.

9. The transverse cutter carriage D, connected with and operating the seizing and carrying arm or goose neck W, substantially as described.

85,339.—J. B. Smith, Milwaukee, Wis., assignor to himself and George R. Chittenden, Chicago, Ill.—*Coffee Pot.*—December 29, 1868.—The water receptacle and side reservoir are filled with water, into which latter steam is admitted to cause the water to boil. A float in the reservoir operates a valve, to regulate the height of the water.

Claim.—1. Water reservoir A, coffee pot S, and steam pipe E, substantially as described.

2. Reservoir D, with float M and cock N, in combination with reservoir A, substantially as described.

3. Reservoir A, strainer B, gauge F, and coffee pot S, combined, substantially as described.

85,340.—John Joseph Charles Smith, Philadelphia, Pa.—*Clay Mold for Casting Metals.*—December 29, 1868.

Claim.—A mold made of moist clay powder, under high but slowly applied pressure, for use in casting metals, substantially as described.

85,341.—Henry F. Snyder, George S. Snyder, and William N. Jones, Williamsport, Pa.—*Casting Bearings for Machinery.*—December 29, 1868.—Into a suitably prepared mold is introduced a stave of brass upon which is poured the iron. After a short time the brass assumes a liquid form, the iron becomes solid, and the liquid brass ultimately cools.

Claim.—The within-described mode of producing compound boxes, of iron and brass, united together, forming the brass with a sinking head projecting above the iron, so as to aid in compensating for the difference of contraction of the parts in cooling, substantially as herein set forth.

85,342.—P. H. Starke, Richmond, Va.—*Plow.*—December 29, 1868.—The upper part of the standard extends forward in a line so as to form a fastening for a straight wooden beam.

Claim.—A plow standard, constructed and arranged so as to receive a straight wooden beam and handles, with suitable moldboard and landside, as shown and described.

85,343.—Adam Sternberg, Nettle Lake, Ohio, *Seeding Machine.*—December 29, 1868.—Valves over the holes in the seed box are opened by means of a lug as the shaft rotates, and are closed by springs. A reverse movement may be given to the shaft, so as to cause the lug to operate the valves at the proper time.

Claim.—1. The valves I, springs J, as constructed, arranged, and operated by the lug P, for the purpose substantially as set forth.

2. The arrangement of the cultivators K, spouts G, and forks L, for the purpose specified.

3. The levers C′ D′, pawl and lever B′ and A′, as arranged in combination with the roller D, for the purpose and in the manner as set forth.

85,344.—George Studer, Richmond, Ind.—*Apparatus for Pressing Cigars.*—December 29, 1868. A series of rods are arranged in a tubular form and secured together at one end, into which a newly made cigar is placed, and compressed by a ring on the other end.

Claim.—The combination of the rods or wires, and ring or rings, substantially in the manner described, and for the purpose set forth.

85,345.—W. H. Sullenberger, Harrisburg, Pa., assignor to himself and J. C. Martin, same place.—*Sash Stop and Lock.*—December 29, 1868.—The device is composed of a swiveled lever, a sliding wedge, an anti-friction roller, and a shifting rod, all connectedly attached, and so arranged on the side rail of a window sash as to act as a lock and a stop when the sash is closed or opened.

Claim.—1. The swiveled lever A, provided with the bolt O, the inclined arm H, and bearing *a*, the wedge C, provided with the flanges *m n*, bearings *w*′ the rod B, provided with the catches *b b*, all constructed substantially as herein set forth.

2. The lever A H O, in combination with the wedge C, anti-friction roller K, and rod B, when arranged to operate substantially in the manner as and for the purpose herein set forth.

85,346.—Emma Thrall, (administratrix of the estate of George W. Thrall, deceased,) and William L. Rayment, of Burlington, Mich.—*Corn Planter.*—December 29, 1868.—Cam disks are fitted to slide on the axle, and be clutched or unclutched by means of a lever, to operate the seed slides. The seed tubes are made with outside pivoted strips, to which are connected springs which act in opposite directions.

Claim.—1. The arrangement of the cam disks F, levers L^1 L^2, and the vibrating bars *p*, with the wheel axle E, seed slides *a*, and with the frame and hoppers of the machine, substantially as and for the purpose specified.

2. Constructing the seed-dropping tubes C, with vibrating sides *h*, when used, in combination with seed slides *a* and springs s^1 s^2, for the double dropping of the seed, substantially in the manner described.

3. The hinged marking rods R, in combination with the tubes C, substantially as and for the purpose set forth.

85,347.—William Van Anden, Poughkeepsie, N. Y.—*Railway Rail Chair.*—December 29, 1868.—Improvement upon his patent of September 18, 1866. The chair having corner bearing flanges, is provided with a perforated projecting base between them, by which the chair is prevented from rocking and cutting into the cross ties.

Claim.—The chair A, constructed as described, and having the bearing flanges *a a*, inclined sides J J, and perforations *e e*, all constructed and arranged as and for the purpose described.

85,348.—A. P. Winslow, Cleveland, Ohio.—*Stove for Railroad Cars.*—December 29, 1868.—Perforated pipes opening into the stove are connected with the tank, so that in case the stove is turned over the water in the tank will be thrown upon the fire.

Claim.—The tank, as specified and shown, which constitutes at the same time a base or bottom for a stove, and a tank for the purpose of carrying water to be utilised in extinguishing the fire in the stove in case of accident.

85,349.—George W. N. Yost, Corry, Pa., assignor to Corry Machine Company.—*Harvester.*—December 29, 1868.—A lever is pivoted to the tongue, and the tongue is pivoted to the main axle, thus making the latter, working within the tongue, the ultimate fulcrum of that lever, for raising and lowering the points of the cutting apparatus.

Claim.—The combination and arrangement of the lever Q with the arcs *e*′, the body A and A′, the tongue Y, the tongue collar E′ and the main axle G′, made and used as described, for grass and grain-cutting machines.

85,350.—John Adams, The Strand, England.—*Revolving Fire-arm.*—December 29, 1868; patented in England, July 28, 1866.—A thumb-piece, attached to the primary bolt which locks the ejector and cylinder rod, is held flat against the piece of metal through which the cylinder rod and ejector pass, by the secondary spring bolt when the rod and ejector are in their normal position. By turning the primary bolt, only one of the rods can be released at a time.

Claim.—1. A revolver, constructed as herein set forth, of a barrel and cylinder frame, forged in one piece, and combined with a back piece to support and contain the handle and lock, and with a lock, hammer, cylinder, and "ejector rod," all arranged and operating substantially as herein set forth.

2. The combination of the "primary" bolt U (or E) with the cylinder rod R (or C) and ejector O (or D) of my improved revolver, and with a "secondary" bolt, W, (or F,) substantially in the manner and for the purpose herein set forth.

85,351.—H. E. ALEXANDER, New York, N. Y.—*Railroad Ticket.*—December 29, 1868.—The conductor is required to tear off and hand one ticket to each person paying a fare, and to account to the company for as many fares as there are tickets separated from the stubs.

Claim.—The improved railroad or other tickets, riveted or otherwise secured in packages, and provided with the divisions, subdivisions, numbers, and names, substantially as and for the purpose herein described.

85,352.—WILLIAM ALLPORT, New Britain, Conn.—*Door Bell.*—December 29, 1868.—The pull-spindle is made to actuate the bell hammer at each inward and outward movement.

Claim.—The combination of the pull-spindle *e*, the spring *f*, the trip *m*, the lever *h*, and the spring *l* with the bell *b*, when adjusted and operating substantially as and for the purpose described.

85,353.—JOSEPH H. C. APPLEGATE, Bridgeton, N. J.—*Dumping Cart.*—December 29, 1868.—The catch in front of the cart body is operated by means of a rod extending to the rear.

Claim.—The catch A (hinged to the front of the cart body) and the spring C, the fastening staple *g*, and the detaching rod *d*, arranged substantially as shown and described, in combination with a dumping cart, for the purposes specified.

85,354.—HOSEA BALL, New York, N. Y.—*Quartz Crusher.*—December 29, 1868.—The axis of the rollers is prolonged on both sides, so as to receive weighted wheels, to add to the force of the roller, and give it steadiness.

Claim.—1. The rocking pan I, supported from beneath, in combination with the reciprocating roller K, traversing said pan, and provided with weights M, substantially as described.

2. The combination and arrangement of the stationary rack J, the rocking pan I, with teeth or corrugations *m* on its bottom, and the reciprocating roller K, substantially as and for the purpose described.

3. The springs N, so arranged as by contact with the roller or wheels to arrest the motion of the roller, and assist its return movement, substantially as described.

85,355.—ELI BARTHOLOMEW, Cleveland, Ohio.—*Washing and Wringing Machine.*—December 29, 1868.—An interior basin or chamber to contain water, is surrounded by, and connected by, a pipe with a trough having a filtering bridge placed over a drain. In the trough a hollow wheel, to be filled with water, rotates.

Claim.—1. The interior chamber F, communicating with the exterior trough or chamber G, which is furnished with the filtering bridge H, and with the water receptacle or drain I beneath it, in combination with the rotating cylinder K. connected by one end of its shaft to a revolving post, all as and for the purposes set forth.

2. In a machine, as claimed above, making the revolving cylinder removable, together with the revolving post, so as to permit the cover to be placed over the machine when not in use, as and for the purposes set forth.

85,356.—FREDERICK BAUMGARTNER, Brooklyn, N. Y.—*Device for Operating Window Sash.*—December 29, 1868; antedated December 17, 1868.—A toothed wheel recessed in the sash is made to engage with a perforated strip or band secured to the window sash, a device being provided for holding the band closely to the wheel.

Claim.—The combination of the wheel B, band A, and device *h i i*, or its equivalent, arranged and operating substantially as and for the purposes herein set forth.

85,357.—G. W. R. BAYLEY, Algiers, La.—*Railway Chair.*—December 29, 1868.

Claim.—1. So constructing and arranging the lip of a railway-joint chair, that it shall fit snugly under the nuts E of a bolted rail joint, and thereby lock the nuts, so as to prevent their turning or becoming loose, substantially as described.

2. The combination of the lip B of a railway-joint chair, and the nuts E of the joint bolts, substantially as described.

85,358.—H. P. BEMISS, Milan, Ohio.—*Wash Boiler.*—December 29, 1868.—The lower ends of the tubes are secured to the upper face of the secondary bottom, so that, with the openings, circulation of the water will always be insured, irrespective of the quantity of clothes in the boiler.

Claim.—The false bottom B, rigidly affixed to the base of the tubes D, above the bottom of the boiler, perforated at its corners F only, and provided with the central hinged door C, as herein described, for the purpose specified.

85,359.—H. W. BOIFEUILLET, Savannah, Ga.—*Car Coupling.*—December 29, 1868.—A curved plate pivoted to the under side of the bumper, passes up through a slot in the same, and adjustably supports the link. The curved plate is held in place by means of an arm attached to a shaft on the same, and provided with a catch that engages with a rack in the bumper.

Claim.—The combination of the rack I, pawl or catch arm H, arm G, and square shaft F, with the bumper head A and curved plate E, substantially as herein shown and described, and for the purpose set forth.

85,360.—RICHARD E. BOWEN, Colden, N. Y.—*Fence Post.*—December 29, 1868.—The post is connected to a base of stone by means of metal clasps at the sides, secured together by screw bolts.

Claim.—The clasps C, in combination with the post A and base B, substantially as and for the purpose described.

85,361.—GEORGE F. BOYDEN, Providence, R. I.—*Furniture Protector.*—December 29, 1868.—A pad is attached to the outer end of a toothed bar which is adjustable in clips on the under side of the seat, and can be drawn in and out to protect the walls of the apartment and the furniture from being injured.

Claim.—An adjustable furniture protector, consisting of the ratchet toothed bar A, cushion B, clasps C and C′, and spring D, all operating substantially as herein shown and described, and for the purpose specified.

85,362.—PHILIP A. BROWN, Indianapolis, Ind.—*Mold for Forming Roofing Tiles.*—December 29, 1868.—One mold forms the lower tier, beginning at the eaves. The second mold forms the intermediate sections, and the third mold the top or ridge sections.

Claim.—The arrangement of a series of molds formed in the parts A B, and B′, for forming roofing tiles and caps, such as herein shown, all constructed in the manner as and for the purpose specified.

85,363.—GEORGE BUCKEL, Detroit, Mich.—*Chair Seat.*—December 29, 1868.—A semi-cylindrical seat is formed of bands crossed and interwoven to form a substantial fabric.

Claim.—The semi-cylindrical chair seat, when prepared of longitudinal bands *b*, and transverse bands *c*, substantially as described, for the purpose specified.

85,364.—WILLIAM CARPENTER, Fairbury, Ill.—*Cloth Guide for Sewing Machines.*—December 29, 1868.—The cloth-holding parts slide in the metallic plate and travel with the cloth as it is fed.

Claim.—The combination of slide B B, pincers C C, and metallic plate A, all constructed and operating substantially as and for the purpose described.

85,365.—M. D. CHEEK, Memphis, Tenn.—*Baling Press.*—December 29, 1868.—A removable head is hung by suitable rods to the T-head levers, which latter raise the head out of the packing chamber and move it to one side on the horizontal guide, to permit the cotton to be inserted. By releasing the latch that holds the tumbling bar, the straps can be removed and the door opened to remove the bale.

Claim.—1. The combination of the T-head lever K, packing head F, connecting rod J, or its equivalent, and the guides *d* and L, substantially as set forth.

2. The tumbling bar U, with hooks W W, in combination with the latch *a* and straps S S, substantially as and for the purpose set forth.

3. The straps S S, attached permanently to the ends of one of the doors, and engaging with hooks W W, or equivalent devices, upon the other door, so as to relieve the press frame from lateral pressure, substantially as described.

85,366.—Asa H. Church, Hubbardtown, Mass.—*Toy.*—December 29, 1868.—The figure is pivoted to the carriage and provided with a pinion which engages with a rack on the sliding handle, so as to reverse its position in conformity with the motion of the carriage.

Claim.—1. A toy, whose figure, H, will reverse its position in conformity with the motion of the carriage, substantially as described.

2. The sliding tongue D, rack E, and pinion F, or equivalents, in combination with the figure H, substantially as described.

3. The figure H, block J, platform C, gearing E F, sliding tongue D, and carriage A B, combined and operating substantially as described.

85,367.—J. A. M. Collins, Keokuk, Iowa.—*Bill Holder.*—December 29, 1868.—The pockets are curved so that the papers will form a section of a cylinder when standing, to prevent flapping over or bending down.

Claim.—The improved article of manufacture, made of such form as to hold papers in the form of part of a cylinder, substantially as and for the purpose specified.

85,368.—Tobias Crumling, Cross Roads, Pa.—*Separator for Thrashing Machines.*—December 29, 1868.—The straw carriers consist of a series of vibrating reciprocating beams which are operated by cranks. A series of suspended fingers prevent the escape of the straw under the roof of the shed.

Claim.—The straw carrier *b b′ c*, in combination with the winnower B, the fingers *d*, the connecting rod *k*, and shaft *i*, as and for the purpose specified.

85,369.—Charles D. Culver, Mauch Chunk, Pa.—*Railway Car Brake.*—December 29, 1868.—A lever connecting with the brake wheel actuates an arm on the revolving brake bar, and causes the latter to force cams on its end in contact with one pair of brakes, and a rope to be wound up, which connects with the other pair.

Claim.—1. The combination of the arm A, revolving brake beam B B, cams C and C′, chains or wire-ropes W R and W R′, connecting with a second pair of brakes on the flat bar F B, substantially as specified.

2. In combination with the above, the lever L and stem or drum D of the brake wheel, to arm A on the brake beam B B, all arranged and operating as and for the purpose set forth.

85,370.—Henry Deacon, Appleton House, Appleton, England.—*Manufacture of Chlorine.*—December 29, 1868.—The heated compounds are a mixture of oxide of copper and oxide of manganese, mixed with clay.

Claim.—1. The continuous production of chlorine, by passing a current of hydrochloric-acid gas and atmospheric air, by preference in a heated condition, over heated compounds, such as those hereinbefore referred to, which, or one of the elements of which, must have the power of absorbing oxygen, either before being heated or when heated, and must possess, when subsequently treated with hydrochloric acid, and heated, either alone or in the presence of oxygen, the power of decomposing such acid, and of ultimately yielding chlorine as one of the results of the decomposition.

2. The continuous production of chlorine, by passing, as above described, a current of hydrochloric acid gas and atmospheric air, by preference in a heated condition, over heated substances, porous or otherwise, which are impregnated or mixed with metallic compounds, such as are hereinbefore mentioned and described.

85,371.—Thomas W. Dresser, San Francisco, Cal.—*Quicksilver Furnace and Condenser.*—December 29, 1868.—The separating walls are pierced so that the heated vapor shall traverse as much space as possible in its passage. By means of inclined impervious plates, the escaping quicksilver is carried back into a receiver.

Claim.—1. The separating walls L L in the vapor chamber, with the upper connecting passages M M, and lower passages N N, together with the condensing troughs *o o*, the whole constructed and operated substantially as and for the purpose described.

2. The siphon water pipe X, and the pipe *b* from the vapor chamber, or equivalent device, for withdrawing the vapor by means of a vacuum, and condensing it in its passage, substantially as herein described.

3. The cylinder *e*, with the buckets *g*, operating as shown, for producing a vacuum and forcing the vapor beneath the water in the chamber *d*, and the vapor pipe *i*, constructed and operated substantially as and for the purpose described.

4. The two flues *m* and *n*, with the dampers *t t t*, for regulating the draft, or, by closing them entirely, to cause a draft through the siphon tube, and condensing chamber *j*, substantially as described.

5. Constructing the foundation with the inclined impervious plates A A and the channels D between the courses, together with the collecting channel B, substantially as and for the purpose described.

6. A draft, as created by the siphon tube X, the endless chain and its buckets *g g*, or equivalent device, for condensing the vapors and gases which escape from chemical works, for retorting gold and silver amalgams, and for withdrawing and condensing gold that would be lost in melting and refining, substantially as herein described.

85,372.—James Elliott, New York, N. Y.—*Pipe and Faucet Clamp.*—December 20, 1868.—Designed to facilitate the soldering of faucets to lead pipes.

Claim.—The curved bar A, provided with the fixed and sliding jaws *c e*, and the adjustable bearing *k*, all constructed and arranged substantially as shown and described, to form a pipe and faucet clamp for plumbers' use, as set forth.

85,373.—A. H. Emery, New York, N. Y.—*Safety Lamp.*—December 29, 1868.—The inner tubes or rings are held in place by friction in the outer tubes, thus dispensing with the use of solder in securing the diaphragms.

Claim.—The method of fastening the diaphragms G in the tube F, by means of the inner tubes or rings H, substantially as and for the purposes herein described and set forth.

85,374.—J. M. Estabrook, Milford, Mass.—*Screw Peg for Boots and Shoes.*—December 29, 1868.

Claim.—The self-clinching metallic screw peg A, having a flattened wedge-shaped end, whereby, as it strikes the metal plate upon the last, in the act of driving, it is adapted to be bent down into the inner sole of the boot or shoe, as herein shown and described.

85,375.—Albert Fontayne, Cincinnati, Ohio.—*Treadle.*—December 29, 1868.—The foot plate has bearings on the treadle shaft, and is provided with adjustable caps with India-rubber washers attached, so that the lost motion caused by wear can be taken up by means of the screw. The connecting rod is slotted from the journal outward, so that wear may by compensated for.

Claim.—1. The movable pieces C C, in combination with the shaft B, collars E E, or their equivalents, screws D D, and India-rubber washers, or their equivalents, as and for the purposes described.

2. The combination of the pieces C C, shaft B, screws D D, India-rubber washers, and seats F F.

3. The piece L of the connecting rod K, extended as shown, for the purpose specified, and combining the screw H, journal box M, and curve surrounding the hole N, substantially as described.

85,376.—John H. French, Albany, N. Y.—*Machine for Ruling School Slates.*—December 29, 1868.—Lines can be ruled longitudinally, transversely, or diagonally across the slate, which latter rests on spring bearings suspended from the disk. The adjustable stops arrest the motion of the slate at any point.

Claim.—1. Inserting the marking tools F in their heads, in such an angle that their broad faces shall stand at right angles to the line of motion, whereby oblique rulings are produced without changing the motion of the carriage, as herein shown and described.

2. The carriage C, carrying the adjustable disk D, in which the spring bearings *d d* are arranged, in combination with the tools F F, fitted in one head, substantially as set forth.

3. The adjustable stops *a*, in combination with the sliding carriage C, turning disk D, and tool head E, all made and operating substantially as herein shown and described.

85,377.—George A. Fullerton, Lynn, Mass.—*Steam Pipe Coupling for Railroad Car Heaters.*—December 29, 1868.—A thick rubber band receiving the nozzle on the ends of the pipes, is held in place by a cylinder with inwardly-projecting flanges. A stiff spring provided with a wedge-shaped point is attached to each pipe; the wedge-shaped point of one spring enters a forked socket on the opposite pipe. The pressure of the springs holds the pipes together.

Claim.—1. The combination of the springs *s s'*, clutching the forks *g g'* of the opposite pipes *a b*, substantially in the manner and for the purpose specified.

2. The combination of the rubber band *u u* and coupling *c* with the conical muzzles of the pipes *a b*, in the manner and for the purpose described.

3. The mode of hanging the pipes *a b* to the cars, allowing them a free motion axially, or in a lateral direction, in the manner and for the purpose substantially as set forth.

4. The combination of springs *s* and *s'*, forked sockets *g* and *g'*, steam pipes *a b*, coupling *c*, having rubber lining *u*, lips *o o'*, bolts *f f'* and *m m'*, springs *q q'*, and valve *r*, when the whole are constructed and operate relatively to each other, substantially as and for the purpose described and set forth.

85,378.—Frederick A. Geisler, Bristol, R. I.—*Mowing Machine.*—December 29, 1868.—The cutter bar is raised or lowered by means of the bell crank actuated by the drum, with which it is connected. The crank shaft is arranged in sliding bearings in a frame connected by links to arms pivoted to the frame, and supporting a shaft which is held by a spring catch, so as to be thrown in and out of gear with the driving wheel.

Claim.—1. The crank shaft E, drum D, and bell crank C, arranged and combined with the shoe A, substantially as and for the purpose described.

2. The crank shaft F, arranged in sliding bearings, and connected to the vibrating arms H' supporting the adjusting shaft I, combined with the spring catch K, all substantially as and for the purpose described.

85,379.—A. J. Going, Clinton, La.—*Cotton Seed Planter.*—December 29, 1868.—The agitator keeps the seed in the upper part of the hopper in a light, loose state, and prevents the choking or clogging of the hopper.

Claim.—An agitator for a cotton seed planter, composed of a spring C, having an arbor or shaft D, attached, through which transverse rods or arms *b*, pass, the agitator being secured in the hopper, and arranged in relation with the seed-discharging device, to operate in the manner substantially as and for the purpose set forth.

85,380.—Charles E. Griffin, Roseville, Ill.—*Scythe.*—December 29, 1868—The weight serves as a counterpoise and obviates a side draft produced by the resistance of the grass to the action of the scythe.

Claim.—The application of a weight or counterpoise to a scythe swath, substantially as and for the purpose set forth.

85,381.—William Hamilton, Toronto, Canada.—*Lock Nut.*—December 29, 1868.—The object of this invention is to prevent the nuts from becoming loose when they are subjected to a vibratory motion, as in cars or other vehicles.

Claim.—The nut B, secured to the bolt, by providing a groove in the latter, and driving the key *b* into said groove, through the threads of the nut, at any point, substantially as herein shown and described.

85,382.—Eli Harbaugh, Washington, Iowa.—*Fastening and Strengthening for Horse Collars.*—December 29, 1868.—A wire spring is attached to and extends entirely around the roll of the collar, and forms a hook at the top, by which it is fastened by a strap to the horse.

Claim.—The wire spring *a*, and hook on the upper end thereof, marked *b* in said drawing, for the purpose of securing the collar on the horse while in use.

85,383.—James House, Turin, N. Y.—*Seed Sower.*—December 29, 1868.—By means of the adjustable perforated slides, the apertures in the hopper can be closed or regulated for the amount of grain to be fed. A second pair of slides, made adjustable for various sized seeds, receives a vibratory motion through a connecting rod from the cam.

Claim.—1. The use of the adjustable false bottom, consisting of the perforated slides C D.

2. The use of the adjustable slide I J, connecting rod N, and cam Q, as herein constructed and shown.

3. The construction and arrangement of the several parts, as herein set forth.

85,384.—Charles P. Howell, Covington, Ky.—*Hoe.*—December 29, 1868.—One end of the bent clamping bar embraces the blade of the hoe, and the other end fits in a recess in the handle. A ferrule slides over and secures the bars when inserted in the slots.

Claim.—1. The clamping-bars B, constructed substantially as herein described.

2. The clamping bars B, in combination with the brace piece E, blade D, ferrule C, and handle A, or their equivalent, when constructed and arranged in the manner and for the purpose shown and described.

85,385.—J. M. Hughes, Menomonee, Wis.—*Medical Compound.*—December 29, 1868.—Composed of cider vinegar, molasses, spirits of turpentine, common salt, saltpeter, oil of vitriol and olive oil, for external use in diseases of the skin.

Claim.—The compound of matter composed substantially as herein described.

85,386.—David Hunter, North Bennington, Vt.—*Water Regulator for Paper Pulp Machines.*—December 29, 1868.—The pulp is prevented from rising in the vessel in which the float operates by the pressure of water from a small pipe leading from the upper vessel.

Claim.—1. The application to a paper pulp machine of a self-acting float, which regulates the water supply, for the purpose of preventing loss of pulp by the overflow of water, as set forth.

2. The combination of the float E, having the rod *h* and valve or valves *i*, with the vessel C, in which the chambers *e* and *f* are formed, by means of partitions *a a* and *b*, the apertures through which can be closed by means of the valves, as set forth.

3. The combination of the tank A, pipe B, box C, vessel D, float E, valves *i*, and pipe *g*, with each other, all made and operating substantially as herein shown and described.

85,387.—J. W. Jessop, Harveysburg, Ohio.—*Cultivator.*—December 29, 1868.

Claim.—The provision in a cultivator of the adjustable long beams H, provided with mold plows, cross beams B and C, and standards D, also provided with plows, when the several parts, herein named, are constructed, combined, and arranged as herein set forth, for the purpose specified.

85,388.—J. E. Jones, Wiretown, N. J.—*Elastic Lanyard.*—December 29, 1868.—An elastic plate is combined with a screw bolt and with the main packing and frame, so as to relieve the strain on the nut of the screw bolt caused by the straining of the rigging.

Claim.—The combination of the elastic washer *f* with the screw rod E, collar *e*, nut H, plate D, elastic packing F, and frames A B, as herein described, for the purpose specified.

85,389.—PAUL H. KENDRICKEN, Boston, Mass.—*Valve for Steam and other Enginery.*—December 29, 1868.—This invention is designed for effecting the simultaneous closure of the entrance and exit of a liquid, gas or steam, and it is especially applicable to steam radiators. Upon turning the valve stem, the two valves are caused to approach each other and close upon their seats. When the valves are closed the collar is in such a position as to allow a free circulation of steam throughout the entire device, and exclude return water from the radiator.

Claim.—1. The arrangement of the ports or passages *a a′*, *b b′*, *c c′*, and pipes *d d′*, when combined with the valves C and C′, and the valve chamber B, substantially as herein shown and described.

2. The arrangement of the valves C and C′, stems *f f′*, and valve seats *e e′*, substantially as shown and specified.

3. In combination with the ports or openings *a a′*, *b b′*, *c c′*, and *d d′*, and valve and valve seats C C′ and *e e′*, the interposed collar or abutment *m*, substantially as shown and set forth.

85,390.—H. M. LONG, Williamsville, N. Y.—*Gate Attachment.*—December 29, 1868.—On pulling one of the levers, the swing arm draws back the longitudinally-sliding latch and causes the gate to open.

Claim.—The arrangement of the cross wires *c c′*, connecting with the levers A A′, the swing arm C, provided with forks *i i*, the button stop *h*, and the connecting rod *j*, when the said parts are combined with the longitudinally-sliding latch *m* and swinging gate B, in the manner and for the purpose specified.

85,391.—WILLIAM H. LOTZ, Chicago, Ill.—*Folding Lounge.*—December 29, 1868.—An upholstered body or shell is connected to the ordinary sofa by pivoted arms, so that when the apparatus is closed the shell covers the body of the sofa, and when opened forms a bed.

Claim.—1. A sofa-bed, consisting of a sofa, A, and a shell B, of corresponding form, combined and arranged to operate substantially as described.

2. A sofa-bed, consisting of the sofa A and the shell B, united, by means of the shaft *a*, with the arms C, attached rigidly thereto, and pivoted at their opposite ends to the shell B, all constructed and arranged to operate substantially as herein set forth.

85,392.—HENRY MCCULLAUGH, Marietta, Pa.—*Collar for Pipes in Hot-blast Furnaces.*—December 29, 1868.—The collars are cast in two parts and connected by a knuckle joint, so that they can be removed from the pipes without being broken, or breaking the cement.

Claim.—The herein-described collar, for coupling or protecting hot-air pipes in blast furnaces.

85,393.—JEREMIAH MCILVAIN, Churchville, Md.—*Anti-friction Box for Shafting.*—December 29, 1868.—The wings on the cover act as dusters to prevent the admission of dust between the two parts.

Claim.—1. The anti-friction box, composed of two parts B D, provided respectively with grooves *a d*, of the form shown, with balls C placed between them, the pendent shaft or arbor E, attached to D, fitting in the hole *c* in B, and the step *e* on D, for connecting a shaft to D, all constructed and arranged substantially as and for the purpose set forth.

2. The cover F, provided with the wings *f*, and applied to the upper box D, all constructed and arranged substantially as and for the purpose specified.

85,394.—SAMUEL MYERS, Hogestown, Pa.—*Window Frame.*—December 29, 1868.—This construction obviates the necessity of removing the parting bead in removing the sashes.

Claim.—Constructing the window frame with the lower portion of one side of the casing of said frame C, and of the parting bead D, removable together, substantially as herein shown and described, and for the purpose set forth.

85,395.—EDWARD L. PERRY, New York, N. Y.—*Hose.*—December 29, 1868.—The end of the pipe that is coupled is made tapering and secured to the plug or coupling by a ring, which presses the rubber into the indentations of the screw threads.

Claim.—1. As a new article of manufacture, a continuous flexible India-rubber hose, terminating in a rigid nozzle of the same material, substantially as described, for the purpose specified.

2. The combination of the exteriorly-tapering end D, of the hose, with the tube B, having a screw thread on its exterior, the part D being pressed into the screw threads B, by means of a ring A, all substantially as shown and described.

85,396.—OZI M. PIKE, Leverett, Mass., assignor to himself, WENDELL T. DAVIS, and AUSTIN DE WOLF.—*Machine for Cutting Vitreous Substances.*—December 29, 1868.—The cutter is made of steel and turns on the friction wheels, and in a socket in the thumb screw. Guards are arranged to prevent the cutter from slipping.

Claim.—A tool for cutting glass or other vitreous substances, constructed to operate substantially as described.

85,397.—JAMES RESTEIN, Philadelphia, Pa.—*Fabric for the Manufacture of Paper Collars, Cuffs, &c.*—December 29, 1868.—Plain white paper is pasted on one side of a fibrous hemp paper, and a white enameled linen imitation is pasted on the other side; the stock thus formed obviates the necessity of lining the button holes with muslin.

Claim.—A paper stock, for the manufacture of paper collars, shirt fronts, and cuffs, when the same is composed of the material and arranged substantially as herein specified.

85,398.—GEORGE REUBEN, San Francisco, Cal.—*Cover for Pots, Kettles, &c.*—December 29, 1868.—A hole in the lid is covered with wire gauze to permit the steam to escape, and prevent the admission of foreign substances.

Claim.—A cover for cooking and other vessels, having the opening C covered with wire gauze or perforated tin, surmounted by the flange D, the whole surmounted by the cover E, locking into the angular slots *c c*, arranged substantially as herein described.

85,399.—FERDINAND RHEYDT, Chicago, Ill.—*Making Screw Nuts.*—December 29, 1868.—Upon a longitudinally-sliding carriage is mounted a transversely-sliding carriage carrying a chisel, and also a longitudinally-sliding carriage carrying a stationary bit. A prismatic rod, from which the screw blanks are cut, passes through a hollow spindle in rear of the main carriage, and is supported in rolling rings at the rear end.

Claim.—1. The hollow spindle C, in combination with the adjustable cutting and boring tools, H and and J, that are arranged on the carriage B, substantially as herein shown and described, all operating as set forth.

2. The combination of the hollow spindle C, ring *d*, and rings *g*, with the carriages B, F, and I, and tools H and J, all made, arranged, and operating substantially as herein shown and described.

85,400.—J. C. RICHARDSON, Ilion, N. Y.—*Fork Blank.*—December 29, 1868.—Improvement on his patent of November 14, 1868, and consists in reducing the length of, and giving a finished form to, the tang. A narrow slit is made between the space caused by the removal of the tang, and with that at the base of and between the two middle tines.

Claim.—Cutting out the shank A, and connecting the space caused by the removal of said shank, with the space caused by the removal of another portion of the metal, by the slit *b*, as described.

85,401.—S. L. RICHARDSON, Webster City, Iowa.—*Beehive.*—December 29, 1868.—Around the brood box, near the top, is a removable, inclined, rectangular frame or "portico" to afford shade and protection in warm or cold weather. In the spare honey chamber are boards with bearing pins in their upper edges, which may easily be removed.

Claim.—1. Pins of metal or wood for the bearings of the comb bars or frames, when constructed and arranged substantially as herein set forth.

2. The portico P, constructed and arranged substantially as set forth.

3. The hive, as herein described, when its several parts are constructed, combined, and arranged substantially as set forth.

4. The bearing boards *b b b*, in the spare honey chamber, substantially as described and for the purposes set forth.

5. The shallow space between the brood box and bottom board, in combination with narrow strips of wood, *n*, to act as a moth trap.

6. The projection E, of the end pieces D, to support the portico, and form bearings, upon which the hive is supported by the posts H.

7. The honey board *d*, in two pieces, lapping one upon the other, for the purposes specified.

85,402.—WILLIAM RILEY, Salem, Oregon, assignor to H. CARPENTER, same place.—*Shackle and Supporter.*—December 29, 1868.—Composed of two pieces of metal secured together around the leg of a prisoner and supported upon an iron ring attached to a strap passing under the foot.

Claim.—1. The improved shackle A B, with the tongue G and mode of fastening upon the ankle, substantially as herein described.

2. The supporter E, and the mode of fastening the same to the shoe, by means of the strap I and heel plate J, constructed and arranged substantially as herein set forth.

3. The mode of preventing the shackle from turning on the ankle, by means of the stops L L, as specified.

85,403.—HENRY F. ROBERTS, Pittsburg, Pa.—*Propeller.*—December 29, 1868.—The blade is attached to arms that travel in grooves, forming an elliptical track in the sides, by which the propeller is alternately plunged into, and lifted out of, the water. Pivoted V-shaped levers at each end of the track may be adjusted to cause the propeller arms to take either the upper or lower track, to reverse the motion of the blade.

Claim.—1. The combination of the blade I, having the arms *i i*, with the grooved track *c c* and pitman D, substantially as described.

2. The combination, with said blade and track, of the V-shaped reversing levers M M′, and the arms N N′, and connecting rod R, substantially as described.

85,404.—MATHIAS SCHLEGEL, St. Jacob, Ill.—*Hot-air Stove.*—December 29, 1868.

Claim.—1. The application, to a hot-air stove, of the cylinder I, around which the two spiral passages *l* and *m*, one for smoke and the other for hot air, are formed, substantially as herein shown and described, for the purpose specified.

2. The combination of the plate A, base C, shell D, and fire pot E, with the plate *f*, cylinder I, spiral channels *l m*, and covering plate *r*, all made and operating substantially as herein shown and described.

85,405.—L. B. SHERWIN, Hyde Park, Vt.—*Potato Washer.*—December 29, 1868.—The thin edges of the agitator arms run close upon the bottom of the vessel, so that the potatoes are raised up and dropped over the backs of the same.

Claim.—The vegetable washer, consisting of the agitator E, shaft D, crank *h*, cross bar C, and hinged perforated cover B, when the upper surfaces of the arms of the agitator are beveled in opposite directions, forming thin edges *f*, and thick backs *g*, all arranged within the pail A, to operate as herein set forth and shown.

85,406.—A. SIMS, Brooklyn, E. D., N. Y.—*Operating Bridle Blind.*—December 29, 1868.—The ends of the bifurcated portions of the rein cross each other, and pull the opposite edges of the blinders together.

Claim.—1. The rein line or cord E, with bifurcating parts *a a*, substantially as shown and described, or the equivalent thereof, for the purpose of pressing the blinds or blinkers, A, of a bridle upon and against the eyes of a horse, all as and for the purpose set forth.

2. Padding the blinds of a bridle, to form a cavity, B, in the same, substantially as shown and described and for the purpose specified.

3. Employing the blinds of a bridle to shut off the sight of an animal, substantially as shown, and for the purpose specified.

85,407.—JOSEPH STEGER, New York, N. Y.—*Car Starter.*—December 29, 1868.—By the action of the draw bar on the cam, a pawl is positively thrown into gear with a ratchet wheel on the car axle. A spring, connecting the arms that operate the pawls, serves to retract the latter from the ratchet wheel.

Claim.—1. The arrangement of a cam, which is actuated by the strain on the draw bar, and which acts on the pawl *b*, substantially in the manner and for the purpose described.

2. The spring *l*, situated under the middle of the car, and acting on the starting gear at the opposite ends of the car, substantially as set forth.

85,408.—JOSEPH STONEBANKS, College Point, N. Y.—*Attaching Wheels to Sleighs.*—December 29, 1868.—The runners are provided with pivoted spring holders, by means of which they are secured to the felloes and prevented from turning.

Claim.—The combination of the runners B with the spring holders C and the spring braces D, substantially as herein shown and described.

85,409.—HENRY M. STOW, San Francisco, Cal.—*Railroad Tickets and Punch for Cutting Coupons therefrom.*—December 29, 1868.—Each ticket is printed on one side of a small paper pouch, each of which latter contains an amount of money corresponding with some one of the small currency notes in use, less one fare, and each has a coupon printed in one corner, with figures representing the amount in the pouch, with one fare added.

Claim.—1. A pouch ticket, adapted to contain change, with a coupon printed thereon, or attached thereto, substantially as and for the purpose set forth.

2. In combination with an instrument for severing coupons, and automatically depositing them in a box, or other receptacle, substantially as described, a needle, so located in the box, or other receptacle, that it will perforate and retain upon it each coupon as it is deposited, and which, on being withdrawn, will draw a thread through all the said coupons, as set forth.

3. In combination with an instrument for severing coupons and automatically depositing them in a box or other receptacle, substantially as described, a sliding cover to such box or other receptacle, which will automatically slide over the box or other receptacle and close it, when the jaws of the instrument open, and recede from said box when the jaws close, the same being operated substantially as herein described.

4. In combination with an instrument for severing coupons from tickets, substantially as described, a needle, so located in relation to the cutting head, or other equivalent cutting device, that it will pierce and retain upon it each coupon as it is cut off, and so constructed and arranged that by withdrawing it from said coupons it will draw a thread through all of them, substantially as and for the purpose specified.

5. In combination with the cutting head and retaining box herein described, the case or shield D, substantially as and for the purpose set forth.

85,410.—ALOIS THOMA, New York, N. Y.—*Furnace for Melting and Refining Steel.*—December 29, 1868.—The open pan forms the bottom of the smelting oven, and is supported and made adjustable vertically by means of screws. The upper part of the fuel chamber is surrounded by an annular trough filled with sand or water.

Claim.—1. Smelting steel and other metals in an open pan, C, which is made of one piece, substantially as herein shown and described.

2. The oven B, when provided with an up-and-down adjustable and removable bottom, which is made in form of a pan, C, to contain the metal to be smelted, substantially as herein shown and described.

3. The pan C, when arranged of one piece, and in combination with the supporting pan D and screws *v v*, all arranged and operating substantially as herein shown and described.

4. The chamber *o*, arranged on the feeding apparatus, to leave the same clear of obstructions, substantially as herein shown and described.

5. The application of the inclined plane *r*, on the feeding apparatus, to facilitate the distribution of fuel, as specified.

6. The combination of the slide *i* with the cover *q* and endless trough *p*, all arranged to form a feeding apparatus for the fuel, as set forth.

85,411.—Stephen D. Tucker, New York, N. Y.—*Machine for Coating the Surfaces of Electrotype Molds with Plumbago.*—December 29, 1868.

Claim.—1. The right-and-left-hand screw G, in combination with the carriage for carrying the mold to and fro, substantially as described and specified.

2. The combination, with the screw G, of the vibrating brush M, substantially as described and specified.

3. The combination of the screw G, worm H, shaft E, crank pin *c*, slotted lever K, brush M, and carriage N, constructed substantially as described and specified.

85,412.—Flavius J. Underwood, Rock Island, Ill., assignor to B. D. Buford, same place.—*Cultivator.*—December 29, 1868.—Each shovel is provided with boxes secured to its back by bolts and a plate so arranged as to hold the shovel in any desired position. The plows are attached to the axles by joints or couplings, so constructed that the plows may be adjusted laterally and vertically.

Claim.—1. The cultivator frame, consisting of the bars A and the bent bar B, with the axles C attached, the part A being made adjustable, substantially as shown and described.

2. The manner of attaching the plows to the axle C, by means of the plates *h*, grooved boxes *g*, and studs or pins *i*, all constructed and arranged to operate as described.

3. The shovels F, provided with the boxes *b*, bolts *e*, and bar *o*, in combination with the rounded shank *a* of the plow beam, whereby the shovels are rendered capable of being adjusted and secured in place, substantially as herein described.

4. Connecting the handles of the two sets of cultivator shares by means of the bar I, when so arranged as to limit the distance to which said handles may move apart, and yet leave them free to approach each other, substantially as shown and described.

85,413.—H. V. Van Etten, Auburn, N. Y.—*Device for Catching and Holding Domestic Animals.*—December 29, 1868.—Consists of two curved arms, one of which is fixed to a pole, while the other is pivoted and has a cord attached to it, so as to cause it to overlap the fixed arm, and hold the leg of a refractory animal.

Claim.—The device for catching animals, consisting of part A, cast with opening *d*, pole socket *b*, and the semicircular curve *a*, and the part *c*, cast with semicircular curve *a'*, when said curves form a complete circle, and have their ends bulbed and overlap each other, and arms A C bear against each other, and all parts are constructed and adapted to operate as herein represented and described.

85,414.—Edwin Wassell, Pittsburg, Pa.—*Machine for Making Horseshoes.*—December 29, 1868.—A series of devices are used in connection with six rotating disks and two movable yokes, all operated at the appropriate time by one driving shaft.

Claim.—The former A and die B, when combined with the wheels C and D, friction rollers 1, 2, 3, 4, 5, and 6, cams *e*, *f*, *g*, and *h*, pivoted arms X and X', cam *i*, cutter J, and guides *k* and *k'*, the whole being constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

85,415.—William C. Williamson, Philadelphia, Pa.—*Hoisting Machine*—December 29, 1868.—The friction wheel is caused, by the eccentric wheel operated by a lever, to come in contact with friction pulley for hoisting. When out of contact with the same, the load descends, and to stop the friction wheel it is brought in contact with a stationary shoe.

Claim.—The eccentric wheel H, when used in connection with the friction pulley C, the friction wheel D, and the shoes F, for the purpose shown.

85,416.—John S. Yinger, Manchester Township, Pa.—*Horse Hay Fork.*—December 29, 1868.—The tines are locked in a closed position by drawing down a lever so attached to a connecting link that the joint will come below the fulcrum of the lever.

Claim.—The instrument above described, consisting essentially of the jaws A A^1, made in the form described, the plates C C', the link E, the lever D, connected to the link at *e*, the cord F, the link G, the arm *i*, and the pivot bolt B, all constructed, arranged, and combined so as to operate together in the manner and for the purpose specified.

85,417.—Emanuel Andrews, Williamsport, Pa.—*Saw.*—December 29, 1868.—The saw is made with fine teeth at the lower and wider end of the saw, the space and depth of the teeth gradually increasing as they proceed upward.

Claim.—The saw A, herein described, as an article of manufacture.

85,418.—Levi Annis, Quincy, Mich.—*Potato Digger.*—December 29, 1868.—This machine is designed, after digging the potatoes, to leave the ground in a fine pulverised state, clear of weeds, and ready for the reception of seeds.

Claim.—1. In combination with the forked digger, fixed in a rigid portion of the tongue or frame, the swinging controllable frame E, for carrying, behind the digger, the harrows F, substantially as and for the purpose described.

2. The vibrating digger N, for shaking up the potatoes and pulverizing the soil, when made controllable by the operator in his seat, and vibrated laterally of the path of the machine, by means substantially as described.

3. In combination with the laterally-vibrating digger for shaking up the potatoes and working the soil, the adjustable arms R', with their inwardly-inclined rakes for gathering the potatoes into a row, substantially as described.

85,419.—Leonard Atwood, New York, N. Y.—*Hoisting Apparatus for Builders.*—December 29, 1868.—A series of parallel rack bars are attached centrally to a transverse beam on the platform, upon which bars hods may be readily attached.

Claim.—The parallel bars G G, attached to the transverse beam F, used in combination with the platform and frame of a hoisting apparatus, and arranged, in relation thereto, substantially in the manner and for the purpose set forth.

85,420.—Allen S. Ballard, Mount Pleasant, Iowa.—*Ice-cream Freezer.*—December 29, 1868.—In this apparatus two freezing surfaces are presented to the cream, two ice cylinders being assisted to revolve quickly by rollers and scrapers on or against each cylinder. Stationary scrapers and rollers serve to mix the cream thoroughly.

Claim.—1. The outer cylinder A and inner cylinders B and G, forming two ice chambers, in combination with the revolving cream chamber H, and stationary scrapers *a a* and *a' a'*, rollers *b b*, springs *c c* and *c' c'*, and segmental collars *d'* and *d'*, constructed substantially as described, and operating as and for the purpose set forth.

2. The collars *d* and *d'*, in combination with the springs *c c* and *c' c'*, scrapers *a a*, *a' a'*, and rollers *b b*, constructed as described and for the purposes set forth.

3. The points *g' g'* on collar *d*, slots in collar *e* of lid

f, segment collars *d′ d′*, in combination with arms *i i′* on lid *f*, and sockets *j j′*, constructed as described, and operating as set forth.

85,421.—David L. Bartlett, Rockford, Ill.—*Water Wheel.*—December 29, 1868.—Each chute is prolonged to the periphery of the ring gate, and the gates, in opening, slide over the fixed walls of the chutes so as to brace them, and an extension rises at an angle to reinforce the projecting wall of said chute.

Claim.—In combination with a curb, in which the wall *a* of the chutes is prolonged beyond the wall a^2, so as to form the projection a^4, a ring gate, in which the slides that open and close the chutes are constructed with the two parts *m m′*, arranged, when open, to reinforce the parts a^3 and a^4, all substantially as and for the purpose described.

85,422.—Charles Bean, Ionia, Mich.—*Weather Strip*—December 29, 1868.—A rubber strip is attached along the middle of the edge of the door or window by means of a clamping rod, which presses one edge of the rubber strip into a groove in the door or window prepared for the purpose. The projecting edge of the rubber folds back into a recess over the clamping rod when the door is closed.

Claim.—The arrangement of the rubber strip E, wooden strip or rod F, screws *e e e*, and door A, substantially as described.

85,423.—J. H. Beauregard, Sandy Hill, N. Y.—*Hollow Auger.*—December 29, 1868.—The device is so constructed as to be readily adjusted to cut tenons of any desired size.

Claim.—An auger, consisting of the shank F, adjusting springs E E, adjustable jaws A A, with projections A′ A′ attached thereto, and slotted, so as to receive the adjustable slotted cutters B B, set screws C C, and right and left hand screws D D, all constructed, arranged, and operated as and for the purpose set forth.

85,424.—Robert S. Boyd, Smithland, Ky.—*Road Scraper.*—December 29, 1868.—An oblique scraping share is attached to a wheeled suspending frame, so that by raising the rear end of such frame the share will be brought clear of the ground.

Claim.—The combination of the frame D, hinged to the axle A, and carrying the oblique scraper G, with the lever F, standards E, cord *c*, and pulleys *a b*, all arranged and operating substantially as shown and described.

85,425.—James F. Brewer, Plantsville, Conn.—*Poker.*—December 29, 1858.—The neck is cast upon the rod, and has a projection which is forced into the wooden handle when the latter is driven on. The end of the rod, being clenched, secures the handle.

Claim.—As an improved article of manufacture, the herein described poker, consisting of the wrought metal rod A, having the neck B cast thereon, and the said rod extending through the said neck, so as to receive and support the handle, all in the manner described.

85,426.—Charles K. Brown, Troy, N. Y., assignor to himself, Charles A. Brown, and F. Field, same place.—*Machine for Coloring Paper.*—December 29, 1868.—A reservoir for the coloring matter is placed above, and another below, the rollers, so that both sides of a sheet of paper may be colored at one operation,

Claim.—1. The rollers *d d*, in combination with the hopper B and brushes *e e*, substantially as described and specified.

2. The said rollers *d d*, in combination with the trough C and brushes *e e*, substantially as herein specified and set forth.

3. The hopper B, rollers *d d*, trough C, and brushes *e e*, all arranged and combined substantially in the manner and for the purposes herein described and set forth.

4. Distributing the coloring matter over the surface of both sides of a sheet of paper at one operation, by passing said sheet through a pair of brushes, *e e*, substantially as specified.

85,427.—James Bull, Galesburg, Ill.—*Scissors.*—December 29, 1868; antedated December 19, 1868.—The handles are formed of springs riveted together at the ends, so as to keep the blades apart. The instrument is more especially designed for cutting off sewing machine threads.

Claim.—The combination of the curved blades A A with the spring handles B B, substantially as and for the purposes herein set forth.

85,428.—William Burditt and George H. Burditt, Boston, Mass.—*Drive Well.*—December 29, 1868.—The concavo-convex screen is designed to prevent the filtering material from rising with the water.

Claim.—In combination with a pump tube, of the class that is driven into the ground without first digging or boring a hole, a perforated screen, containing some filtering material, and an elastic concavo-convex screen F, arranged to operate substantially as and for the purpose set forth.

85,429.—Jabez Burns, New York, N. Y.—*Kettle for Culinary Purposes.*—December 29, 1868.

Claim.—1. As a new article of manufacture, the bottom B, cast with water legs, *b*, and a bead, *a*, around which the lower edge of the body A is bent and secured simply by soldering, substantially as described and shown.

2. The kettle, constructed as described, of the bottom, B, cast with the water legs *b* and bead *a*, and the body A, of sheet metal, secured to the bottom by having its lower edge bent over the bead and soldered, as herein described.

85,430.—William Burrows, New York, N. Y.—*Combined Beam Compass and Calipers.*—December 29, 1868.—A pair of calipers, a gauge and a trammel are combined in one instrument.

Claim.—The combination, in the one instrument, with a stock or bar A and heads C C, of the trams or legs D, and transversely adjustable caliper blades or arms E, arranged to operate essentially as and for the purpose or purposes herein set forth.

85,431.—William A. Butler, New York, N.Y.—*Automatically-operated Pan for Water Closets.*—December 29, 1868.

Claim.—1. A pan closet, in which the soil pan is automatically adjusted to its receiving and discharging positions, through pressure applied to and removed from the seat by means of the sliding bar H operating thereon through its jaws J J′ and spur wheels K L M, substantially as specified.

2. The combination, in a water closet, of the tilting or tipping pans F and G, operating in a consecutive manner, the one as a fresh-water trap, and the other as a soil receptacle, essentially as herein set forth.

3. The combination, with the rising and falling seat D, of the fresh water pan G and soil pan F, in such manner as that weight applied to and removed from the seat will serve automatically to adjust the pans relatively to the bowl B, to make the one pan, G, act as a water trap when the closet is not in use, and the other pan, F, as a soil receptacle while or as the closet is being used, and afterward to tilt or tip to effect its discharge, substantially as described.

85,432.—George Crompton, Worcester, Mass.—*Loom.*—December 29, 1868.—The arrangement of parts admits of the ready removal of the shuttle boxes.

Claim.—1. The arrangement of the angular evener levers, pivoted in or near the cloth-making plane, with short lifter and depresser levers, connected to the evener levers by links, substantially as and for the purpose described.

2 The arrangement of short lifters and depressers, connected to eveners, pivoted as above described, with the slide rods, pattern chain or cylinder, and harness jacks, substantially as set forth.

85,433.—Alfred S. Dickinson, Washington, D. C.—*Curtain Fixture.*—December 29, 1868.—Arms pivoted on the inner surfaces of the window frame support a cross piece in which the curtain roller has its bearings, and project forward so as to fall when the cord is released. The curtain is evenly balanced by attaching the cord to the center of the cross strip.

Claim.—1. The combination of the curtain roller, and the bearings therefor, attached to a strip, D, and said strip, and the rods E, attached thereto, and pivoted to the inner and opposite faces of the window casing, said parts being arranged, in relation to one another, to operate substantially in the manner set forth.

2. In combination with the oscillating arms, roller, and strip, the cord F, centrally attached to the strip, and passing through pulleys or eyes F′, substantially as and for the purpose set forth.

85,434.—Thomas Drew, Newton, assignor to himself and James P. Bridge, Boston, Mass.—*Compound for Extinguishing Fires.*—December 29, 1868.

Claim.—The application of sulphite and hyposulphite of soda, either singly or mixed, and in solution with water, as extinguishers of fires.

85,435.—William V. Dubois, Covington, Ind., assignor to himself, William A. Sangster, and I. G. Sangster, same place.—*Water Indicator for Boilers.*—December 29, 1868.—A rotary movement is communicated from the float to the indicator shaft. The supply of water is regulated by connecting the indicating finger with the cock of the supply pipe, and the finger has a pin which strikes the stem of a wedge, when the water falls to a certain level, and forces a valve shaft inward, so as to admit steam to the whistle.

Claim.—1. The combination, with the cock E, of the whistle N, weighted wedge P, and valve shaft D, substantially as described.

2. The arrangement of the float B, arms C F, cock E, scale G, lever H, connecting rods I K, and the water cock L, substantially as described.

85,436.—George H. Eddleman, Atlanta, Ga.—*Sawing Machine.*—December 29, 1868.—The inner end of the short shaft has a head in which the circular saw shaft may be secured by a set screw, said saw shaft extending thence to a bearing on the opposite side of the frame.

Claim.—The frame A, constructed as herein described, and provided with the eccentric pulley and shaft D, the short shaft L, one end of which is suitably centered, and the other end provided with a clutch, and the driving shaft V, whereby I am enabled to form a machine combining in one a circular saw, a jig saw, and a lathe, as herein set forth.

85,437.—John T. Elliott, Grand Rapids, Mich.—*Horse Hay Fork.*—December 29, 1868.—The disk is released from the lever by a trip cord; and is actuated by the spring, so as to give the initial backward revolution to the spiral, and thus insure the liberation of the hay from the fork.

Claim.—The construction and arrangement of the wheel or disk A and its pins *i i*, upon the upper portion of the spiral C, in combination with the spring T and lever D upon the head, having tines E E, all as herein set forth.

85,438.—Horace Everett, Philadelphia, Pa.—*Fastening for Sheet Metal Joints.*—December 29, 1868.—Designed to form a tight joint, without the aid of solder, for boxes, tubes, and other articles of sheet metal.

Claim.—A fastening, composed of a lip, *b*, on one end of a strip of metal, and fitted to a pocket, formed by cutting and indenting another strip, or the opposite end of the same strip, all substantially as described.

85,439.—Jean Joseph Léon Farcot, Saint Ouen, (Seine,) France.—*Device for Controlling Engines.*—December 29, 1868.—Relates to the arrangement of the valve rod of the engine in relation to the rock shaft, which is operated by a bell crank and connecting rod; said bell crank being attached to an oscillating arm, which is rigidly secured to the main shaft and derives motion from the piston rod.

Claim.—The arrangement of the bell crank I, pivoted to the main lever G, and of the rock shaft L, operated thereby to control the position of the valve by levers and connections, substantially as shown and described.

85,440.—George H. Garrett, St. Louis, Mo., assignor to Richard P. Garrett, same place.—*Molding Pipe.*—December 29, 1868.—The molding apparatus consists of a roller and sweep, secured in a flask section by set screws. The roller has its bearings in radial arms made adjustable in length, so as to regulate the distance between the roller and shaft.

Claim.—1. The flask A, when provided with an adjustable framework, D, and a pressing roller, B, for molding and shaping the sand, in the manner herein shown and described.

2. The roller B, and its adjustable arms B′, when arranged and operated as described and set forth.

85,441.—George W. Gillett, Chicago, Ill.—*Combined Tank and Closet Attachment to Cooking Stoves.*—December 29, 1868.—The bottom of the water reservoir forms a top for the warming closet, and the water in the reservoir serves to keep the closet warm.

Claim.—1. A combined warming closet and water reservoir, when so constructed as not to form a part of the stove from which they are heated, but can be used in connection with any stove, being connected therewith simply by pipes, substantially as herein set forth.

2. A combined warming closet and water reservoir, constructed as herein described, when so arranged that a part of the water reservoir serves as a part of the warming closet, substantially as and for the purposes herein specified.

3. The combination of the pipes I with the warming closet and water reservoir, constructed as herein set forth, when so arranged that they serve to heat the warming closet and water reservoir, substantially as herein specified.

85,442.—Edwin F. Gunn, Charleston, S. C.—*Breech-loading Fire-arm.*—December 29, 1868.—The breech block, operated by a pinion on the hammer, is provided with a spring, which comes in contact with the arm of a lever that operates the keeper and shell extractor when the hammer is thrown back or cocked.

Claim.—1. The cartridge keeper or retainer N, constructed for operation by the breech block, or by the hammer, in working the latter back, to effect lift of said keeper, substantially as specified.

2. The combination, with the breech block J and its spring Q, of the lever R, or its equivalent, keeper or retainer N, and shell extractor P, for operation together, essentially as herein set forth.

85,443.—Absalom Hallam, Monmouth, Ill.—*Combined Seed Sower and Harrow.*—December 29, 1868.—Designed to be used as a seed sower, a harrow, a marker of corn ground, or a cultivator.

Claim.—The frame A, B, r, and M, of the seat F, harrow H and lever *f*, cords *g g* and chain G, and pulley X, when constructed and arranged in the manner described, and for the purpose set forth.

85,444.—Edward Harrison, New Haven, Conn.—*Grinding Mill.*—December 29, 1868.—The meal, in passing from the stones, is thrown against the wire screen surrounding the stones, the flour passing through the screen to one exit and the hull being driven out at another exit.

Claim.—The arrangement, with the casing which incloses the stones, of one or more bolt cloths, so as to separate the finer from the coarser portion of meal within the casing of the mill, substantially as set forth.

85,445.—M. R. Heliker, Norwalk, Ohio.—*Churn Dasher.*—December 29, 1868.—Concentric coils of wire are attached to two pairs of radial arms, one above the other, a space being left for the passage of the butter and cream, and for the hand to be introduced in cleaning.

Claim.—A dasher, when constructed with two pairs of radial arms, B C, arranged in relation to each other, and in combination with the wires D, substantially as and for the purpose set forth.

85,446.—J. O. Houck, Iowa City, Iowa.—*Device for Supporting Wagon Tongues.*—December 29, 1868.—A spring is coiled around the pin on which the tongue is pivoted, one end of said spring being secured to the tongue and the other projecting beneath the axle, so as to support the tongue.

Claim.—The arrangement of the axle A, hounds B B, tongue C, pin *a*, and spring *b*, all constructed to operate substantially as and for the purposes herein set forth.

85,447.—Eliza D. Hunt, New York, N. Y.—*Washing Machine.*—December 29, 1868.—Spiral blades are attached to cross bars on a shaft which has bearings in an inclined corrugated cylinder. The blades draw the water up through, and force the clothes against, the corrugations on the cylinder.

Claim.—The combination of the shaft C, cross bars E E, spiral blades I I, and perforated wheel F, all constructed and arranged to operate within the corrugated metal cylinder A, all substantially as and for the purposes herein set forth.

85,448.—Isaiah Ickes, Massillon, Ohio.—*Music Book.*—December 29, 1868.

Claim.—So making a hymn book that there shall be a division, transversely, of the leaves of the said book, the notes being on the one half, and the words on the other, whereby any particular hymn may be sung to any desired tune, and the change of different hymns and different notes be accomplished readily, the whole having an exterior like a book of the ordinary make.

85,449.—Charles H. Jackson, St. Louis, Mo.—*Filter.*—December 29, 1868; antedated December 17, 1868.—A central chamber for the filtered water is surrounded by an annular filtering chamber, through which the water filters downward and enters the central chamber at the bottom.

Claim.—The vessels A and B, B^1 B^2, when constructed with the filtering chambers *b* and b^1, and otherwise arranged, as herein shown and described.

85,450.—A. H. Jocelyn, New York, N. Y.—*Binding Books.*—December 29, 1868.—Slates are attached to books for the purpose of enabling the reader to make memorandums.

Claim.—The arrangement of hinged slated leaves *d*, when the same are attached to the cover or any other part of a printed book, so as to turn outward, for the purpose described.

85,451.—Moses Johnson, Three Rivers, Mich.—*Plow.*—December 29, 1868.—The plowing is done by means of the sharp corrugated wheels revolving on pins in stirrups attached to the beam. The width of the furrow can be regulated by means of the hinged beams, which are held in position on the arm by pins.

Claim.—A plow, having wheels A, beams D, stirrups B, axles C, and punctured arm K, constructed, arranged, and operating substantially as described.

85,452.—William E. Kinert, Bluffton, Ind.—*Churn.*—December 27, 1868.—The curved form of the dashers is designed to prevent the "slip" incident to the plane surface dasher.

Claim.—The dashers B B', when provided with curved paddles *c c*, wheels J J and K, and axles *e e*, the slotted boxes *g g*, and the slides *h h*, all substantially as herein shown and described.

85,453.—John Kivett and George Kivett, Covington, Ky.—*Method of Laying and Spreading Composition Roofing, Pavement, &c.*—December 29, 1868.—The composition, formed of sand, asphaltum and brine, is smoothed by means of heated rollers.

Claim.—The within described process of spreading and smoothing the surface of concrete or composition for roofs, floors, walks, and streets, by the use of a heated roller or rollers, substantially in the manner described.

85,454.—Julius Krieg, New York, N. Y.—*Piano Stool Screw.*—December 29, 1868.—The wound wire projects beyond the cylinder and forms a screw thread.

Claim.—1. A screw, formed by first spirally grooving a wooden cylinder, and then coiling a wire, C, in said groove, as herein described, as a new article of manufacture.

2. The piano stool screw, consisting of a wooden cylinder. A, spirally grooved, and having a wire thread, C, coiled in said groove, the screw being provided with a cross, D E, for the seat, secured to the upper end by pins G, as shown, whereby the wire C is held in place, as herein described.

85,455.—Benjamin Kuhns, Dayton, Ohio.—*Seed Planter.*—December 29, 1868.—The pinions forming a cone revolve on a stud attached to an oscillating arm, which is raised or lowered to throw them in gear with a pinion on an axle made to slide by means of a bar, the end of which latter is attached to a sliding arm that moves over and is actuated by a revolving helical plate.

Claim.—1. The rollers D, constructed with pockets, formed by fixed heads, d^2, and intermediate partitions, formed by ribs, part spiral and part straight, substantially as set forth.

2. In combination with the spur wheel on the hub or axle, and the spur wheel on the seed roller, an intermediate set of pinions, cast in one piece, concentric with one another, so as to form a cone spur pinion, so arranged as to give a variable speed, by shifting the wheels in relation to one another, substantially as set forth.

3. The combination of the cone wheel, the oscillating arm, and sliding pinion, arranged in relation to one another, substantially as set forth.

4. The combination of the sliding pinion G, frame A, standard N, oscillating arm O, intermediate cone wheel F, and wheel E, substantially as and for the purpose set forth.

5. The combination of the lever, the sliding pinion and cone pinion, substantially as and for the purpose set forth.

6. The combination of the oscillating bar M, helical plate L, and sliding arm I, substantially as and for the purpose set forth.

7. So arranging the intermediate pinion and the stationary and sliding spur wheels, that while the intermediate pinion swings on an arm concentric with one of the wheels, it shall at the same time swing on a center common with the other, substantially as and for the purpose set forth.

85,456.—Benjamin B. Lewis, Bristol, Conn.—*Calendar Clock.*—December 29, 1868.—Improvement on his patent of February 4, 1862.

Claim.—1. The combination and arrangement of the steps or notches in wheel A with spring *s* and hooked wire spring *m*, substantially as and for the for the purpose described.

2. Making the notch in wheel E straight and full from points 5 to 7, when said wheel is combined with wing *a* of lever *b*, and the other working parts of this calendar, substantially as and for the purpose described.

3. Making the lever *b*, Fig. 3, all of one piece of metal, substantially as and for the purpose described.

4. The arbor, Fig. 5, with its bearing 1, pivot 2, and tenon 3, in combination with and secured to lever *b*, substantially as and for the purpose described.

5. The combination of stud *d*, spring *c*, and slug *e*, all arranged and secured together. substantially as and for the purpose described.

6. The combination of plate *h*, pillars *g g g*, plate *f*, and wheels A B D E, socket C, and shaft F, substantially as and for the purpose described.

85,457.—Lewis W. Lewis, Sharpsburg, Pa.—*Metal Squeezer.*—December 29, 1868.—A hinged guard is so arranged as to bear loosely on the bottom upset and receive, and throw out of the machine all the pieces or lumps of metal which fly off as the bloom emerges from the rolls.

Claim.—Hinging the guard, or hinging a bar to the guard of a squeeser, in the manner described, so that the bar or its guard, as the case may be, shall rest with its lower edge on the upper face of the bottom upset, substantially as and for the purposes hereinbefore set forth.

85,458.—JOHN S. LIPPS, New York, N. Y.—*Manufacture of Illuminating Gas.*—December 29, 1868.—Hydrogen, in its nascent state, is passed through liquid hydrocarbons, which is effected by means of an annular vessel containing water, and having inverted in it a vessel to which is attached a wire basket containing zinc or its equivalent.

Claim.—1. The manufacture of illuminating gas, by passing hydrogen, in its nascent state, through gasoline, substantially as herein described.

2. The manufacture of illuminating gas from hydrogen and gasoline, or other hydrocarbon liquid, by so placing the said liquid in the same vessel with the acid by or from which the hydrogen is generated that the said liquid floats upon the acid, and the hydrogen, as it rises from the acid, passes through the said liquid, substantially as herein described.

3. The combination and arrangement of the reservoir B, containing the acid and the gasoline, or other hydrocarbon liquid, the gas holder C, and the basket D, for containing the metal, whereby the production of the illuminating gas is made self-regulating, according to the demand or consumption, substantially as herein specified.

85,459.—ROBERT A. LUCAS and LOUIS S. LEHMAN, Wooster, Ohio.—*Fruit Drier.*—The dry house is constructed on the rear side of the furnace and provided with openings for the escape of smoke.

Claim.—1. The air chamber C, constructed on the rear side of furnace B, and communicating with the chamber *l* over said furnace, and operating substantially as set forth.

2. The employment, in a dry house, of the perforated inner double wall D, supplied with the air tubes d^2 d^2, and consisting of the inner house *d* and partition d^1, all constructed and operated substantially as and for the purpose set forth.

85,460.—D. D. MACKAY, Whitestone, N. Y.—*Egg Beater.*—December 29, 1868.—The spiral screw within the handle imparts an alternate rotary motion to the stirrers, by alternately pressing down and raising the handle, the spring acting to force up the handle.

Claim.—The combination of the spiral thread or screw B on the shaft or stem D, the nut *a*, the upper spindle bearing *e*, the spring C, and the stop *g*, all arranged within the handle A, substantially as herein specified.

85,461.—ROBERT B. MAGEE, Venango City, Pa.—*Temper Screw for Oil Wells.*—December 29, 1868.—The brace nut, through which the screw passes, is made in two pieces held together by a clamp, riveted or screwed to the said nut. A set screw passes through and bears against the nut, so that when the set screw is slackened the nut will spring open.

Claim.—The combination of the screw C, with its links C' and C', with the brace nut A, clamp B, rivet B^1, and set screw B^2, when constructed, combined, arranged, and operating substantially as herein described, and for the purpose set forth.

85,462.—LEONARD MANCY, St. Morgan, Ill.—*Whiffletree Attachment.*—December 29, 1868.—A singletree is so connected with levers that the draft of a single horse shall counterbalance the action of the draft of two or more horses upon the double or triple attachments.

Claim.—1. The combination of the singletree C, the adjustable staple bolt *c*, the lever B, adjustable bolt *d*, and link D, the lever E, adjustable staple bolt *g*, and doubletree G, substantially as set forth.

2. The pivot F on the fulcrum block *f*, attached at the side of the tongue A, substantially as set forth.

85,463.—WILLIAM MATTHEWS and JAMES MOORE, Philadelphia, Pa.—*Cover or Door for Gas Retorts, Furnaces, &c.*—December 29, 1868.—Designed to allow for expansion and contraction of the cover, and to prevent its breaking.

Claim.—A retort cover or furnace door, having the portion exposed to the fire of a concavo-convex form, and this portion waved or corrugated, all substantially as and for the purpose herein set forth.

85,464.—JOHN H. MCKINLEY, New York, N. Y.—*Hames Fastener.*—December 29, 1868.—A hook plate is secured to the hames, and has pivoted to it a hooked and bent lever, provided with a stud that fits in a hole in the hook plate when closed.

Claim.—The hook plate *a*, bent lever *b*, having stud F, hole *g*, and pivoted together as described, in combination with the curved bar C, with hook D at one end, the ordinary eye H at the other, and the movable loops *i*, all being constructed and arranged with relation to each other, and to operate together in the manner and for the purpose herein described.

85,465.—WILLIAM S. MCKINNEY, Cincinnati, Ohio.—*Shaft Coupling.*—December 29, 1868.

Claim.—In the described combination with the key-seated sleeve C and common key F, the double-draft key or gib G, constructed with opposing inclined faces $g\ g'$, to fit into match key seats H I in the shafts, substantially in the manner and for the purpose set forth.

85,466.—NOAH MENDENHALL, Greensburg, Ind.—*Corn and Seed Planter.*—December 29, 1868.—The seed distributors are connected by arms to a T-piece, which is reciprocated by means of a connecting rod attached to a crank on the axle.

Claim.—1. The combination of the crank C, connecting rod D, T-piece or cap arm E, and seed distributors I.

2. The combination of the within-described seed boxes with the distributors and the partitioned seed tubes, substantially as shown and described.

3. The arrangement of the T-piece E with reference to the seed distributors, by which they are both moved by one motion of the connecting rod.

85,467.—JOSEPH MILLARD, Winslow, Ind.—*Cultivator.*—December 29, 1868.—The side bars are connected at their front ends to the center bar by springs, and their rear ends are moved toward or from the center bar by means of connecting rods operated by a lever adjustably pivoted in a forked standard.

Claim.—The arrangement of the side bars B B, rods D D and E, standard F, bar G, lever H, and bent notched bar I, all as shown and described.

85,468.—ELIE MONEUSE and LOUIS DUPARQUET, New York, N. Y.—*Cooking Range.*—December 29, 1868.—The fire chambers, ovens, and flues are so arranged that the range has two fronts and an end, so that attendants can have ready access to all parts of the range. The products of combustion are utilised in heating ovens or spaces for warming plates and keeping the viands warm.

Claim.—1. A cooking range, in which two rows of fire spaces and ovens are arranged, substantially as set forth, so that the products of combustion pass away from the middle of the range, between said rows, as set forth.

2. The end fire space *k*, with ovens on each side, arranged substantially as shown, in connection with the two rows of fire spaces *h h*, and ovens *i i*, as set forth.

3. The warming ovens or closets *n n*, placed below or between the ovens *i i*, so as to be of a lower temperature than said ovens *i*, the respective ovens being arranged substantially as set forth.

4. The broiling spaces, arranged with the warming closets between them, and the racks or shelves *y* above, substantially as set forth.

85,469.—G. W. MORTER and EDWARD BERRY, Hartville, Ohio.—*Adjustable Shovel Plow.*—December 29, 1868.

Claim.—1. The second beam E, pivoted to the main beam A by parallel bars G G G G, and having attached to it the standard F, with brace rod N, substantially in the manner and for the purpose specified.

2. The rod I, with bent front end and plate K, with one or more holes therein, when used in combination with the beams A and E, pivoted to each other by the bars G G, substantially in the manner and for the purpose specified.

3. The double-shovel plow herein described, con-

sisting of the beam A, handles B B, cross bar C, standard D, second beam E, parallel bars G G, rod I, plate K, standard F, braces O N, and shovels M M, the several parts being constructed and combined substantially as and for the purpose specified.

4. So constructing a shovel plow as that it may be changed from a double-shovel plow to a single-shovel plow, without any change of parts, except the change of the two shovels for a single shovel, substantially in the manner herein specified.

5. So constructing an interchangeable double or single-shovel plow, as that, when used as a double-shovel plow, the distance between the two shovels may be changed as desired, the several parts being so arranged as that the only change of parts required in a change from a double to a single-shovel plow shall be the change of the two shovels for a single shovel, substantially in the manner herein specified.

85,470.—PETER MURRAY, Philadelphia, Pa.—*Grate.*—December 29, 1868.—The ends of the grate bars rest upon a horisontal ledge within a wedge-shaped groove or recess formed in the side pieces of the frame, the bars being prevented from rising vertically by the inclined shoulders of the recess.

Claim.—1. The combination, with a falling or hinged grate of detachable bars B, for the purpose specified.

2. The frame A of a falling grate, adapted for the reception and detention of detachable grate bars B, substantially as herein set forth.

85,471.—IRA A. PALMER, Monmouth, Ill.—*Cultivator.*—December 29, 1868.—The shovel is extended at its upper part, and is curved similarly to the moldboard of an ordinary plow, so as to carry a great portion of the soil raised in one certain direction. The beam plates embrace the journal spindle, to which they are adjusted by a bolt. Adjustable hooks attached to bars, secured to the doubletree, and resting on a spindle, are for attachment of the singletrees.

Claim.—1. The shovel *d*, constructed as described, and for the purpose set forth.

2. The slotted beam plates L and M, one of them being crooked, and bolt P and spindle T, arranged substantially as described and for the purpose set forth.

3. The arrangement of doubletree C, bar W, with holes *e e e*, and hook Y, combined with the frame A, E, F, and tongue B, substantially as described and for the purpose set forth.

85,472.—C. E. PATRIC, Macedon, N. Y.—*Grain Drill.*—December 29, 1868.—The machine is so constructed that the grass seeder can be used either in front or behind the grain seeder. The grain spouts are adapted to deliver the grain from each alternate one in the rear of the others.

Claim.—1. Connecting the lever for throwing the seed distributer into and out of action with the lifting roller, which raises the seed tubes in such manner that the said shipping lever shall be acted upon only while the seed tubes are in proper position to deliver the grain.

2. In seeding machines, in which the seed tubes are lifted by means of a traveling roller or equivalent, controlling the delivery of the seed through the motion of the roller or bar to which the seed tubes are connected.

3. The construction of the device for transmitting motion from the driving wheel to the distributer of a grain drill or seeding machine, in such manner that a limited or fixed throw of the shipping lever may be made to throw the distributers into and out of action, while provision is also made for varying the speed of the distributers relative to that of the driving wheel.

4. I do not claim, broadly, a travelling roller for raising the seed tubes, such device being embraced in a patent granted to me December 17, 1867; but I do claim the traveling roller or bar for raising the seed tubes out of the ground, when operated by means of the chains or cords, for the purpose set forth.

5. The grain spouts of a grain drill or seeding machine, made adjustable in such manner as to deliver the grain to the drill teeth arranged in different positions.

6. The eccentric rotating bearing G, in combination with the arm G^1, shaft F, and shaft G^2, for throwing the pinion E into and out of gear.

85,473.—TIMOTHY PENDERGAST, St. Louis, Mo.—*Pole for Horse Cars.*—December 29, 1868.—A rubber cushion is placed within a protecting cylinder, at the rear end of which is a piston so connected with the doubletree and pole, as to avoid jars and produce a gradual propulsion of the vehicle. An adjustable brace rest, held by a bolt, is provided with a screw nut into which the rest fork passes for supporting the draught pole.

Claim.—1. The pole A, slotted at *g*, straps B and C, and slots *f*, doubletree E, hinge bolt F, rod G, piston G', cushion I, inclosing cylinder H *h*, when combined and arranged substantially as and for the purpose set forth.

2. The rest fork L, fitted at l^1, and having a screw end l^2, and combined with nut *l* of the brace K, substantially as and for the purposes set forth.

85,474.—ALBERT J. POTTER, Omaha, Nebraska.—*Farm Gate.*—December 29, 1868.—On the upper end of the rear gate post is a bevel cog wheel, into which gears a cogged segment, attached to a shaft passing through a cylinder, and operated by means of a lever actuated by cords. To the said lever is attached a cord connected with another lever that operates the gate bolt.

Claim.—The gate A, bolt *h*, lever F, bevel wheel D, cogged segment D', shaft *d*, cylindrical bar C, lever E, cords *e f g*, and posts B B^1 B^2 B^3, all combined, constructed, arranged, and operated substantially as and for the purpose set forth.

85,475.—ELISHA O. POTTER, Pawtucket, R. I.—*Apparatus for Feeding Cloth to Printing Machinery.*—December 29, 1868.—The cloth passes over a roller which controls a yielding bar. The said bar is connected by a bell-crank lever with a long rod which is pivoted to a segmental disk plate set upon the axle that supports a bell-crank lever, upon whose periphery the lips of two pawls can rest, so as to be raised above the teeth of the ratchet wheel. Upon the same axis with the ratchet wheel is a drum bearing a cord which carries a movable weight placed upon a friction-brake lever applied to the delivery beam. Any increase or decrease of tension causes one or the other of the pawls to engage with the ratchet wheel to automatically operate the weighted lever.

Claim.—An apparatus or combination of devices for securing a uniform amount of tension upon cloth, or other material, during its delivery to other machinery, which consists of a friction brake, or like device, for varying the degree of friction upon the delivery beam, operated by a pawl and ratchet gear *g* I, and cord, *f*, or the equivalents thereof, in combination with a yielding bar, E, controlling, through the disk plate M, or like means, the action of the pawl and ratchet mechanism, such apparatus operating substantially as herein set forth.

85,476.—JOHN T. RAFTERY, Eldara, Ill.—*Water Elevator.*—December 29, 1868.—The motion of the chain can be reversed without reversing the motion of the crank, by means of a lever and loose pinions engaging with clutches on the shafts.

Claim.—A water elevator, having shafts D and H, chain B, cog wheels G and I, fast and loose pinions E and K, brace L, lever S, and hooks P, constructed, arranged, and operating substantially as specified.

85,477.—THOMAS L. RANKIN, New Richmond, Ohio, and CHARLES W. GRASSMUCK, Pera, Ill.—*Beer Cooler.*—December 29, 1868.—The ice is melted by the beer and flows down a vertical chamber into a cold water space over which the beer escapes from the cooler.

Claim.—1. An air-tight chamber for cooling beer, provided with a series of trays of galvanised metal, which extend obliquely beyond the vertical center, from one side of the chamber toward the other, in opposite directions, one above the other, and having their ends perforated, all substantially as set forth.

2. In combination with the above, the inclined ice chamber *a*, over said trays, which communicates with a vertical chamber, *c*, leading into a cold water space, *f*, under the trays, and so formed that its narrowest part is near the chamber *c*, and with a conducting pipe, *b*, for the overflow, all substantially as shown and described.

85,478.—DANIEL REED, Birmingham, Conn.—*Nail-plate Feeder.*— December 29, 1868; antedated December 24, 1868.—One end of a clamp in the plate holder is secured to the plate; the other end is connected by a cord with the spring cylinder, which latter feeds the plate automatically against the guides when the cutters are withdrawn.

Claim.—1. The arrangement of the plate holder T, and the mechanism by which it is operated, substantially as described, by which the two ends of the plate are simultaneously moved in opposite directions, and different portions of it presented alternately to the cutters.

2. The subject-matter of the first clause of claim, in combination with the spring wheel W and clamp Y, as set forth.

3. The subject-matter of the second clause of claim, in combination with the guides f^1 and f^2, as and for the purpose set forth.

4. The subject-matter of the first clause of claim, combined with the cutters I and L, in the manner specified.

85,479.—NELSON RUE, Harrodsburg, Ky.—*Gate.*—December 29, 1868.—By means of the pivoted oblique braces and notched bars, the gate can be braced in any direction.

Claim.—The notched bars E, D, and E, and the pivoted oblique braces C C C C, arranged with the gate A, all as herein specified, and operating as set forth.

85,480.—M. SAMUELS, New York, N. Y.—*Hoop Skirt Clasp.*—December 29, 1868.—The bell-shaped tubes on the clasps connecting the hoops and tapes receive the hoops and prevent the abrasion of the covering.

Claim.—The bell-shaped guide tubes *c* on the clasps *d*, in combination with the hoops B and tapes C^*, substantially as and for the purpose described.

85,481.—CHARLES C. SCHMITT, New York, N. Y.—*Spring Rocking Chair.*—December 29, 1868.—The back of the chair is hinged by means of loop hinges to permit it to be folded down close to the seat.

Claim.—1. A chair having its seat hinged to the base or lower portion, forward of the center, substantially as described, and sustained by springs, substantially as and for the purpose set forth.

2. The employment, in combination with a chair having a reclining back, of arms, which are both adjustable and removable in the manner and for the purposes as specified.

3. The employment, in combination with the seat and folding back, of the slotted hinge pieces, substantially as described, for the purpose set forth.

85,482.—WILHELM SCHMITZ, Philadelphia, Pa.—*Explosive Cartridge.*—December 29, 1868.—A composition of amorphous phosphorus, chlorate of potash, and gum arabic, is placed in paper covered with linen paper treated with a solution of brimstone, coal oil, and gutta percha.

Claim.—A combination of the articles above described, in and for the purposes set forth.

85,483.—I. D. SEELEY, Hudson, Wis.—*Wash Boiler.*—December, 29, 1868.—The object of this invention is to convey the water which would otherwise run over the boiler onto the stove, back into the space below the cover.

Claim.—A tube or passage, the upper end of which communicates with the space above the cover of a wash boiler, while its lower end communicates with the interior of such boiler, below such cover, substantially as and for the purpose described.

85,484.—FREDERICK J. SEYMOUR, Meriden, Conn., assignor to himself and E. MILLER & COMPANY, same place.—*Tube for Oilers.*—December 29, 1868.

Claim.—As an article of manufacture, the conical metal tube, formed by drawing or spinning from a cylinder without seam or joint, substantially in the manner herein set forth.

85,485.—MERRELL B. SHERWOOD, Buffalo, N. Y.—*Process for Curing and Preserving Meat.*—December 29, 1868.—The blood and impurities are extracted from the meat in one tank and discharged into a second tank. A third tank containing the impregnating solution is filled with compressed air, and, on opening a cock in a pipe connecting this and the meat tank, the solution is forced in, and fills the pores of the meat.

Claim.—1. The combination of the tanks A, C, and F, all constructed as described and operating substantially as and for the purposes herein set forth.

2. The within-described process of preparing meat for curing, by subjecting the same to the suction of an air pump, whereby the blood and impurities are removed from the meat, and its pores opened, substantially as and for the purposes herein set forth.

85,486.—MICHAEL JOSEPH STEIN, New York, N. Y.—*Machine for Channeling Boot and Shoe Soles.*—December 29, 1868.

Claim.—1. The combination, with the channeling knives and with a guide to direct the edge of the sole, of a revolving table, and an upper feed roller or wheel arranged at right angles to the table, or thereabouts, substantially as specified.

2. The combination, with the channeling knife or knives, the revolving table, and the upper feed wheel, of a guide and pressing roller, arranged to work in close proximity to the feed wheel, and relatively to the knife or knives, essentially as herein set forth.

3. In combination with the channeling knife or knives, the guide H, made adjustable, by mechanism under the control of the operator, to gradually vary the distance of the channel or channels from the edge of the sole while the machine is running, and the sole being fed across or through it, substantially as specified.

85,487.—B. WILLIAM STESCHULT, Glandorf, Ohio.—*Dropper for Harvesters.*—December 29, 1868.

Claim.—1. The droppers, when formed by two boards or floats, attached to arms L^2, and so combined with the rod L^1 and lever L^3, that the floats may alternately be used to support the stalks resting on the narrow platform, and to drop the gavel, substantially in the manner set forth.

2. The driving wheel B, when constructed with sockets B^2, to receive the levers when the driving mechanism is used as a horse power, substantially as described.

85,488.—WILLIAM L. STUART, Rushville, Ind.—*Cultivator.*—December 29, 1868.—A vertical series of holes made in the axle receive the eye bolts, to which the plow beams are hinged, and permit a vertical adjustment of the latter. The coulters are slotted so as to be adjustable horizontally, and are secured to vertically-adjustable shafts.

Claim.—1. The construction and arrangement of the axle B, by which means the front ends of the plow or shovel beams are raised or lowered for the purpose of controlling the depth to which the shovels shall enter the earth.

2. The within-described construction of the coulters H H, for the purpose set forth.

3. The arrangement of the coulters with reference to the shovels of the cultivator, that is to say, with vertical and longitudinal adjustment with reference thereto, substantially as shown and described.

85,489.—O. S. ST. JOHN, Willoughby, Ohio.—*Car Coupling.*—December 29, 1868.—To connect the cars, the forward tumbler is lowered by means of a rod until its pointed arm rests on the beveled front of the bar. The link, being forced against the arm of the tumbler, pushes the latter back until it rests under the end of a second tumbler.

Claim.—A car coupler, having standards B and B, arms C and D, tumblers E, P, and T, bar K, and rod *a*, constructed, arranged, and operating substantially as described.

85,490.—CHRISTIAN STOTZ and GEORGE SMITH, Perth Amboy, N. J.—*Clay Pipe Machine.*—December 29, 1868.—As the pipe emanates from the forming die the collar die is pressed up by means of a lever pivoted to a swivel shaft. When the collar is formed the die is lowered and swung around out of the way of a yielding platform, which connects with, and is operated by, the swivel shaft.

Claim.—The combination, with the tubular extension die E, of the adjustable die F, swivel shaft *l*, arm *o*, rod *p*, and balanced platform H upon its shaft *m*, substantially as and for the purpose set forth.

85,491.—JOHN A. TERRELL, Bloomfield, Ky.—*Cannon.*—December 29, 1868.—The perforated reinforce affords great facility for the radiation of heat caused by the burning powder and friction of outgoing shot. The hinged breech piece is secured in position by a set screw working in a hinged nut, which is supported by stops on the slotted breech piece. By means of the double screws a quick or a very slow and accurate elevation or depression can be given to the cannon.

Claim.—1. A perforated reinforce for guns, substantially as shown and described.

2. The combination of the hinged breech piece D, hinged nut E, and set screw H, substantially as shown and described.

3. The arrangement of the elevating screws F F′, substantially as shown and described.

85,492. — JULES CONSTANT TOUZET, Paris, France. — *Apparatus for Manufacturing Shoes.*— December 29, 1868.—Recessed plates hinged to a table are provided with guides and clamps to hold the vamp while the irons, receiving a vertical movement by means of treadles, turn up the edges of cloth and leather, and by a slight lateral movement folds down the projecting edges of the plates. The lever compresses the material between the plates and is secured while maintaining a pressure, by catches. The irons rest upon boxes which are heated by gas passing through the hollow shaft.

Claim.—1. A clamp, (consisting of recessed plates, adapted for the reception of the vamp or lining of a shoe,) in combination with an iron, corresponding in form to the recesses in the said plates, and so arranged as to be carried upward through the said openings, and laterally over the plates, all substantially as and for the purpose described.

2. Recessed plates D D′, hinged to a table or platform, having openings *c c*, and adapted for the reception of guides H I and clamps E E′, in combination with irons M M, corresponding to the openings in the platform, and operating to turn down the edges of the leather or fabric, all substantially as and for the purpose described.

3. The combination of the platform C, plates D D′, E E′, catches G, and the lever F, hung to a shed on the platform, substantially as and for the purpose described.

4. The boxes L, heated, as described, in combination with irons M, so secured to the said boxes as to have a limited lateral motion independently of the same, for the purpose described.

5. The hollow shaft J, with its enlargement *m*, openings *w*, and perforations at the upper end, in combination with the gas tube *n*, arranged substantially as set forth.

85,493.—STEPHEN D. TUCKER, New York, N. Y. —*Printing Press.*—December 29, 1868.

Claim.—1. The wrist pin N, slotted yoke L, rocking levers H H, arms I I. and rods J J, for operating the type bed, substantially as described and specified.

2. Giving the impression cylinder a reciprocating rotating movement, in coöperative relation with the type bed, so that the sheet to be printed shall come in contact with the form of type while the cylinder and bed are traveling in one direction, and escape the form, and come in contact with the numbering wheels when traveling in the reverse direction, substantially as described and specified.

3. The feeding table, so constructed and operated that it shall approach to enter the sheet between the cords and the cylinder, and recede to allow the sheet to be delivered to the sheet flier, in combination with a reciprocating rotating cylinder and type bed, substantially as described and specified.

4. The combination of the sheet flier, constructed and operated substantially as described, with a reciprocating rotating impression cylinder, as described and specified.

5. The combination of the puncturing rollers *c c* with a reciprocating rotating impression cylinder, substantially as described and specified.

6. The arrangement of cords *b b b*, pulleys G G G, and weight Z, for conducting the sheets to and holding them against the cylinder, and taking them from the form of type, substantially as described and specified.

7. The combination, with a reciprocating rotating impression cylinder and reciprocating type bed of the numbering wheels, substantially as described and specified.

8. The combination, with the numbering wheels, of the rod P′ and inclined planes R′ R′, substantially as described and specified.

9. Operating the numbering wheels by the reciprocating movements of the type bed and the inclined planes, substantially as described and specified.

10. The combination, with the numbering wheels and reciprocating type bed, of the springs *h h h*, for forcing the pawls *i i i* into their respective notches, so as always to insure perfect rotation of the numbering wheels, substantially as described and specified.

85,494.—FREDERICK VETTERLIN, Newhausen, Switzerland. — *Magazine Fire-arm.*—December 29, 1868.—The sliding breech block is held in position to close the breech, by a collar provided with radial lugs which are brought in front of fixed shoulders on said collar. A dog and spring on the hammer prevent the firing of the cartridge if a slot in the collar is not in a position to receive said dog.

Claim.—1. The combination of the pivoted dog *u* and spring *w*, arranged upon the hammer, with the recess *r*, inclined plane *s*, shoulder *m*, and ledge *n*, provided at the rear end of the collar D^* of the sliding breech bolt, whereby the accidental discharge of the arm is provided against, substantially as herein set forth.

2. The arrangement of the sliding extractor E^* in the upper side of the breech bolt, and in relation with the locking collar D^*, furnished with the lateral lever E^{**} and the bore of the barrel, whereby provision is made for the withdrawal of the cartridge shell, by the backward movement of the collar and bolt, substantially as herein set forth.

85,495.—HENRY WANT and JOHN LUNDGREN, New Haven, Conn.—*Manufacture of Spectacle Bows.* —December 29, 1868.—The meeting ends of the continuous wire are secured by loops.

Claim.—Spectacle bows, constructed in the manner, and of a single continuous piece of wire, substantially as herein set forth.

85,496.—TIMOTHY U. WEBB, Springfield, Ill. —*Gang Plow.*—December 29, 1868; antedated December 22, 1868.—A series of ordinary plows can be placed in the bearers attached to the axle, so as to form a gang plow.

Claim.—In combination with a frame, A, the spreader and bearers, for the purpose of uniting and working as a gang a series of single plows. E E, constructed, arranged, and operating substantially in the manner and for the purposes described.

85,497.—ELI WHITNEY, New Haven, Conn.— *Reversible Latch.*—December 29, 1868.—The latch bolt is so connected with the "horseshoe" as to be forced into the case, and there reversed or set to the right or left, to accommodate it to different motions of the door.

Claim.—1. The arrangement of the latch bolt B, in combination with the horseshoe E, so that the latch bolt must be forced within the case so as to be reversed, substantially as set forth.

2. In a latch bolt pivoted to the horseshoe so as to be reversed, forming the flattened or square portion F′, in combination with the annular groove *d* and lugs *f f*, so that the latch bolt may be reversed while within the case, and secured by the said lugs when in any other position.

85,498.—R. S. Willard, Franklin, Vt.—*Machine for Making Wire Hooks.*—December 29, 1868.—The wire is bent around a cylinder, and a movable pin, to form the ring at the upper end, and then inserted under a lever, to form the hook at the lower end; said wire hooks being used by sugar makers when tapping a sugar tree.

Claim.—1. The arrangement of the lever H, bars I I, and gauge K, with the spring *d*, rod G, and treadle F, all constructed as described and operating substantially as and for the purposes herein set forth.

2. In combination with the foregoing, the standard *e*, with cylinder *a*, stationary pin *b*, and a hole for the insertion of a movable shaft or pin, substantially as and for the purposes herein set forth.

85,499.—Daniel Witt, Hubbardston, Mass.—*Clothes Drier.*—December 29, 1868.—The construction of the hinge permits the arms to be folded up or detached without removing the leaf on the standard.

Claim.—In a clothes drier, constructed as above described, making the arms adjustable and removable, by means of the connecting devices C, arranged upon the drier, as and for the purpose described.

85,500.—Charles Witte, Brooklyn, N. Y.—*Hand Shears.*—December 29, 1868.—The flange receives the downward pressure of the palm of the hand in connection with the force exerted by the thumb.

Claim.—The flange C, when formed as shown, for the purposes herein set forth.

85,501.—Sylvester A. Wood, Manitowoc, Wis.—*Velocipede.*—December 29, 1868.

Claim.—1. The ratchet wheels B B, the pawls *a*, the pawl pulleys C C, the pins *d d*, the connecting rods *c c*, with their brace-linked chain extensions *g*, the levers *e e*, the cords *n n*, and the pulleys *o o*, or their equivalents, the foot pins *p p*, the treadles *r r*, and the foot straps *s s*, all arranged and acting in combination with the wheels A A, reach D, and wheel A^2, substantially as and for the purpose herein set forth.

2. The supplemental cross bar t^2, the pins *y*, the supporting rods *v v*, the circular plates *w*, the cross-bar connecting rods *x x*, and the forked lever *z*, all arranged and acting in combination with the forward cross bar *t*, for guiding the vehicle, substantially as herein shown and described.

3. The hub set screws *l l*, the reach boxes or couplings *k k*, with their set screws l^2 l^2, the chain guides m^2 m^2, the brake foot rod or bar c^2, and the packing or cushions for the ratchet wheels, substantially as and for the purposes herein set forth.

4. In combination with the first above-described arrangement, combination, and operation of parts, the runners A^3 and A^4, the supplemental guiding runner or knife o^2, the frame B^2, the slotted paddles n^2, the slotted plates t^2, the springs r^2, the sliding rings v^2, the fulcrum eyes y^2, and the loops x^2, arranged and operating to propel the vehicle on snow or ice, substantially in the manner herein set forth and described.

5. A three-wheeled velocipede, the parts of which are constructed, arranged, and combined, substantially as and for the purposes herein shown and described.

85,502.—Emma C. Wooster, New York, N. Y.—*Ruffled Trimming.*—December 29, 1868.—The band ruffle and the double-frilled ruffle are so combined that one is made to strengthen or stiffen the other.

Claim.—A double ruffle, composed of a two-ply band ruffle, A, and two-ply double-frilled ruffle B, made and combined with each other, substantially in the manner described.

EXTENSIONS.

Thomas D. Burrall, Geneva, N. Y.—*Corn Sheller.*—Patented December 6, 1845, No. 4,300; extended seven years from December 6, 1849; reissued October 10, 1865, No. 2,083; again extended by act of Congress, (private No. 102,) approved March 2, 1867; again extended April 14, 1868.

Claim.—1. The opening *d*, in combination with the plate or disk *c*, and the sheller, substantially as and for the purpose described.

2. The open space between the lower edge of the sheller and the plate or disk *c*, in combination with said plate or disk, and the sheller, substantially as and for the purpose described.

Stephen Morse, Springfield, Mass.—*Iron Car Brake.*—Patented September 6, 1853, No. 10,004; extended April 14, 1868.

Claim.—The spine B, having the point of suspension C, and socket D, with the open spaces *c c*, and brace plates *b b*, in combination with the rubber or friction surface plate A, substantially in the manner and for the purpose as is herein set forth.

Oliver P. Drake, Boston, Mass.—*Apparatus for Combining Hydro-carbon Vapor with Air.*—Patented August 30, 1853, No. 9,967; reissued November 15, 1864, No. 1,819; extended April 14, 1868.

Claim.—1. The vaporizing chamber and rotary blowing apparatus, combined in the manner and for the purpose substantially as set forth.

2. The combination of the vaporizing chamber and rotary blowing apparatus, under the general arrangement described, with a weight, or its equivalent, acting with a uniform force, so that the pressure at the burner is uniform, whether a greater or less quantity of the mixed air and vapor is burned.

3. The combination of the vaporizing chamber with the mechanical agitator, for the purpose of agitating the liquid during the mixture of the vapor with air, substantially as set forth.

4. The combination of the heater and gas burner with the water vessel and vaporizing chamber, substantially as specified, so that by means of the said heater and gas burner and the pipes connecting them with the water vessel and the chamber the whole or a part of the mixture of air and benzole vapor produced by the apparatus may not only be used in any convenient place for the purpose of illumination, but also for heating the water of the vessel, substantially as set forth.

5. The combination of the closed vaporizing chamber, the rotary vaporizer or disseminator, (placed therein,) and the rotary meter wheel and its closed case, or air-forcing apparatus, so made as to force a stream of air into the hollow shaft of the vaporizer and through or against saturated portions of the disseminator and into the vaporizing chamber or regenerator, so as to vaporize the benzole or hydro-carbon and mix it with air, substantially as above specified.

6. In combination with the rotating meter wheel and its case, and the hot water vessel, the coiled induction air pipe, as made to pass through the water in the vessel, and thereby receive heat therefrom, so as to warm the air as it passes through the pipe, and to supply oxygen to the volatilized vapors, and for the purpose of facilitating the evaporation of the same.

7. In combination with the induction air pipe, the chamber and its regulator slide and orifice, applied for the purpose of supplying cold air to the warmed air, or to the meter wheel, in order to diminish or regulate the temperature of the air

passage into the said wheel and forced into the vaporizing chamber.

8. The peculiar mode of making the rotary disseminator or vaporizer, viz., of two perforated heads or disks, a hollow perforated shaft, and strands of lamp wicking or other absorbent material, stretched from one head to the other, as specified.

Henry Ritchie, Newark, N. J., assignor to himself, **Samuel C. Thompson**, and **George W. Westerfield**, of same place.—*Spring Padlock.*—Patented August 23, 1855, No. 9,963; extended April 14, 1868.

Claim.—The combination of the bolt C, guard E, and the double-toothed tumbler D, one tooth *n* of said tumbler fitting in the shackle *d*, and the other tooth *j* fitting in the notch at the back of the bolt; the bolt, guard, and tumbler operating as set forth in the body of the specification.

Philo Sylla, Elgin, and **Augustus Adams**, Sandwich, Ill.—*Grain and Grass Harvester.*—Patented September 20, 1853, No. 10,038; reissued May 17, 1859, to C. **Aultman & Co.**, Canton, Ohio, in six divisions, division A, No. 721; extended April 14, 1868.

Claim.—1. An elevated binding table, in combination with the platform for receiving the grain as it is cut, substantially as set forth.

2. The combination with the binding table of one or more binders' stands, on a lower level than that of the table, substantially as set forth.

3. The combination of a binding table with a binders' stand, having an elevated side for the binder to rest his legs against, and thereby steady himself without the aid of his arms, both of which are thus left at liberty to do the binding, substantially as set forth.

4. The arrangement of the rakes and binders' stands, substantially as herein set forth, so that the grain may be raked from the platform and delivered upon the binders' table before the several binders' stands in the manner substantially as set forth

5. The arrangement of the dumping tray, with the rakes and binders' stands, substantially as set forth.

Same; reissue, No. 722, division B; again reissued May 14, 1867, No. 2,608; extended April 14, 1868.

Claim.—1. The combination of a finger beam with slotted guard fingers, a reciprocating scalloped cutter, a double hinge connection between the finger beam and the main frame, and a driving shaft for the cutting apparatus, parallel, or nearly so, to the ground.

2. The combination of a double hinge floating finger beam with slotted guard fingers, a reciprocating scalloped cutter, and a removable platform for converting the machine from a mower to a reaper.

3. The combination of a finger beam with slotted fingers, a reciprocating scalloped cutter, a hinged connection to the main frame, a removable platform, and a reel.

4. The combination of a finger beam with slotted fingers, a reciprocating scalloped cutter, a hinged connection to the main frame, and arms or levers, or their equivalents, for adjusting the height of the cutting apparatus.

Same; reissue No. 723, division C; extended April 14, 1868.

Claim.—The short finger beam, in combination with the yielding connection with the main frame, or its equivalent, substantially as herein set forth.

Same; No. 724, division D; extended April 14, 1868.

Claim.—The combination of the finger beam with the hinges by which it is drawn, arranged above the plane of the cutter, substantially as herein set forth,

Same; No. 725, division E; extended April 14, 1868.

Claim.—1. The combination of a counterpoise weight, or the equivalent thereof, with that end of the finger beam next the main frame, to equalize its pressure upon the ground, substantially as set forth.

2. The combination of a counterpoise weight, or the equivalent thereof, with each or either end of the finger beam, to diminish its pressure upon the ground, substantially as set forth.

Same; No. 726, division F; extended April 14, 1868.

Claim.—The combination of a stop with the mechanism for connecting the finger beam with the main frame, and allowing it to rise and fall, substantially as herein set forth.

Ephraim L. Pratt, Boston, assignor to **James Sargent** and **Daniel P. Foster**, Shelburne, Mass. —*Machine for Paring Apples.*—Patented October 4, 1853, No. 10,078; extended April 14, 1868.

Claim.—Hanging or connecting the block S, which carries the knife to the rod which carries said block, so that the block and knife can vibrate in one or either direction, (by means substantially such as are herein described, or their equivalents,) so as to allow the knife to vibrate and accommodate itself to any irregularity on the surface of the apple or vegetable pared, substantially as described.

Joshua Gibbs, Canton, Ohio.—*Machine for Grinding Plow Castings.*—Patented October 4, 1853, No. 10,068; extended April 14, 1868.

Claim.—The carriage upon which the casting is fastened, with the weight and grooved stand upon which the carriage is moved, arranged and operated as described.

Nathaniel Gear, Marietta, Ohio.—*Machine for Turning or Cutting Irregular Forms.*—Patented November 8, 1853, No. 10,204; extended April 14, 1868.

Claim.—The combination of knives, in the manner described, with a rotary cutter head, so that said head shall serve as a guide or directrix to the form or pattern carrying the material to be dressed

Norman Millington and **S. M. George**, Shaftsburg, and **Abraham B. Gardiner**, Bennington, Vt., and **Leland J. Mattison**, Cleveland, Ohio, executors of **Dennis J. George**, deceased.—*Machine for Figuring Carpenters' Squares.*—Patented October 18, 1853, No. 10,136; extended April 14, 1868.

Claim.—The combination of the revolving chase wheel W with the lateral-moving anvil A, by which the relative position of the square to be stamped and the required chase is so regulated that the line of the square to receive the impression is brought under the chase containing the desired figures, substantially as herein set forth.

Harry Whitaker, Buffalo, N. Y.—*Application of High-pressure Engines to Screw Propellers.*—Patented October 18, 1853, No. 10,145; extended April 14, 1868.

Claim.—The direct application of the crank outside of the hull to side screw propellers, where such application is combined with or effected by a high-pressure engine, arranged also outside of the hull, substantially as hereinabove set forth.

David M. Smith, Springfield, Vt.—*Spring Clamp for Clothes Lines.*—Patented October 18, 1853, No. 10,163; extended April 14, 1868.

Claim.—The above-described improved clothes-pin, that is to say, the arrangement of the line opening D and the spring C, on opposite sides of the hinge *a* of the two levers A B, all substantially as hereinbefore specified, whereby by pressure of the longer legs of the levers between the thumb and fingers of the hand of a person the instrument is rendered very convenient of application, without danger during the same of tearing the clothes secured by it on a line.

Bernard Hughes, Rochester, N. Y.—*Trip Hammer.*—Patented May 16, 1854, No. 10,923; extended April 14, 1868.

Claim.—Adding to the stem or rod of the trip hammer a piston working in a cylinder, open on the upper end and closed at the bottom, and provided with regulating cock and valve, substantially as described, by which means I am enabled to add the whole or such part of the pressure of the atmosphere as may be desirable to the weight of the hammer in giving the blow.

SAMUEL PRATT, Hammonton, N. J.—*Screw Nail.* —Patented October 25, 1853, No. 10,171; extended April 14, 1868.

Claim.—1. A screw nail constructed with a thread, shaped substantially as herein described.

2. Shaping the head substantially as herein set forth, so that the battering caused by the driving will not obstruct the application of the turn-screw.

DANIEL NOYES, Abingdon, Mass.—*Machine Hammer.*—Patented October 25, 1853, No. 10,170; extended April 14, 1868.

Claim.—1. A machine for hammering iron, &c., having the distinguishing features hereinabove enumerated, viz., a hammer for giving the blow upon the upper surface of the iron, acting in conjunction with two hammers which simultaneously strike the sides of the iron, substantially as above set forth; in a machine for hammering iron, the use of these two side hammers, operating as specified, whether used in connection with the upper hammer or without it.

2. So arranging the relative position of the fulcra of the hammer beams, and the ends of the connecting rods attached to said beams and to the crankshaft and gears from which they derive their motion, as to bring the said fulcra and connecting rods in nearly a straight line at the time of giving the blow, for the purpose above specified, the opposite ends of the connecting rods just before giving the blow moving in opposite directions, so as to give a rapid and powerful blow.

3. Causing the anvil to descend from the iron just before the blow of the side hammers, and to ascend just before the blow of the upper hammer, by means of a rod attached at one end to the under side of the upper hammer beam, and at the other end to a tilting arm which embraces the anvil, substantially as above described.

ROBERT SINCLAIR, Jr., and RICHARD F. MAYNARD, Baltimore, Md.—*Feed Roller of Straw Cutters.*—Patented November 15, 1853, No. 10,238; extended April 14, 1868.

Claim.—The employment thereon of alternate right-and-left pins, so arranged as to form a double spiral or screw, said pins being formed substantially as set forth, and operating together so as to prevent the straw from crowding to the right or left, and to compress the straw laterally as it is passed to the knives, and constituting, altogether, what we denominate the double-screw propeller for straw cutters.

CHARLOTTE B. THOMPSON, administratrix of JOHN H. THOMPSON, deceased, JAMES M. THOMPSON, and HOSEA Q. THOMPSON, Holderness, N. H.—*Machine for Trimming Soles of Boots and Shoes.*—Patented November 15, 1853, No. 10,239; extended April 14, 1868.

Claim.—A machine in which the sole is trimmed by revolving knives and guided, as fed along by the operator, by an adjustable gauge bar, against which the edge of the pattern plate abuts, substantially as hereinabove described.

LAURA S. WHITE, administratrix of JONATHAN WHITE, Antrim, N. H.—*Uniting Shovel Blades to Handle Straps.*—Patented November 15, 1853, No. 10,244; extended April 14, 1868.

Claim.—The uniting, by welding, of the iron handle straps to the sheet cast-steel blade, in the manner substantially as herein set forth.

ERASTUS T. BUSSELL, Indianapolis, Ind.—*Combined India-rubber and Steel Spring.*—Patented November 29, 1853, No. 10,280; extended April 14, 1868.

Claim.—The fluting a column of vulcanized India-rubber longitudinally, and then so surrounding it with the helical spring, mine being an improvement upon Ray's spring.

WILLIAM BUTTERFIELD, Boston, Mass.—*Sewing Machine.*—Patented July 4, 1854, No. 11,240; reissued to E. TOWNSEND January 5, 1864, No. 1,600; extended April 14, 1868.

Claim.—1. Separating into two instruments (a presser foot and a "rest cast-off," both operating on the surface of the material to be sewed) the "tube or holder" hereinbefore referred to, so that the "rest cast-off" can act independently of the presser foot, as respects its times and extent of motion, substantially in the manner specified.

2. Constructing the "rest cast-off" of such a form that it operates and is located in front of the barb of the needle, instead of surrounding it, by which construction it operates in an improved manner, especially when sewing in narrow channels.

3. Making the "rest cast-off" adjustable with reference to the needle, substantially as described.

4. The combination of a supporting surface, crochet needle, and presser foot with a "rest cast-off," operating substantially as described.

5. The improvement by which the "rest cast-off" is rendered capable of adapting itself to any ordinary thickness or variation of the thickness of the fabric or article to be sewed, such improvement consisting in the above-described mode of operating it by the spring F, applied to the carrier lever E, and made to operate on the lower end of the recess C, as stated.

6. The combination of the bobbin holder U with the spring V, the friction disk R, and the axle on which the holder turns, the same enabling an empty bobbin to be removed from the holder and a full one put in its place without disturbing the connection of the spring with the bobbin and friction plate or disk.

WILLIAM B. BATES, Mansfield, Mass., administrator of GEORGE WELLMAN, deceased.—*Stripping Top Flats in Carding Machines.*—Patented March 18, 1856, No. 14,481; antedated November 25, 1853; reissued July 30, 1867, No. 2,705; extended April 14, 1868.

Claim.—1. The combination of the segmental gear and its set rim or locking plate with a pinion and its locking plate or recess, as a device for imparting an intermittent rotation to mechanism from a continuous one, for the purpose of operating the stripping mechanism, or that which moves the cleansing frame from one top card to another, substantially as described.

2. The combination of the said device for producing intermittent rotation with the mechanism that lifts strips and lowers the top card, substantially as described.

3. The combination of the said device for producing intermittent rotation with the mechanism that moves the cleansing frame from one top card to another, substantially as described.

4. Combining and arranging the segmental gear and its set rim or locking plate with the two pinions, each with its locking plate or recess placed on opposite sides of said segmental gear, so as to operate the stripping apparatus and move the cleansing frame alternately, substantially as described.

5. The combination and arrangement of the mangle pins or teeth in the arc of a circle directly attached to the cleansing frame and concentric with its movement, for the purpose of avoiding intermediate gearing, substantially as described.

6. Mounting the stripper card upon radial arms that have their centers or axes below the stripper card and near the axes of the cleansing frame, substantially as described.

7. The combination of the cams X X with the levers Y Y, carrying and operating the stripper card, substantially as described.

8. The combination of the cams X X with the lifting rods Z Z and the levers Y Y, arranged to operate in connection, substantially as described.

9. The combination of the cams X X with the chain belts Q'. the chain pulleys R', and shaft M, arranged and operating substantially as described.

10. The combination of the guide E' on the cleansing frame with the stationary guide D' on the frame of the machine, coöperating substantially as described.

11. The combination of the springs F' and the

pins F' and lifting rods Z, and their application to the frame S, substantially as described.

12. The mechanism for cleansing the stripper card, arranged and applied substantially as described.

William B. Bates, Mansfield, Mass., administrator of George Wellman, deceased.—*Stripping Top Flats for Carding Machines.*—Patented December 6, 1853, No. 10.298; reissued July 30, 1867, No. 2,706; extended April 14, 1868.

Claim.—1. The combination and arrangement of a continuously revolving radial arm and pin, or crank pin, and a circular locking plate connected therewith, with a series of intermittently revolving radial working grooves to receive said pin, connected with a locking plate provided with segmental recesses corresponding to said grooves and to the other locking plate, substantially as described.

2. Combining with the cleansing frame a mangle gear and the mechanism herein described for imparting an intermittent motion to the same, suitably arranged, by which the cleansing frame is moved from one top card to another, in any order desired, in both directions, and held at rest while the cleansing operation is performed, substantially as described.

3. So combining and arranging the cleansing frame, the mangle gear, and pinion, and mechanism for giving it intermittent motion, when the motion of the cleansing frame is from one top card to the next but one, that when the pinion passes around the extremity of the series of pins or teeth of the mangle gear to the opposite side of the same, the distance of the point from where the pinion starts to where it stops on the mangle gear will correspond to the movement of the cleansing frame from one top card to that next to it, and thus shift the order of cleansing the top cards when the frame is moving in opposite directions, substantially as described.

4. Attaching the stripping card to radial arms, so arranged that by the oscillation of said arms the stripping card will be carried beneath the raised top card to cleanse the same, substantially as described.

5. Forming the working faces of the cams that raise the top cards in separate and detached segments, placed so as to act in succession in combination with a series of projections or working surfaces on the device that raises the top cards, substantially as described.

6. The combination and arrangement of the several correspondent parts of mechanism, both new and old, so as to form a complete apparatus by which the top cards of a carding machine may be automatically stripped or cleansed, substantially as described.

George W. Livermore, Cambridgeport, Mass.—*Machine for Making Barrels.*—Patented March 21, 1854, No. 10,680; extended April 14, 1868.

Claim.—1. Forming or shaping the staves previous to jointing them, by passing them through a series of pairs of curved rollers, in the manner set forth and for the purpose described.

2. The peculiar construction of the carriage of the jointing machine, represented in Fig. 5, the bar *g* being made adjustable within the long slots or mortises, in the manner set forth and for the purpose described.

3. The combination of the cone Q^1 with the spring devices g'', operating as described, for the purpose of guiding the hoop to the barrel and driving it into place, in the manner set forth.

James Watt, Charlestown, Mass.—*Valve Arrangement for Steam Hammers.*—Patented December 6, 1853, No. 10,297; extended April 14, 1868.

Claim.—1. The revolving valve rod, the barrel *g*, and the adjustable screw top *l*, constructed, arranged, and operating in the manner substantially as described, by which I am enabled at any instant to admit the steam beneath the piston, during any portion of the fall of the hammer, without altering the effective force and length of the stroke.

2. In connection with the above, the arrangement for throttling the steam on its way from beneath the piston, by which means I am enabled to regulate the intensity of the blow of the hammer to any degree of nicety, or to hold the same suspended above the anvil, in the manner and for the purpose substantially as set forth.

Richard A. Tilghman, Philadelphia, Pa.—*Process for Purifying Fatty Bodies.*—Patented October 3, 1854, No. 11,766; antedated January 9, 1854; extended April 14, 1868.

Claim.—The manufacturing of fat acids and glycerine from fatty bodies by the action of water at a high temperature and pressure.

Lucian B. Flanders, Philadelphia, Pa.—*Replacing Cars upon Railroad Tracks.*—Patented December 6, 1853, No. 10,301; extended April 14, 1868.

Claim.—Replacing railroad cars and locomotives upon the track, or replacing the car wheels upon the rails, in the manner substantially as herein described, viz., by means of flanges C C', having inclined bottoms, and secured or attached to the rails, when designed to be used, by the lips or projections *b* on the sides *a* of the flanges, said lips or projections clasping or fitting over the rails, the flange C' being provided with a movable guide E, which directs or guides the wheels upon the rails, and which guide, by being movable, will act upon the wheels, the flange C' being adjusted to either side of the rails.

Charles J. Wilson, Cleveland, Ohio.—*Design for Stove Plate.*—Patented December 4, 1860, No. 1,349; extended April 14, 1868.

Claim.—The configuration and arrangement of said ornaments as herein designated and represented.

Melvin Jenks, Dansville, N. Y.—*Turnkey.*—Patented December 13, 1853, No. 10,312; extended May 5, 1868.

Claim. — The adjustable claw E, constructed and arranged substantially as described, in combination with the claw *b*, and the rolling fulcrum, having a limited motion.

Joseph Nock, Philadelphia, Pa.—*Hinge for Inkstand Covers.*—Patented December 13, 1853, No. 10,310; extended May 5, 1868.

Claim.—The application of the stamped round part, and the solid part, (or the moving lid or cover,) filled together as a hinge, which forms a rounded smooth-turned face, and the manner in which the pin is connected with both parts, as herein described, using for that purpose the aforesaid "two pieces to form a regular curvilinear or round-turned hinge," made of any materials which will produce the intended effect.

L. Otto P. Meyer, Newton, Conn.—*Process of Vulcanizing Caoutchouc Compounds.*—Patented December 20, 1853, No. 10,339; extended May 5, 1868.

Claim.—The producing of smooth and glossy surfaces upon the hard compounds of caoutchouc and other vulcanizable gums, by means of the use of oil, or other equivalent substance, applied to the surface of the prepared gum, and between the gum and the plates of metal, or the molds, substantially as herein described.

William Wisdom, Brooklyn, N. Y.—*Cleansing Hair and Feathers from Insects.*—Patented December 20, 1853, No. 10,347; extended May 5, 1868.

Claim.—Purifying hair and feathers by destroying all noxious insects or infectious matter contained therein, by subjecting the same to a vapor-bath of chlorine gas, after the material has been cleansed by a bath of sal soda, in the manner and for the purpose specified.

Robert P. Walker, New York, N. Y.—*Machine for Hulling and Scouring Coffee.*—Patented December 20, 1853, No. 10,328; extended May 5, 1868.

Claim.—The combination of the springing-rubber flaps or scourers and polishers *e e e*, with the angularly-set hullers or beaters *c d*, the whole being constructed and arranged in any equivalent manner to that herein described, and operating as set forth.

Harvey Lull, Hoboken, N. J.—*Shutter Hinge.*—Patented January 31, 1854, No. 10,477; antedated January 2, 1854; extended May 5, 1868.

Claim.—The so forming of a self-locking shutter hinge, cast in two pieces, as that the blind or shutter hung thereon may swing open or shut on a horizontal plane, and lock when opened to its limit, and so that, also, when locked open, the strain shall be taken off from the spindle and thrown on to cam-arms, and thus effectually relieve the spindle from the weight or strain of the shutter, substantially as described.

Edward A. Tuttle, Brooklyn, N. Y.—*Hot-air Register.*—Patented January 3, 1854, No. 10,371; reissued February 17, 1863, No. 1,412; extended May 5, 1868.

Claim.—So combining the connecting rod, or arrangement, which transmits motion to the fans, with the thumb piece or attachment by which it is actuated, and with the fans themselves, that it shall rest and ride upon anti-friction bearings *o o* formed on the fans, substantially as above described.

William H. Sweet, Foxborough, Mass., administrator of Henry L. Sweet, deceased.—*Guide for Sewing on Binding.*—Patented December 20, 1853, No. 10,344; extended May 5, 1868.

Claim.—The doubling guide, as not only made with a flat mouth, or one capable of receiving the ribbon, tape, or binding in a flattened state, but with a bent channel or sides, such as shall gradually bend or double it, and discharge it at the other end in a double state, ready to be applied to any article conveniently placed to receive it, and leave it sewed thereon, as stated.

Mathew Stewart, Philadelphia, Pa.—*Floor Plate of Malt Kilns.*—Patented January 3, 1854, No. 10,370; extended May 5, 1868.

Claim.—1. The characteristic mode in which I construct the plates with downward edges at right angles with the surface of the plate, substantially and for the purpose herein described and illustrated.

2. The bearing and combining block, with the peculiar arrangement of the slots or grooves, or its equivalent, substantially and for the purpose as herein described.

3. The combination of the plates with the bearing and combining blocks, or their equivalents, and the peculiar manner of securing the plates and blocks down to the wrought-iron bars by means of the wire holes in the vertical edges of the plates, or their equivalents, substantially and for the purpose as herein described and illustrated.

William Wright, New York, N. Y.—*Operating Cut-off Valves of Steam Engines*—Patented January 3, 1854, No. 10,398; extended May 5, 1868.

Claim.—1. The employment of a rotating concentric hub, on which the toes (or their equivalents) of the lifters rest when the valves are closed, substantially as specified, when this is combined with a cam connected therewith, and which turns eccentrically thereon, for the purpose of opening and closing the valve, and regulating the period of closing the same. substantially as specified.

2. Combining with the said hub and cam a slide within them, and acting on an oblique groove within the cam, and a straight slot in the hub, substantially as specified, to determine the period of closing the valve, while the period of opening remains the same as specified, and this I claim whether the said slide be operated by a governor or by other means.

Hezekiah B. Smith, Smithville, N. Y.—*Mortising Machine.*—Patented January 10, 1854, No. 10,422; extended May 5, 1868.

Claim.—The afore-described combination for reversing the chisel by power, applied by friction, (with band or otherwise,) and stops, operated so as to stop the chisel when reversed, in the manner essentially as set forth.

Joseph Nason, New York, N. Y.—*Arrangement for Cutting Screws in Lathes.*—Patented January 3, 1854, No. 10,383; extended May 5, 1868.

Claim.—1. The mode of constructing and combining the stud, the tube, and the guide screw, by which guide screws of the various patterns used in screw cutting may be put on or taken off expeditiously.

2. The mode of constructing the tool bearer generally, particularly as regards placing the slide rest behind the work, whereby the cutting tool is brought into such relative position with the shaft and the mandrel, that the operation of raising the tool bearer from the rail removes the tool from the work.

3. The tool lifter, constructed substantially as described, and employed for the purposes and in the manner herein specified.

4. The combination of the guide screw, the threaded block, and the tool bearer, with the shaft, substantially as set forth, by which (1) the requisite traversing motion is imparted to the cutting tool, (2) the operations of releasing the block from the guide screw and removing the tool from the work are simultaneously performed, and (3) the tool bearer may be turned back out of the way when not in use.

Aaron Palmer, Brockport, N. Y., and Stephen G. Williams, Janesville, Wis.—*Grain Harvester.*—Patented January 24, 1854, No. 10,459; extended May 5, 1868.

Claim.—1. The method of transferring motion to the rake on the platform from the driving wheel, by means of the double-curved rack and pinion on the axle of the driving wheel, the iron arm *c*, latch *p*, and spring *m*, as herein described.

2. The method of hanging the reel so as to dispense with any post or reel bearer next to the standing grain, as herein described, thereby preventing the grain from getting caught and being held fast between the divider and reel supporter.

Charles R. Harvey, New York, N. Y.—*Air-heating Furnace.*—Patented January 24, 1854, No. 10,447; extended May 5, 1868.

Claim.—Constructing the bonnet or top of the fire chamber with a depression at the center, into which the smoke or exit pipe enters, so that the heat is equalized all around, and the expansion and contraction are made uniform, as above specified.

James McCarty, Reading, Pa.—*Roller for Scarfing the Edges of Skelps for Lap-welded Tubes.*—Patented January 31, 1854, No. 10,478; extended May 5, 1868.

Claim.—A pair of rollers constructed, arranged, and adjusted substantially as herein described, so as to bevel the opposite edges of skelp plates of different widths on opposite sides of the same.

George E. Burt, Harvard, Mass.—*Machine for Cleaning and Assorting Bristles.*—Patented February 7, 1854, No. 10,498; extended May 5, 1868.

Claim.—1. The combination of machinery for combing or straightening the bristles and machinery for separating or assorting them, as specified.

2. The combination of the two movable combs or rakes T U, and the two lifter wheels G O, and their carrying endless belts E, and L, F, and M, so arranged as above described, the whole being for the purpose of first holding the mass of the bristles by one part or portion of it, and lifting and combing the remainder of it, and subsequently seizing and lifting it by such combed part or portion and combing the part previously seized, all as specified.

3. In combination with the machinery for combing or straightening the bristles and machinery for assorting or separating them, the endless guide belt *l'*, the spring board *p'*, and rapping apparatus or hammer *r'*, as applied and made to operate substantially in manner as specified.

4. The combination and arrangement of the two endless brush belts V W, and two series of draft rollers, and their two sets of endless bands, as made to operate together and assort the bristles, substantially as hereinbefore specified.

5. The combination of the combs u^2 v^2 and their grooves t^3 t^2, &c., with the delivery rollers, so as to operate substantially in the manner and for the purpose as specified.

Samuel G. Levis, Kellyville, Pa.—*Making Thick Paper.*—Patented February 14, 1854, No. 10,519; reissued October 22, 1867, No. 2,789; extended May 5, 1868.

Claim.—1. Passing or carrying a sheet of paper pulp through or between the press rolls, and expressing the water therefrom between two endless felts, so arranged that the water may pass through the felts and run off freely in front of the rolls.

2. Running or operating two or more forming cylinders in connection with the press rolls, by means of, or in combination with, two endless felts, so arranged that the water passes through the felts and runs off at the end of the rolls.

3. The combination of the two forming cylinders C and D, the two endless felts E and H, and the two squeeze-rollers F F, arranged and operating substantially as described.

William Burnett, San Francisco, Cal., and John Amsterdam, of New York, N. Y.—*Use of Fusible Disks in Steam Boilers.*—Patented February 28, 1854, No. 10,574; extended May 5, 1868.

Claim.—Placing in a pipe which is connected with a steam boiler, a fusible plug or disk, said plug or disk being so far removed from said boiler, but so connected with the water therein, that when the water is sufficiently high, the plug or disk will be in contact, or so surrounded with water cooler than that in the boiler as to prevent it from being fused, but when the water in the boiler shall fall below a proper height, the steam will enter and come in contact with said plug, or so surround it as to cause it to melt, the same being for the purpose specified.

L. Otto P. Meyer, Newton, Conn.—*Vulcanizing India-rubber and other Gums.*—Patented February 28, 1854, No. 10,586; extended May 5, 1868.

Claim.—The heating or curing of the material commonly known as the hard compound of vulcanized caoutchouc or other vulcanizable gums by means of the immersion of the material in or under water or other suitable liquid during the process of heating or curing, substantially as herein decribed.

James Pitts, Clinton, Mass.—*Cotton-picker Cylinder.*—Patented February 28, 1854, No. 10,578; extended May 5, 1868.

Claim.—1. The constructing the screw so that the periphery of the metal intervening between any two immediately adjacent orifices shall be of a length equal to or greater than that of the staple of cotton or other fibrous material to be picked, in order that the fiber shall not lap around the said periphery and become connected, attached, or tied by its ends, as stated.

2. The improvement of constructing the cylinder screw of a hollow perforated metal cylinder, without arms or ribs, and with open hollow cylindric journals at its two ends, as stated, in order that the cotton may be drawn out of one journal by the suction draught, and any obstruction removed by a person's hand and arm introduced through the other journal, as specified.

John B. Holmes, New York, N. Y.—*Derrick.*—Patented February 21, 1868, No. 10,544; extended May 5, 1868.

Claim.—1. The combined arrangement of the collar upon the mast, the revolving platform supported upon it and clamped below it, and the tension rods from said platform to the revolving masthead cap, in the manner and for the purposes described.

2. Pivoting the heel of the derrick boom upon the revolving platform in the locality substantially such as is herein represented and described, that is, upon that portion of the platform which is beyond the center of the platform when measuring from the point of suspension of the weight.

Warren Gale, Peeksville, N. Y.—*Straw Cutter.*—Patented March 7, 1868, No. 10,592; reissued June 26, 1866, No. 2,293; extended May 5, 1868.

Claim.—1. The fixed pivot F, on which the moving knife works, provided with a flanch for fastening to the cutter box, and made adjustable thereon by means of slots and bolts, or their equivalent, substantially as and for the purpose herein specified.

2. I also claim the arrangement of the adjustable gauge-plate G, in front of the fixed knife, in such a manner that it shall be raised above the said fixed knife in proportion to the increased distance at which it is adjusted away from the knife, to give a longer cut, and *vice versa*, substantially as herein set forth.

Chauncey D. Woodruff, Toledo, Ohio.—*Suspending Eaves Troughs.*—Patented March 7, 1854, No. 10,606; extended May 5, 1868.

Claim.—The mode of suspending and fastening eaves troughs as herein described.

A. M. Sawyer, Athol, Mass.—*Machine for Splitting Rattans.*—Patented March 7, 1854, No. 10,614; extended May 5, 1868.

Claim.—The employment of a tubular spurred cutter, or its equivalent, in combination with a guide for holding and guiding the stick thereto, substantially as hereinbefore described.

James H. Sweet, Pittsburg, Pa.—*Hanging of the Griping Jaw of Spike Machines in Weighted Levers.*—Patented March 14, 1854, No. 10,645; extended May 5, 1868.

Claim.—The so hanging of the griping jaw in weighted levers, or their equivalents, as that when two spikes, or a spike and a blank, come in between the griping jaws at one time, the said jaw may rise and yield to the excess of metal between the dies, and prevent the breaking of any of the parts, substantially as herein described.

Lavinia L. Bartlett, Bangor, Me., administratrix of Russell D. Bartlett, deceased.—*Machine for Making Shovel Handles.*—Patented March 14, 1854, No. 10,631; extended May 5, 1868.

Claim.—1. The combination and arrangement of the bed M, the rotary holder O, one or more vertical movable cutters, V W H, and one or more stationary cutters, I′ K′, as ma[illegible]o operate together and from the D or head part of the shovel handle, substantially as specified.

2. The combination of the curved knife *o*, and the arc knife *p*, so applied together as not only to allow them to be separated for the purpose of being ground, but to enable them to cut out the opening of the shovel handle, as specified.

3. The combination, applied to the shaft of the rotary holder and gear wheel A′, for the purpose of operating the holder as specified, the said combination consisting of the cam blocks C′ M′, the arm L′, the spring bolt N′, its cam P′, and the two studs *e′* and *h′*, the whole being constructed and made to operate together substantially as specified.

William H. Seymour, Brockport, N. Y.—*Harvester.*—Patented March 28, 1854, No. 10,707; extended May 5, 1868.

Claim.—1. The combination of the shaft E′ for rotating the pinion, the shaft I for turning and carrying the rake, and connecting mechanism, constructed and arranged as described, whereby the rake is turned up and down and firmly held in either position in a simple and convenient manner, without producing an undue strain upon any part of the driving gear.

2. The adjustment of the rake at varying heights from the platform, in its elevated and depressed position, by means of the device herein described, or the equivalent thereof.

Ambrose Nicholson, Poland, N. Y.—*Self-fastening Shutter Hinge.*—Patented March 21, 1854, No. 10,673; extended May 5, 1868.

Claim.—The eccentric extension *a′*, and recess E of the plate A, in combination with the pin *c′* of the plate C, by which, in connection with the elongated eye b' and cylindric pin d', one is enabled to move the shutter and catch it or release it, without giving it any upward or downward motion, as herein set forth.

Carmi Hart, Bridgeport, Conn.—*Machine for Cutting Veneers.*—Patented April 4, 1854, No. 10,739; extended May 5, 1868.

Claim.—1. Cutting veneers, or other thin stuff, by giving to the shaving knife a rectilinear movement toward and through the log, at the same time that a rectilinear movement is given to the log either transversely or diagonally to the movement of the knife, so as to produce a long, continuous drawing cut, as described, whether the said movements of the knife and log are produced by the precise arrangement of mechanical means described or any other substantially the same.

2. Making the ways N N, upon which the log carriage moves, adjustable, as described, relatively to the ways in which the knife and cutting table move, for the purpose of giving more or less of a drawing action to the cut, as the nature of the stuff to be operated upon may require.

3. Attaching all the necessary appendages for holding the log and feeding it to the knife to a turn table, L, capable of being adjusted circularly within the main frame or part K of the log carriage, as described. for the purpose of presenting the grain of the stuff at any desired angle to the edge of the knife or direction of the cut.

4. Suspending the log or block above the knife, by griping it with clamps Y Y, which form a part of a suspending head which supports the weight of said log or block, and prevents it dragging over the edge of the knife during the backward movement of the latter, and only allows it to be lowered under the control of suitable feeding mechanism.

5. Setting the lever handle x, which holds the clamps upon the log, free from the notched bar 12, by which it is secured for that purpose by means of the bar 32 and the inclined block 35, of which the former is attached to the suspending head and the latter to some fixed point on the turntable of the log carriage, and the former is made to slide, by coming at a proper time in contact with the latter, in such a way as to raise the lever handle, as herein described.

6. Making the slots in the clamps which receive the bar m and screw n of such length, that after the clamps are arrested by coming in contact with the proper part of the log carriage or turntable, the motion of the follower and the other parts of the feed motion may continue till it is desirable to stop them, as herein described.

7. The mechanism, herein described, for rendering the pawl of the feed motion inoperative, and thereby stopping the descent of the suspending-head and the feed of the log at the proper time, to wit, the bar 24, pin 26, spring 27, rod 28, arm 29, shaft 30, feather 31, and angle piece 32, the whole being combined and applied substantially as herein set forth.

Henry Waterman, Hudson, N. Y.—*Safety Valve.*—Patented November 15, 1853, No. 10,243; reissued July 9, 1867, No. 2,675; extended May 5, 1868.

Claim.—1. The piston F, attached to the weighted end of the valve lever within the cylinder G, and immersed in the liquid in the cylinder, combined and operating in the manner and for the purposes herein described.

2. The concentric rim or ledge $l\ l$ and the overhanging part of valve $k\ k$, constructed, combined, and operating in the manner and for the purpose herein set forth.

L. Otto P. Meyer, Newton, Conn.—*Treating Caoutchouc and other Vulcanizable Gums.*—Patented April 4, 1854, No. 10,741; reissued August 16, 1859, No. 797; extended May 5, 1868.

Claim.—The mode of operation or mode of procedure, substantially such as herein described, which said mode of operation consists in the employment of a pliable or flexible envelope, substantially such as herein described, or the equivalent thereof, applied by pressure to the hard compound of vulcanizable gum, while in the green or plastic state, so as to insure the contact of such covering with the surface of the compound, and while thus covered or protected subjecting it to the vulcanizing heat, and when vulcanized stripping off such covering, the whole process being substantially such as specified.

Morris Mattson, New York, N. Y.—*Enema Syringes.*—Patented April 4, 1854, No. 10,742; extended May 5, 1868.

Claim.—1. The combination of the thumb or finger rest d with the barrel and piston, and for the purpose essentially as specified.

2. The upper ring-valve seat i, and the perforated tube k, in combination with the disk or valve h, and its seat and chamber, the same being made to operate substantially as described.

Ellsworth D. S. Goodyear, North Haven, Conn.—*Process for Treating India-rubber.*—Patented March 28, 1854, No. 10,689; extended May 5, 1868.

Claim.—The introduction of water or any other liquid into the interior of articles which require expansive force for their perfect formation to the interior surface of molds, said liquid to be converted into steam, substantially as described and for the purposes specified.

James L. Cathcart, Georgetown, D. C.—*Attaching Propellers to the Driving Shaft.*—Patented April 18, 1854, No. 10,790; extended May 12, 1868.

Claim.—Attaching the propeller, secured to a short shaft, which passes through the rudder, to its main or driving shaft, by a universal joint placed between the sternpost and the rudder, by which attachment the propeller is moved laterally with the movement of the rudder.

Willis Humiston, Troy, N. Y.—*Apparatus for Molding Candles.*—Patented April 4, 1854, No. 10,730; reissued March 6, 1866, No. 2,190; extended May 12, 1868.

Claim.—1. The employment of the wick stretcher E, so arranged and combined with the machine, having vertical stationary candle molds therein, that the candle wick within such molds shall be uniformly stretched or strained before the material is run or poured into such molds, and the friction or strain be removed therefrom before the candles are drawn or ejected from such molds in a vertical direction, substantially as herein described and set forth.

2. The stretching or straining of the candle wick in each and every of the vertical stationary candle molds contained in the candle-mold machine, at and by one continued or simultaneous operation, when the said wick extends from spools or bobbins below said molds, upward, into, and through the center thereof, and from the lower or tip end of such molds to and into the candles suspended above such molds, substantially as herein described and set forth.

3. The employment of the candle-tip bar F, or any substantial equivalent therefor, which shall be so constructed and arranged as to be moved in a lateral direction, up to or against or under the tips of the candles drawn or ejected from the stationary candle molds below, and thereby come in contact with the tips of the said candles in such a manner as to center the candle wick in the said molds, and at the same time hold the said candles thus suspended during the operation of filling the said molds with melted material from which to mold candles, and during the cooling thereof, and until the wick is cut or severed between the said suspended and molded candles in said stationary candle molds, substantially as herein described and set forth.

4. A vertical stationary candle mold, constructed with an inner and annular shoulder h', and with an outer surrounding shoulder c, and with a screw and nut at or near the lower end thereof, in the manner and for the purposes substantially as herein described and set forth.

5. The contraction of the lower end of the vertical stationary candle molds, so as to form an inner annular shoulder, in the manner and for the pur-

poses substantially as herein described and set forth.

6. The mode, substantially as herein described and set forth, for attaching to, and combining with, the lower end of the vertical stationary candle molds having an outer surrounding shoulder c, and the bottom plate B'' of the surrounding water box, so as to make the same water-tight and firm therein, in the manner and for the purposes substantially as herein described and set forth.

7. The employment of the shovel-blade cutter J, or any equivalent therefor, and the passing of the same between two rows of the wicks of the vertically-suspended candles, so as to cut or sever the two rows of the said wicks, in manner and for the purposes substantially as herein described and set forth.

B. J. LA MOTH, New York, N. Y.—*Railroad Car.*—Patented April 4, 1854, No. 10,721; reissued March 18, 1856, No. 360; extended May 12, 1868.

Claim.—The construction of the frames of railroad cars substantially in the manner and for the purposes specified.

SAMUEL J. PARKER, Ithaca, N. Y.—*Sewing Machine.*—Patented April 11, 1854, No. 10,757; extended May 12, 1868.

Claim.—That combination that secures to me the relative position in which I place the needle's eye to the movement of the material or feed-motion and the position of the shuttle and its race resulting therefrom, when the needle is straight and the table on which the material to be sewed is horizontal, said relative position, meaning the longitudinal axis of the shuttle and its race at right angles to the feed motion, and the consequent position of the needle's eye therefrom, so that a line drawn through the needle's eye, when in the act of passing the center of the material sewed, shall coincide with the line of feed motion, not be at right angles therewith, and this for the purpose of rendering the stitch more nearly straight and perfect than it otherwise would be, the combination and purpose substantially as described.

JAMES MCCARTY, Reading, Pa.—*Heating Skelps for the Manufacture of Wrought-iron Tubes.*—Patented April 3, 1854, No. 10,747; extended May 12, 1868.

Claim.—The new method of operating, as described, viz., heating the skelps in a furnace constructed substantially as herein set forth, with raw coal as fuel, whose combustion is maintained by a blast of air forced into the furnace under pressure, as set forth.

JULIA M. COLBURN, Baltimore, Md., administratrix of JAMES STIMPSON, deceased.—*Vessel for holding Liquids.*—Patented April 17, 1854, No. 11,819; extended May 12, 1868.

Claim.—The employment of a chain or string attached to the handle and lid of the pitcher, as described.

BENJAMIN A. LAVENDER, Halifax, N. C., and KATE LOWE, Baltimore, Md., administratrix of HENRY LOWE, deceased.—*Treating Cane Fiber for Paper and other Purposes.*—Patented April 4, 1854, No. 10,722; extended May 12, 1868.

Claim.—Breaking down woody fiber of cane and other like plants, and dissolving the gummy and other foreign matters therefrom by means of muriatic or sulphuric acid, of the strength of 10° Baume, or thereabout, preparatory to making hemp for bagging, rope, paper pulp, &c., in the manner substantially as set forth.

STEPHEN BAZIN and JAMES A. BAZIN, Canton, Mass.—*Machinery for Laying Rope.*—Patented April 25, 1854, No. 10,823; extended May 12, 1868.

Claim.—1. Adapting the machinery for forming both "hard" and "soft" cordage by means of the ring g, so actuated by the circular plate i, and its rollers made to revolve, or held stationary, as above set forth, as to form an extra twist in the rope when desirable, by giving an additional revolution to the bobbin frames, as above described.

2. Improvement in the movable crane, the same consisting in forming it of a bent shape, with the right angular hinged arm, operating as above described, so as to feed the rope in a direction parallel with the axis of the winding reel.

3. Stretching the rope after it is laid, by means of the double pulley $r\,b$, with grooves of different diameters, as above set forth.

JAMES BUELL, New York, N. Y., executor of JAMES MACGREGOR, Jr., deceased.—*Coffee Pot.*—Patented April 11, 1854, No. 10,752; extended May 12, 1868.

Claim.—Having the pot where the tea or coffee is prepared air-tight, and so regulating the heat that is applied to the heating of the same, that a small pressure by the covers prevents it from boiling, and consequently from evaporation, while the tea or coffee is being prepared, in the manner and for the purpose substantially as above set forth.

PHILANDER SHAW, Boston, Mass.—*Air Engine.*—Patented May 2, 1854, No. 10,868; reissued July 17, 1860, No. 1,014; again reissued April 23, 1861, No. 71; extended May 12, 1868.

Claim.—1. The within-described auxiliary heater, constructed and arranged as set forth, the exhaust air and the products of combustion being passed through in one direction while the cold air from the force pump is passed through in the other, by which means the heat is extracted from the heated air and smoke and transferred to the cold air on its way to the engine, the latter being pumped in against a pressure much less than that at which it is worked off from the main heater, as explained.

2. Passing the exhaust air which has propelled the piston directly through the fire, for the purpose of economizing heat, as set forth.

3. In combination with a tight ash pit, into which the air for the support of combustion within the furnace is forced, a chamber D, communicating with the ash pit and surrounding the furnace for the passage of a portion of the air not required by the fire, which, combining with the products of combustion in the chamber E, passes off through the flue G, for the purpose of economizing heat, as set forth.

4. I do not claim refrigerating the cylinder or piston of hot air or other engines by means of cold water, but I do claim the arrangement herein described of the tubes within the piston rod, the reservoir R, and the India-rubber tubes S S′, for the purpose set forth.

HENRY CLARK, Cedar Keys, Fla.—*Machine for Feeding Sheets of Paper to Printing Presses.*—Patented April 25, 1854, No. 10,824; extended May 12, 1868.

Claim.—Loosening or detaching the top sheet of a layer of papers from those underneath it, by giving a part of said sheet a backward and forward motion, as herein shown, previously to its being operated upon by the pressure rollers or other device for conveying it to the printing-press or other machine to which the sheet of paper is fed, for the purpose of insuring the feed of only a single sheet of paper at a time, as set forth.

FREDERICK G. SCHAUM, Baltimore, Md., administrator of FREDERICK SCHAUM, deceased.—*Glass Furnace.*—Patented April 25, 1854, No. 10,830; extended May 12, 1868.

Claim.—Making the external and internal configuration of the breast work of the furnace wall with the re-entering portions, so as to partly embrace the pots and to furnish room for additional or extra teaze or ring holes, substantially in the manner described.

MAHLON LOOMIS, Washington, D. C.—*Plate for Artificial Teeth.*—Patented May 2, 1854, No. 10,847; extended May 12, 1854.

Claim.—The improved manufacture of whole or half sets of porcelain of mineral teeth, substantially as described.

CONRAD LIEBRICH, Philadelphia, Pa.—*Trunk Lock Hasp.*—Patented May 2, 1854, No. 10,862; extended June 16, 1868.

Claim.—1. The so combining of a spring with a a hinged hasp as that the lower or hinged portion thereof shall stand off from the trunk, substantially in the manner and for the purpose described.

2. The placing of the hasp catch in a solid projection which enters the lock with a hasp catch. and takes all the strain incident upon the tendency of the lid to open, and thus protect the catch itself, substantially as described.

Albert Fisk, Louisville, Ky.—*Bridge.*—Patented May 9, 1854, No. 10,887; extended June 16, 1868.

Claim.—The method of combining the different systems of triangular bracings above described, so that a weight coming on one of the systems of the truss is not only transferred over one or more other systems before it is carried back to the abutments, but the foot of the post in each triangle being unconnected with the tension rods of the other triangular bracings can settle vertically, as well as move to the side, so that the tension rods of each system of the triangular bracings will be strained equally when the bridge settles under the superincumbent weight. This would not be the case if the foot of the post in the second system of triangular bracings rested on the tension chord of the post, in the first system, as heretofore used; and herein consists my improvement for which I ask letters patent.

Nelson Gavit, Philadelphia, Pa.—*Machinery for Cutting Paper.*—Patented May 9, 1854, No. 10,889; extended June 16, 1868.

Claim.—The method, substantially as herein described, of adjusting the cutting of sheets from a web of paper, whereby the length of the sheets can be varied by any required proportionate amount of the whole range of variation to which the machine is adapted, however small or however large the same may be, thus rendering it possible, with a continuous feed of the web of paper under an intermittent cutter, to sever the sheets half way or thereabouts between water marks, nearer together at one part of the web than at another.

Thomas A. Steadman, Lyons, Mich., administrator of Thomas S. Steadman, deceased.—*Clover and Grass Seed Harvester.*—Patented May 23, 1854, No. 10,967; reissued June 19, 1860, No. 986; extended June 16, 1868.

Claim.—In combination with the main frame or box A, and arm or supplementary frame F, on which is formed or secured the master wheel axle, the employment of retaining arc H, or its equivalent, the whole constructed and arranged in such a manner that the main frame or box, and arm or supplementary frame, with its master wheel axle, will be held in parallel planes relatively to each other while they are moving up and down, substantially as and for the purposes herein set forth.

Thomas A. Steadman, Lyons, Mich., administrator of Thomas S. Steadman, deceased.—*Clover and Grass Seed Harvester.*—Patented May 23, 1854, No. 10,967; reissued June 19, 1860, No. 987; again reissued June 20, 1865, No. 2,209, extended June 16, 1868.

Claim.—1. The combination of the holding plate *c*, or its equivalent, with the shaft of the driving cog-wheel's pinion, and that end of the coupling arm or supplementary frame G, or its equivalent, which is hung and vibrated on said shaft.

2. The combination or arrangement of the following elements in a harvester, viz., a frame or box having the cutting apparatus connected to and drawn forward by it, the shaft of the main driving cog-wheel's pinion also connected to it, and about at right angles to its forward movement, a coupling arm or supplementary frame, or its equivalent, having one end hung and vibrated on said pinion shaft, and near the other end connected to the axle of the main driving cog-wheel, and holding devices whereby the attendant can have the inner end of the cutting apparatus held at different heights in respect to the axle of the main driving cog-wheel.

3. Connecting the main bearing and driving wheel of a harvester with a frame to which the cutting apparatus is attached in such a manner that the attendant can, while riding on the machine, vary the height of the inner end of the cutting apparatus, while the outer end of said apparatus remains unchanged substantially as described.

4. The combination of the retaining and guiding arc g^2, or its equivalent, with the axle end of the coupling arm or supplementary frame H, or its equivalent, the outer end of a harvester's cutting apparatus, and the wheel that carries this outer end or is nearest to it.

5. The combination of the axles *f* and *d*, the wheels C and D, the projecting ends of the shaft of the main driving cog-wheel's pinion, the frame or box carrying this shaft, the coupling arms or supplementary frames G and H, the holding plates *c c*, and the retaining and guiding arcs *g* and g^2 or their equivalents.

6. The combination or arrangement of the following parts or elements in a harvester, a frame or box which carries the shaft of the cutter's main driving cog-wheel's pinion; a coupling arm or supplementary frame, having the axle of the said cog-wheel connected to it, at or near its outer end, and the inner end hung upon said pinion shaft; a holding device by which it is properly held in that place; a guiding and retaining arc attached to the main frame of the machine, and maintaining the supplementary frame or coupling arm in place; cutters driven by a crank motion, and an automatic rake, which, as well as the cutters, receives its motion through the main driving cog-wheel's pinion shaft.

7. Connecting the axle of the cutter's first driving cog-wheel and said wheel's pinion shaft by the coupling arm or supplementary frame G, or an equivalent thereof, which has one end hung on the said pinion shaft, and therefore holds the said cog-wheel's axle always at the same distance therefrom, so that the connection of the said cog-wheel and its pinion will always remain the same.

8. The combination of the retaining and guiding arc *g*, or its equivalent, with the main frame or box of a harvester to which the cutting apparatus is secured, and the axle end of the coupling arm or supplementary frame G, or its equivalent, which has the other end hung on the pinion shaft connected to the main frame about parallel with the axle of the cutter's ground and driving wheel, so that the said axle and pinion shaft are always at the same distance apart and substantially parallel, and the axle end of said coupling arm free to rise and fall, vibrating on said pinion shaft while the machine is in motion.

Thomas A. Steadman, Lyons, Mich., administrator of Thomas S. Stradman, deceased.—*Clover and Grass Seed Harvester.*—Patented May 23, 1854, No. 10,967; reissued June 19, 1860, No. 985; again reissued June 5, 1866, No. 2,279; extended June 16, 1868.

Claim.—1. In combination with the main frame of a harvester, an axle upon which the cutter's driving wheel revolves that derives all its connection with the frame through one end, and which end does not cross a vertical plane parallel with and touching the side of this frame nearest to it, a plate from which this axle projects, and a holding-mechanism that holds this plate and frame together and prevents any essential variation in the distance between this axle and the cutter's driving pinion shaft, or in their parallelism, while the frame is being raised or lowed in respect to this axle, substantially as and for the purpose set forth.

2. In combination with the main frame of a harvester, an axle upon which the cutter's driving wheel revolves that derives all its connection with the main frame through one end, and which end does not cross a vertical plane parallel with and touching that side of this frame nearest to it, and a plate from which this axle projects, a holding mechanism that prevent any essential variation in the distance between this axle and the cutter's driving pinion shaft, or their parallelism, while the main frame is being raised or lowered in respect to this axle, and another holding mechanism by which the attendant is enabled to have this main frame held at different heights in respect to this axle, substantially as and for the purpose set forth.

3. In combination with the main frame of a harvester, an axle plate which is connected with one end of the axle of the cutter's driving wheel, said plate being wholly between the plane of said wheel and a plane parallel with and touching that part of said frame nearest to said wheel, a holding mechanism which prevents any movement of this plate other than its movement in the arc of a circle concentric to the axis of the shaft of the cutter's driving pinion, and a holding mechanism having one portion further forward than the axle of the cutter's driving wheel, and another portion further back than said axle, between each of which and the frame is a portion of said plate, and by which said plate is held to the frame while it is being raised or lowered in respect to said axle, substantially as and for the purpose set forth.

William H. Mitchel, New York, N. Y.—*Improvement in Machinery for Composing Type.*—Patented May 16, 1854, No. 10,929; extended June 16, 1868.

Claim.—1. The combination of the lip 51 with the lifting bar 52, and with the bar 50, as specified, the said lip 51 acting as a stopper against which the line of type lies in the inclined conductor, and over which the bar 52 lifts the bottom type so that it falls on the bed *m*, as specified, and the said bar 50 being so adjusted as only to admit of one type at a time being lifted, as specified.

2. Constructing the composing wheel of thin circular plates with teeth therein, so as to receive the type from the conductor *q*, in combination with the plates 58, which pass between the circular plates and receive the type, preventing their further descent, and passing them in line into the groove, as specified.

3. The tongue 57, to prevent the type jumping over the teeth in the composing wheel as they pass down the inclined conductor, as specified.

John Meyers and **Robert G. Eunson**, New York, N. Y.—*Machine for Sawing Thin Boards, &c.*—Patented May 3, 1854, No. 10,965; extended June 16, 1868.

Claim.—1. The employment or use of the deflecting plates E E′, one or both placed at the sides of the saw, as herein shown, for the purpose of preventing the sawed stuff from bearing against the sides of the saw and expanding the saw kerf, and also for the purpose of allowing a thin veneer saw to be stiffened by plates D, one or two, as desired.

2. The employment or use of the clamps I I, arranged as herein shown, or in an equivalent way, so as to have a lateral elastic movement independent of the roller beds to which said clamps are attached, for the purpose of compensating for the varying thickness of different pieces of stuff, and keeping them in a proper relative position to the saw.

3. The knives or cutters O O, placed in the roller beds F F, and arranged substantially as herein shown and described, and for the purpose as set forth.

4. The employment of an adjustable bed F, with clamps as described, in combination with the saw C, when the saw has a stiffening plate E, in line with said bed, by which the stiffened or rounded side of the saw is made the "line side."

Thomas T. Jarrett, Horsham, Pa.—*Hay-elevating Forks.*—Patented May 30, 1854, No. 10,989; reissued April 18, 1865, No. 1,939; extended June 16, 1868.

Claim.—1. The employment or use of a weight on the cord attached to the catch which shall operate to discharge the hay from the fork at any desired height, substantially as and in the manner described.

2. The combination of one or more pulleys with a hay-elevating fork, for the purpose described.

3. The pulley J at the back part of the head, operating as and for the purpose described.

4. Securing the handle or bail to the head by means of loop eyes, which are secured in the head and project therefrom.

5. Securing the tongue or brace lever to the handle or bail by means of a spring catch attached to the said handle or bail, for the purpose described.

6. A spring catch turning upon a pin or bearing, the functions of which are to keep the tines or body of the fork in position to retain the load and to discharge it whenever desired.

7. In hay-elevating forks, I claim the combination of the tines, the wooden head the tongue or brace-lever, and the spring catch.

8. The combination of a spring catch with a rigid tongue or brace lever, extending from the piece which receives the tines, for the purpose described.

Edward Brown, Waterbury, Conn.—*Machine for making Hinges.*—Patented May 16, 1854, No. 10,943; extended June 16, 1868.

Claim.—1. The slides G G′, regulated by set screws substantially as described.

2. The eccentric rods E E′, sliding within the hollow rods F F′, and connected with the slides G G′.

3. The sliding punches J J′, with adjusting screws, arranged as set forth.

4. The sliding gauge O, with its longitudinal motion and set screws, for the purpose of securing the hinges while turning the knuckle, in the manner substantially as set forth.

5. The fast gauge S with the preventer *r*.

6. The slide P with the catchers *v* and the spring catchers *w w′*.

7. The gauge U, in combination with the preventer *r′*, for the purpose of preventing the hinge from returning with the feeding slide, the whole being arranged and combined in the manner set forth, or in any other manner substantially the same.

Edward Harrison, New Haven, Conn.—*Grinding Mill.*—Patented June 6, 1854, No. 11,040; reissued November 6, 1856, No. 625; extended June 16, 1868.

Claim.—The improved method described of securing the runner stone on the driving spindle in a grinding mill, by means of a metallic band or its equivalent, embracing the periphery of the stone by combining said band with a hub, and a back plate of at least as great diameter as the runner, and rigidly attached to the spindle, such combination operating to secure the stone firmly in its place, in the manner and on the principle substantially as specified.

William Baker, Utica, N. Y.—*Clapboard Joint.*—Patented May 16, 1854, No. 10,903; reissued September 22, 1868, No. 1,541; extended June 16, 1868.

Claim.—1. The construction of the joint of clapboards, or jointed siding for houses, and other buildings, in such manner that the boards when laid on the frame shall lie flat and solid for their whole width against the frame of the building, and at the same time shall preserve the appearance and advantage of clapboarding in front by the outer lip of the upper board at each joint overlapping outside the board next below it for shedding the water, as described.

2. The combination of the lock *a*, in the rear of the joint for holding the board to the frame at the lower edge, as described, with the extended lip C (Fig. 1) in front for covering the head of the nail, as described, the whole being constructed, combined, and arranged substantially in the manner and for the purposes herein set forth.

George W. Coats and **James Russell**, Springfield, Mass.—*Machine for Sticking Card Teeth.*—Patented August 1, 1854, No. 11,434; extended June 16, 1868.

Claim.—1. The mode of imparting the intermittent motion to the main carriage for spacing the teeth, and reversing the same by means of the screw leader attached to the main carriage, and passing through a nut mounted in suitable boxes, and rotated by cog gearing, as described, when this is combined with a clutch operated by a cam, to clutch and unclutch the wheel which receives motion from the wheel or wheels on the main shaft, and imparts the required and measured intermittent motion to the nut, substantially as and for the purpose specified.

2. In combination with the mode described of

imparting the spacing motion to the main carriage, the employment of the cams on the main carriage, which, at the end of each traverse motion, act on a lever connected and combined with and operating the clutch to clutch and unclutch the wheel which receives motion from the main shaft to operate the shifting wheel which operates the double clutch on the main shaft, substantially as and for the purpose specified.

3. In combination with the mode described of operating the main carriage, the mode of operating the second carriage which holds the sheet of leather to determine the space between the rows of teeth by means of the shifting cam called the twill cam, and the shifting-sector cog-wheel which in turn imparts motion by the cog-wheels and shaft to the cog-wheel through which passes the feathered shaft mounted on the main carriage, and which in turn imparts the required motion to the drums for lifting the second carriage at the end of each complete motion of the main carriage.

4. In combination with this, making the nut on the screw leader in two parts, divided by a plane at right angles to the axis, when the two parts are attached together so that they can be turned on each other, substantially as described, so that the threads can be set to any wear of the threads, and thus avoid end play, as described.

5. Making the arbors of the two rollers with cylindrical bosses to determine their distance apart, in combination with the mode of mounting them between boxes and without interposed boxes, the said arbors being prevented from having end play by means of V-shaped or carved fillets on the arbors fitted to corresponding cavities in the boxes, substantially as and for the purpose specified.

6. Mounting the bending fingers in the sliding top plate independent of and below the slide or carrier of the former around which the teeth are bent, the said carrier being provided with an inclined plane or cam acted upon by a like inclined plane or cam on the top plate of the fingers, substantially as described, so that when the fingers are drawn back the former shall be lifted up preparatory to its back motion, as fully set forth.

JOHN BROWN, New York, N. Y.—*Hot-water Apparatus.*—Patented May 30, 1854, No. 10,982; reissued August 14, 1855, No. 321: extended June 16, 1868.

Claim.—1. Connecting the ends of the horizontal, or nearly horizontal, water pipes of hot water warming apparatus by means of return bends or elbows of less caliber, and entering within the end or ends of such pipe or pipes, substantially as and for the purpose specified.

2. Making each horizontal, or nearly horizontal, pipe having the bend or elbow at one end of reduced caliber, with the calibers at top in the same line, substantially as and for the purposes specified, whether made in one piece, or the bend or elbow separate, and then united, the said elbow being connected with the next pipe above it by entering the end thereof, substantially as and for the purposes specified.

3. The construction and arrangement of the apparatus for the purposes and substantially as specified.

JULIA M. COLBURN, Baltimore, Md., administratrix of James Stimpson, deceased.—*Vessel for Holding Liquids.*—Patented October 17, 1854, No. 11,819; antedated April 17, 1854; extended June 16, 1868.

Claim.—1. The double-wall pitcher, the same consisting in a pitcher with double sides, double bottom, and a hinged cover, from which the liquid contents are to be poured through or over a nose or lip, substantially as herein set forth.

2. The employment of a chain or string attached to the handle and lid of the pitcher, as described.

HENRY B. MEYERS, Cleveland, Ohio.—*Converting Railroad Car Seats into Beds or Lounges.*—Patented September 19, 1854, No. 11,699; reissued May 3, 1859, No. 711; again reissued October 8, 1861, No. 123; extended July 7, 1868.

Claim.—1. The forming of berths in railroad cars by means of the backs of the transverse seats, substantially as described.

2. The forming of berths in railroad cars by means of the transverse seats, in combination with the corresponding supplementary cushioned or uncushioned frames, or their equivalents, to fill up the spaces between the transverse seats, substantially as described.

FINLEY LATTA, Cincinnati, Ohio, administrator of A. B. Latta, deceased.—*Steam Generator.*—Patented June 6, 1864, No. 11,025; extended July 7, 1868.

Claim.—The dividing of the coil or coils, commencing with one, then dividing into two, and then subdividing into four, or any other number, as shown and described, or any equivalent device.

CHARLES F. MARTINE, Boston, Mass.—*Sofa Bedstead.*—Patented June 6, 1854, No. 11,026; reissued December 25, 1855, No. 336; again reissued August 27, 1867, No. 2,767; extended July 7, 1868.

Claim.—1. The single-spring mattress, so constructed and arranged with a sofa having a hinged back as to form, when the back is dropped from an upright to a horizontal position for forming a bed, an even surface, without joint or center depression, substantially as and for the purpose specified.

2. So constructing and arranging the single-spring mattress with a sofa having a hinged back, that when the back is raised from a horizontal to an upright position for forming a sofa, said mattress shall be drawn in or depressed longitudinally at or near its center by means of cords or their equivalents, and will have the appearance and effect of two separate cushions, one for the seat and the other for the back of the sofa, substantially as specified.

3. The arms, separated in the center, when used in combination with the sofa and mattress, constructed in the manner and for the purpose described.

THOMAS ALEXANDER, West Hampton, Mass., executor of John Alexander, deceased.—*Metallic Grommet.*—Patented June 20, 1854, No. 11,108; extended July 7, 1868.

Claim.—1. Making that portion of the tube put through the ring to correspond, or nearly correspond, with the corners of the canvas or cloth, so that when they are bent down upon the canvas they double or bend it over the edge of the ring and confine it firmly, substantially as described for the purposes set forth.

2. The scores in the ring, which correspond, or nearly correspond, with the corners of the cloth and with the points of the tube, in combination with the points of the tube aforesaid, substantially as described.

3. Scoring or otherwise roughening the surface of the rings where they come in contact with the cloth, so as to make them hold the canvas firmer and better.

4. Making or inserting points in or on one or both of the rings, to extend through the canvas into the opposite ring, or otherwise.

5. Riveting the points of the tube, which are bent over on the cloth or otherwise, substantially as described.

WARREN SHAW and PARLEY G. GREEN, Wales, Mass.—*Tentering Cloth.*—Patented June 20, 1854, No. 11,141; extended July 7, 1868.

Claim.—The adjustable obliquely-situated tender wheels G G, provided with laterally-playing tender points *j j*, in combination with the oscillating guides *i i*, arranged and operating in such a manner as to seize the cloth and stretch it uniformly, at the same time bringing its edge perfectly even and straight, in which condition it is delivered to the tender-points of the drying apparatus, to be retained thus till dried and received by the folding apparatus, substantially as herein set forth.

COLLINS B. BROWN, Upper Alton, Ill.—*Harvester Rake.*—Patented July 11, 1854, No. 11,249; extended July 7, 1868.

Claim.—Imparting the required movements to the rake I, by combining with its handle H, the horizontally-vibrating fulcrum lever *h*, and the outer end of the lever G. which has a compound vertical and horizontal movement imparted to it by means of the crank pin *e*, pivot *g*, nut *i*, and the curved slotted inner portion of said lever G, substantially as herein set forth.

CHARLES PARKER, Meriden, Conn. — *Cast-iron Vise.*—Patented June 20, 1854. No. 11,137; extended July 7, 1868.

Claim.—Casting the movable jaws or chap of a vise so as to inclose and secure by the operation one or more wrought-iron bars within the tail or guide rod at or near the point of greatest strain, said bars being enlarged or bent at the ends the better to secure the same to the casting, in order to act as a cord or cords to resist tensile strain, and thereby secure the maximum of strength with the minimum of metal, as described.

MARINDA STARKS, Genoa, N. Y., administratrix of ISAAC STARKS, deceased, and LYMAN PERRIGO, Groton, N. Y.—*Device for Holding Pieces in Spoke Machines.*—Patented June 13, 1854, No. 11,084; extended July 7, 1868.

Claim.—The manner of holding and operating the spoke in the carriage, so that upon slackening the tail screws at the one end, the spoke is forced backward and made capable of being turned without disturbing it from its centers, and is restrained from turning when set by means of the sliding and turning socket bar in the headstock, provided with a clamp head fitting in a V or other suitably shaped recess in the headstock, and the socket bar with its clamp head forced backward by a spring, or its equivalent, substantially as specified, whereby great expedition and truth is insured in turning and setting the spoke.

FREDERICK H. BARTHOLOMEW, New York, N. Y.—*Method of Governing the Action of Valve Cocks.*—Patented June 20, 1854, No. 11,113; reissue November 13, 1860, No. 1,071; extended July 7, 1868.

Claim.—1. The combination of these three elements or devices, viz., first, a variable chamber, provided with proper apertures for admission and discharge of fluid. * * * * *

2. Two valves acting to open and close a passage through which water may flow, the one being on its seat, or closing the passage when the veritable chamber is of largest capacity, and the other being in a like position, or performing the same office, when the capacity of the chamber is smallest.

* * * * * * * *

3. A proper connection between the valves and the variable chamber, so applied that the motions of the former shall be controlled by the latter, the whole three being constructed and acting in combination, substantially in the manner and for the purposes hereinbefore described, when operated upon by any competent force.

4. The combination of two valves, a variable chamber, and a connection between them all, substantially such as hereinbefore last enumerated, with a seat or platform, substantially such as is herein described, by means of a connection, substantially such as set forth, whereby the seat or platform, the valves, and the variable chamber all act in unison, substantially as set forth.

5. As a means of preventing concussions on pipes supplying urinals or hopper closets, where the amount of water used is not a material consideration, and where yielding seats or platforms are employed to open a supply valve, the combination, substantially as hereinbefore described, of a variable chamber, a single valve, and a yielding seat or platform, with proper connections and attachments, so that the motions of the valve may be caused by the seat and governed by the variable chamber, substantially as described.

6. The combination of a diaphragm performing the duty of a stuffing box, with a valve or valves, and with a variable chamber controlling the valve or valves, the whole constructed and operating substantially as hereinbefore recited.

FREDERICK H. BARTHOLOMEW, New York, N. Y.—*Method of Governing the Action of Valve Cocks.*—Patented June 20, 1854, No. 11,113; reissued November 13, 1860, No. 1,072; extended July 7, 1868.

Claim.—1. A pan provided with a proper rockshaft arm, or its equivalent.

2. A valve or cock to open or close a passage way leading from a street main, or its equivalent, to a basin of a pan closet.

3. A variable chamber, connected with the valve, so as to control its motions in either or both directions, by retarding either its opening or closing or both.

4. A spring, or its equivalent, compressed when the valve is opened, and expanding to close the valve when the pressure upon the spring is released.

5. A lever so connected to the pan and to the valve, as to open both when force is applied to the lever.

6. A counterbalance, or its equivalent, acting to raise or shut the pan, but not operating to close the valve; intending to claim none of these parts separately, but in combination only, and when all of them are constructed and operate in combination, substantially as herein described.

HYMEN L. LIPMAN, Philadelphia, Pa.—*Eyelet Machine.*—Patented July 11, 1854, No. 11,260; extended July 7, 1868.

Claim.—1. In combination with a fastener C and a reservoir of eyelets I, the conveying apparatus for carrying the eyelet from one to the other, made and operated substantially in the manner herein described.

2. The threading of the eyelets upon a rod or stem from which they may be delivered one at a time to the carrying apparatus, substantially as described.

GEORGE HAND SMITH, Rochester, N. Y.—*Process for Making Steel Direct from the Ore.*—Patented July 18, 1854, No. 11,338; reissued August 18, 1866, No. 3,333; extended July 7, 1868.

Claim.—1. The process, substantially as herein described, for converting iron ores directly into steel by subjecting the ore in the comminuted state, in connection with carbon and with or without other flux, in a close oven, retort, or equivalent vessel, to a high degree of heat, and when converted treating it in a reheating furnace to weld and ball the particles, and then hammering, rolling, or squeezing the balls to express the impurities and complete the welding and compact the mass, as set forth.

2. In the process of conversion, charging the comminuted ore and charcoal or other carbonaceous substance in the cementing oven, or other equivalent vessel, in alternate layers, substantially as and for the purpose specified.

HORACE SMITH and D. B. WESSON, Springfield, Mass.—*Fire-arm.*—Patented February 14, 1854, No. 10,535; reissued October 10, 1854, No. 279; extended August 11, 1868.

Claim.—1. The combining the percussion hammer, the piston slide, and the barrel, so that the said piston slide shall not only serve as as a breech to the barrel but at the same time as a means of conveying (by concussion) to the priming of the cartridge at one end of the slide the force of the blow of the hammer upon the opposite end of the slide, as specified.

2. The improvement in the carrier, whereby it is not only enabled to be moved downward while the breech slide is forward against the barrel, or cartridge therein, but is caused to expel from the chamber E, in which it moves, the remainder of the cartridge, after such remainder has been retracted by the piston slide, and while the carrier is being elevated with another cartridge, the said improvement consisting in making the carrier with an opening or passage leading out of the cartridge chamber thereof, and of a width sufficient for the movement of the piston slide out of the carrier during the descent of the latter, and providing said carrier with one or more projections a^2, or the equivalent thereof, which, when the carrier is elevated, shall be moved against the remainder of the cartridge, and elevate and expel it from the fire-arm, as stated, the breech slide or piston slide being formed substantially as specified.

3. The arrangement and application of the percussion hammer with respect to the breech slide H and the trigger guard lever, so that the hammer may be moved and set to full-cock by the pressure or back action of the slide, induced by the action of the trigger-guard lever, as specified.

4. The improvement of making the front end of the piston slide with a dove-tail recess, *a′*, (or its equivalent,) for the purpose of enabling the slide to seize the metal or remainder of the cartridge and withdraw it from the barrel when it (the piston slide) is next retracted, the said remainder being discharged from the slide by the upward movement of the carrier, all substantially as specified.

Horace Smith and **D. B. Wesson**, Springfield, Mass.—*Cartridge.*—Patented August 8, 1854, No. 11,496; extended August 11, 1868.

Claim.—1. The arranging of the tallow within the cartridge, and between the ball and charge of powder, or in a chamber, *c*, suitably made in rear of the ball of the cartridge, whereby the necessary amount of tallow for a discharge is preserved, with the charge, in a convenient and compact form.

2. The employment in the cartridge of the metallic or indurated disk or seat plate, so that it shall rest directly on the powder, in combination with arranging the priming or percussion powder in rear of said disk, or on that side of it opposite to that which rests against the powder, said arrangement of the disk and priming affording an excellent opportunity for applying the force of the blow by which the priming is inflamed, such force being applied in the line of the axis of the cartridge.

George T. Bigelow, Boston, Mass., administrator of **Samuel Nicolson**, deceased.—*Wooden Pavement.*—Patented August 8, 1854, No. 11,491; reissued December 1, 1863, No. 1,583; again reissued August 20, 1867, No. 2,748; extended August 11, 1868.

Claim.—1. Placing a continuous foundation or support, as above described, directly upon the roadway, then arranging thereon a series of blocks having parallel sides endwise in rows, so as to leave a continuous narrow groove or channel way between each row, and then filling said grooves or channel ways with broken stone, gravel, and tar, or other like materials.

2. The formation of a pavement by laying a foundation directly upon the roadway, substantially as described, and then employing two sets of blocks, one a principal set of blocks, that shall form the wooden surface of the pavement when completed, and an auxiliary set of blocks or strips of board, which shall form no part of the surface of the pavement, but determine the width of the groove between the principal blocks, and also the filling of said groove, when so formed between the principal blocks, with broken stone, gravel, and tar, or other like material.

3. Placing a continuous foundation or support, as above described, directly upon the roadway, and then arranging thereon a series of blocks having parallel sides endwise, in a checkered manner, so as to leave a series of checkered spaces or cavities between said blocks, and then filling said checkered cavities with broken stone, gravel, and tar, or other like material.

4. The formation of a pavement by laying a foundation directly upon the roadway, substantially as above described, and then employing two sets of blocks, viz., one a principal set of blocks, that shall form the wooden surface of the pavement, and an auxiliary set of blocks, that shall form no part of the wooden surface of the pavement, but determine the dimensions of the tessellated cavities between the principal blocks, and then filling said tessellated cavities with broken stone, gravel, and tar, or other like material

George A. Leighton, Lawrence, Mass.—*Sewing Machine.*—Patented July 11, 1854, No. 11,284; extended August 11, 1868.

Claim.—In combining with the longitudinal movements of the two needles of the sewing machine lateral movements of one needle, so that the forward and backward movements of each needle shall be respectively on opposite sides of the other, (instead of on the same side of it,) whereby the crossings of the loops are made to be drawn into or directly over the holes made through the cloth or material sewed, and so as to produce a very flat seam or sewing, substantially as specified.

George Hand Smith, Rochester, N. Y.—*Process of Making Steel Direct from the Ore.*—Patented July 18, 1854, No. 11,338; reissued August 14, 1868, No. 2,334; extended August 11, 1868.

Claim.—The combination of the process of deoxidizing iron ore and carbonizing the metallic particles, substantially such as herein described, with the process of melting in crucibles, substantially as and for the purpose described.

James Brayley and **Mary Pitts**, Buffalo, N. Y., administrators of **John A. Pitts**, deceased.—*Horse Power.*—Patented July 4, 1854, No. 11,232; reissued May 4, 1861, No. 81; extended August 11, 1868.

Claim.—1. So combining an internal-gear main driving wheel with two pinions working at diametrically opposite sides thereof, as that said main wheel may move in a direction transverse to that of a line drawn through said pinions, for the purpose of allowing said main wheel to automatically adjust itself to said pinions, substantially as and for the purpose set forth.

2. Hanging the pinions of a double-geared horse power in adjustable bearings, so that they may be set in close mesh with the main or master wheel, substantially as described.

3. In so combining the pinions and bevel wheels upon one shaft, in pairs, and supporting them in adjustable bearings, as that their shafts may be kept in a perpendicular position while the two gears are made adjustable to the respective wheels that they mesh with, substantially as described.

Levi Dederick, Albany, N. Y.—*Hay Press.*—Patented June 6, 1854, No. 11,043; extended August 11, 1868.

Claim.—Traversing the follower parallel by two sets of levers or toggle joints, with one lever of each set extended beyond the joint of connection, so as to form a lever to operate the joints, when they are so arranged that the lever of the lower set or joint may work or vibrate between the fulcrum levers of the upper one, the two levers C and D being connected together by a rod or links, the whole being constructed and operated substantially as described, for the purposes set forth.

John Taggart, Boston, Mass.—*Machine for Excavating Earth.*—Patented July 4, 1854, No. 11,242; extended August 11, 1868.

Claim.—1. The combination of the gravitating weight *u* and its line *t* with the windlass barrel S and the brake wheel *u′*, so as to operate automatically and rotate both windlass and brake wheel, and not only take up the slack of the rope *o*, while the scoops are being elevated, as described, but at the same time to set the brake wheel ready for the action of the brake when it becomes necessary to drop the scoops in order to discharge their load.

2. The arrangement of the branch lines *f g* of the line N′, so as not only to operate through the ends of the scoop levers, but also through guiding or sheave passages of the boom, such an arrangement of the branch lines producing an increase of draught on the scoop levers during the operation of closing them, as specified.

3. In combination with the afore-described arrangement of the line N′, through the sheave openings of the boom K and the two scoop levers, or about their sheaves, as specified, the union of the branches into one line, in connection with the carrying such line through a compensating passage of the boom K, and permitting it to slide freely through the same, in manner as described, the same being for the purpose of enabling the scoops to close together or upon an object, whenever the movement of one of them, during the operation of closing them together, is arrested by contact with an obstacle, as explained.

4. The combining the boom K, and the working

ropes of it and its scoops, with a crane, substantially as specified, so that the scoops may be free to be moved, not only vertically, but also in any direction, either toward. or away from, or laterally with respect to the crane and its platform, whereby, while the scoops are grasping a stump or other article adhering to the mud or earth, a lateral movement of the crane may be employed to effect leverage on the scoops in a lateral direction, so as to aid in disengaging the stump or article grasped by the scoops, and to effect this without injurious strain on the boom or the parts through which the boom slides.

LAVINIA L. BARTLETT, Bangor, Me., administratrix of RUSSELL D. BARTLETT, deceased.—*Machine for Making the Heads of Shovel Handles.*—Patented July 11, 1854, No. 11,288; extended August 11, 1868.

Claim.—To so construct the dished wheel F and its cutters *i*, and apply them together, substantially as described, in combination with so constructing the bearing rest G with a shelf *l* and bearer plate *m*, or equivalent contrivances, and applying it to the wheel, so as to cause it to extend within the wheel and enable a person to introduce the shovel head into it, and between it and the inner surface of the wheel, and support said shovel head and turn it against the cutters, so as to cut it curved in two directions, as specified.

WARREN GALE, Peekskill, N. Y.—*Straw Cutters.*—Patented September 12, 1854, No. 11,667; reissued April 3, 1860, No. 938; again reissued October 25, 1864, No. 1,800; and again reissued November 13, 1868, No. 2,393; extended August 11, 1868.

Claim.—1. The automatic mouth of a feed box, constructed by any means substantially the same as described, when used in combination with a revolving cutting cylinder, armed with one knife or with several knives, so arranged that one knife shall release its hold upon the material being cut before the following knife shall grasp it sufficiently to hold it, substantially as and for the purposes set forth.

2. The adjustable bottom mouth piece M, or its equivalent, constructed and operating substantially as and for the purposes set forth.

3. Combining a revolving cutting cylinder, armed with one knife, or with several knives, so arranged that one knife shall release its hold upon the material being cut before the following knife shall grasp it sufficiently to hold it, with a hinged bottom mouth piece of a feed box, substantially as and for the purpose described.

4. An automatically operating mouth to a feed box, in combination with a revolving knife cylinder, armed with one knife, or with several knives, so arranged that one knife shall release its hold upon the material being cut before the following knife shall grasp it sufficiently to hold it, when this cylinder is geared to a revolving pressure cylinder, substantially as and for the purposes set forth.

5. Making those parts of the pressure cylinder against which the knife or knives are made to cut, by having their edges brought into actual contact therewith, in sections or strips, separate from the body of the cylinder, substantially as and for the purposes set forth.

6. A revolving cutting cylinder, having one or more knives, in combination with the pressure cylinder, having one or more radial flanges, arms, or projections, so arranged that the knife or knives shall, as they revolve, meet the flange, arm, or projection, or either of them, in actual contact, so that the material to be cut is caught between the two, drawn forward, and cut off by the pressure between the knife on one cylinder and the flange on the other, substantially as and for the purposes set forth.

7. The flanged pressure cylinder, arranged and operated substantially as described, when the face of the flange is covered with suitable soft material to protect the edge of the knife, when used in combination with a revolving cutting cylinder, substantially as and for the purposes set forth.

8. An automatically operating mouth of a feed box, or an adjustable mouth of a feed box, substantially as described, in combination with a revolving cutting cylinder armed with one knife, or with several knives, so arranged that one knife shall release its hold upon the material being cut before the following knife shall grasp it sufficiently to hold it, and with a revolving pressure cylinder armed with one or more radial arms, flanges, or projections, substantially as and for the purposes set forth.

9. A pressure cylinder provided with one or more radial flanges, arms, or projections, and a revolving cutting cylinder, armed with one knife, or with several knives, so arranged that one knife shall release its hold upon the material being cut before the following knife shall grasp it sufficiently to hold it, when these cylinders are used in combination with a hinged bottom mouth piece of a feed box, substantially as and for the purpose set forth.

REBECCA R. GILLETT, Chicago, Ill., administratrix of THOMAS W. GILLETT, deceased.—*Apparatus for Corking Bottles.*—Patented July 11, 1854, No. 11,281; extended August 11, 1868.

Claim.—Combining the safety cylinder or screen with the cross bar of the charging socket, or other proper part of the bottling machine, so that the said screen will surround the bottle at the same time that the charging socket is brought over the neck of the bottle, and keep it there until the filling and corking has been completed, substantially in the manner and for the purpose set forth.

HENRY OUTCALT, Wilmington, Ohio.—*Mode of Constructing Metallic Roofing.*—Patented July 11, 1854, No. 11,292; extended August 11, 1868.

Claim.—Scrolling the edges of metallic plates, so as to form a tube or cylinder, and then connecting their edges by means of other scrolls, which are formed also into tubes on the edges of a narrow strip of the same kind of plate, and being somewhat larger than the former tube or scroll, so that they will slide over and fit snugly to it, for subserving three different purposes, viz: first, for protecting the roof against injury from "contraction" and "expansion;" second, for the purpose of preventing the water from driving through the roofing at the scrolls; third, for the purpose of supporting the roof and all superfluous weight that may accumulate, such as snow, &c., without any superstructure other than those on which its ends rest, the whole being arranged and constructed as described.

GRIFFITH LICHTENTHALER, Limestoneville, Pa.—*Cultivator.*—Patented July 25, 1854, No. 11,379; extended August 11, 1868.

Claim.—The method, herein shown and described, of attaching the shares G to the beams A, viz., having metal strips F, perforated with holes *f*, secured to the under sides of the beams A, and sockets formed of two lips, *g g*, made at the upper ends of the shares, and perforated with holes *h h*, in which holes *h*, and in the holes *f* in the plates B, wooden pins *i j* are passed, securing the shares to the beams, as set forth.

ALEXANDER HAY, Philadelphia, Pa., administrator of MARIE AMÉDÉE CHARLES MELLIER, deceased.—*Making Paper Pulp.*—Patented May 29, 1857, No. 17,387; patented in France August 7, 1854; patented in England October 26, 1855; extended August 11, 1868.

Claim.—1. The use of a solution of caustic soda (N A O) in a compartment of a rotary vessel separate from that which contains the steam heat, substantially as described.

2. The within-described process for bleaching straw, consisting in boiling it in a solution of pure caustic soda (N A O) from 2° to 3° Baume, at a temperature not less than 310° Fahrenheit, after it has been soaked and cleaned, and before submitting it to the action of a solution of chloride of lime from 1° to 1½°, substantially as described.

JACOB SENNEFF, Philadelphia, Pa.—*Weavers' Heddle.*—Patented July 18, 1854, No. 11,335; extended August 11, 1868.

Claim.—Forming the eye of the heddle by casting or otherwise securing around and between the strands or threads composing the same metallic clasps, in lieu of the cumbersome knots heretofore employed, curved on their sides, and made concave and smooth on their ends, between the strands or threads, where they form the ends of the eyes, in the manner and for the purpose herein set forth.

Albert H. Tingley, Providence, R. I.—*Machine for Sawing Stone and Marble.*—Patented July 18, 1854, No. 11,347; extended August 11, 1868.

Claim.—1. The combination of the two spring pawls, their slotted connecting rod, the movable ratchet and its tripping pin, with the fixed ratchet of the shaft of the sprocket wheel U, the whole being operated and made to operate together, substantially in manner and for the purpose as specified.

2. The series of hooked pins on the water distributer, in combination with the series of notches applied to the connecting-rod for operating the water distributer, the whole being for the purpose of regulating the motion of the water distributer, and of causing that motion to take place over either a portion or the whole entire surface of the stone, as occasion may require.

Hymen L. Lipman, Philadelphia, Pa.—*Eyelet Machine.*—Patented July 18, 1854, No. 11,380; extended August 11, 1868.

Claim.—The so forming of the die and counterdie or follower and anvil block of an eyelet machine by concave grooves, channels, or their equivalents, as that the eyelets may be riveted or clinched on both sides by a single operation, and without turning them over, substantially as described.

R. H. Garrigues, Salem, Ohio, administrator of L. A. Dole, deceased.—*Arrangement for Lathe Chuck.*—Patented July 25, 1854, No. 11,364; extended August 11, 1868.

Claim.—The manner herein described, of combining and arranging the scroll screw A, holding jaws B, screw or mandrel C, cutter C′, adjustable nut F, gauge plate G, sliding catches *c d*, and notched and grooved barrel E, or their equivalents, for the purpose of constituting a machine which is capable of boring the hub entirely through in a true and perfect manner, and also of being adjusted and set so as to cut a shoulder of the required depth, and to enter the hub the proper distance, and then of being adjusted, as the operation is proceeded with, so as to square up the shoulder in a perfect manner, substantially as herein described.

Charles A. Wakefield, Pittsfield, Mass.—*Seed Planter.*—Patented July 25, 1854, No. 11,395; extended August 11, 1868.

Claim.—1. So arranging and operating the plunger C, in connection with the receiving tube or chamber D, and its delivery slide B, or the equivalent thereof, that the plunger C, ejecting the corn deposited in the receiving chamber, is made to imbed the corn from the surface of the earth to its required depth obliquely into the ground, while the receiving tube or chamber D, resting, by a front stop plate, I, on or above the ground, is made to open and close clear of all surrounding dirt, and the sides of the said chamber D made to act as scrapers above the recess, to clear the plunger of adhering soil, and cover the seed therewith throughout the entire withdrawal of the plunger, substantially as specified, whereby the receiving tube or chamber D is prevented clogging with dirt at its opening sides, the width of the opening made in the earth for the reception of the seed is diminished, and the corn covered with more certainty, as herein set forth.

2. The method, herein described, of operating the planter by the hand, at the side, in such a manner that the same force or pressure applied to working the plunger up and down gives to the planter, automatically, as it were, one and the same obliquity of stroke, in a backwardly direction downward, or in a forwardly direction upward, throughout its several operations, both on entering and leaving the ground, by means of the obliquely set handle E, on the rear side of the plunger, or other equivalent arrangement of the handle producing the same action, substantially as specified, and whereby the planter may be used with greater facility and expedition, and the recess formed for the planting of the corn so made with certainty of the necessary obliquity, without involving any delay in adjusting the direction or movement of the plunger to insure the earth on the overhanging side of the said recess falling in to cover the corn, as herein set forth.

Edward W. Brown, Stillwater, R. I.—*Loom.*—Patented July 25, 1854, No. 11,352; reissued March 14, 1865, No. 1,901; extended August 11, 1868.

Claim.—1. The combination of the pattern chain, the pawls, and the reversible tappet shaft, or their equivalents, substantially as described.

2. The tappet shaft, constructed and operating substantially as herein described, to turn about its axis in either direction, or remain at rest, as desired, for the purpose specified.

3. The reversible tappet shaft, or its equivalent, in combination with the pawls, or their equivalent, constructed and arranged substantially as described, and for the purpose specified.

Horace Woodman, Biddeford, Me.—*Cleaning Top Cards of Carding Machines.*—Patented August 1, 1854, No. 11,448; reissued December 8, 1857, No. 514; extended August 11, 1868.

Claim.—1. The application and adaptation of the grooved cam, arranged with a sliding bar, substantially as specified, or the equivalent therefor, as a means of producing the reciprocating motion by which the raising and depressing of a top card, or the reciprocating movements of the brush bar in cleansing a top card, may be effected.

2. The combining of lifter cams T T, and a brush bar, V, with one rotary shaft R, so that, by the movements of such shaft in the manner specified, the operations of raising and depressing a top card and cleansing it may be effected in the manner set forth.

Bradford S. Pierce and Charles M. Pierce, New Bedford, Mass.—*Mold for Cement or Earthen Tubes.*—Patented August 1, 1854, No. 11,440; extended September 8, 1868.

Claim.—The combination of a core and spring case, substantially as herein set forth.

Daniel W. Shares, Hamden, Conn.—*Cultivator.*—Patented August 1, 1854, No. 11,460; extended September 8, 1868.

Claim.—Providing the expanding and contracting hoeing wings B on either side with cultivator teeth C, projecting downward on the inside of the hoeing wings or scrapers, as and for the purposes specified.

Joshua Gibbs, Canton, Ohio.—*Plow.*—Patented August 15, 1854, No. 11,523; extended September 8, 1868.

Claim.—Making the working surface of the mold board in the form of a section of the interior surface of a hollow cylinder, the center or axis of said cylinder being parallel, or nearly parallel, horizontally to the base of the mold board or bottom of the plow, substantially as described.

Solomon S. Gray, Boston, Mass.—*Machine for Planing Lumber out of Wind.*—Patented August 22, 1854, No. 11,582; reissued April 17, 1860, No. 945; extended September 8, 1868.

Claim.—1. The peculiar construction of cutter head herein described, the cutter head itself being made use of to turn and break the shaving, in the manner of a double iron plane, and being furthermore made concave for the purpose of facilitating this operation.

2. The clamp, as herein described, for the purpose of dogging the lumber to the bed of the machine, the body of the clamp being pivoted at *d*, and forced up by the screw F, or its equivalent, the dog *h* being adjustable therein, in the manner and for the purpose set forth.

3. The within-described method of screwing the dog M to the bed of the machine by means of the teeth or cogs *l*, and the mortises in the side pieces *m*, for the purpose set forth.

4. The bar D, or its equivalent, in combination

with a rotary cutter head and traveling bed I, provided with suitable dogs for planing straight and out of wind, substantially as set forth.

Sydney S. Turner, Westboro, Mass.—*Sewing Machine.*—Patented August 22, 1854, No. 11,588; reissued March 25, 1856, No. 363; again reissued May 16, 1865, No. 1,962; extended September 8, 1868.

Claim.—1. The combination, in a sewing machine, of an automatic feed, a work-supporting surface, and a needle, when the needle is arranged to operate from below the table or work-supporting surface, and without the coöperation of a second thread (or a device carrying a second thread) above the table or work-supporting surface.

2. The combination together of a needle and awl, when the same enter the work in opposite directions, and each withdraws in a direction opposite that from which it entered.

3. The combination, in a sewing mechanism, of an automatic needle turner and automatic feed, by which the loop is kept in proper position with respect to the needle as the work progresses.

4. The method of effecting the rotation of the hook, substantially as specified.

Horatio N. Gambrill, Baltimore, Md., and Thomas D. Bond, Washington, D. C., administrator of Singleton F. Burgee, deceased.—*Carding Machine.*—Patented February 27, 1855, No. 12,469; antedated August 22, 1854; reissued November 17, 1857, No. 509; extended September 8, 1868.

Claim.—1. The application of two or more sets or pairs of feeding rollers to the working cylinder of carding engines, substantially in the manner and for the purpose set forth, and this we claim whether said feed rollers deliver the material directly on to the main cylinder or to lickers-in, when said lickers-in are so arranged as to work in connection with each other and with the main cylinder, for the purpose and in the manner substantially as set forth.

2. The reversing of the relative velocities of the peripheries of the main working cylinder and stripper M at intervals, by an automatic movement for the purpose of cleaning or preventing the clogging of the main cylinder, substantially as described.

Norman Millington, Shaftsbury, Vt., and L. J. Mattison, S. M. George, and A. B. Gardner, of the same place, executors of Dennis J. George, deceased.—*Machine for Graduating Carpenters' Squares.*—Patented August 6, 1854, No. 11,489; extended September 8, 1868.

Claim.—1. The arrangement, in a single frame, substantially as set forth, of as many gravers as there are units to be divided, so as, by the action of the cam wheel W, or its equivalent, simultaneously to trace, of the proper length, each set of division and fractional lines.

2. The balance frame V, with its appendages, to equalize the pressure of the spiral springs on the graver handles *g*, so as to give the same depth of mark on the thin as on the thick end of the taper square.

3. The inclined plane *i*, with its appendages for moving the square longitudinally, and dividing the inch into any desirable number of . . . . equal parts.

4. The carriage C, arranged to press the square up against the points of the gravers by a cam, or otherwise, all the several parts, or their equivalents, to be arranged and combined as above specified, or in any other manner substantially the same, which shall produce the intended effect.

William O. Andrews, New York, N. Y.—*Centrifugal Pump.*—Patented August 22, 1854, No. 11,544; extended September 8, 1868.

Claim.—The construction of the pump as herein described and shown, viz., having a hub E, in the shape of the base of a cone inverted with arms *a* attached to its periphery, of a gradually decreasing width as they approach its base, placed within a shell corresponding in shape to the outer circumference of the arms, and having induction passages of a spiral form, gradually decreasing in pitch to their point of delivery, and eduction passages of a spiral form, of a gradually increasing pitch until they attain a straight line, by which construction the water is made to pass, without sudden change of direction or eddies, in an unbroken volume through the pump; and I do not limit myself to the precise mechanical construction as shown, but may modify the different parts, only retaining the same general combination.

Jacob Senneff, Philadelphia, Pa.—*Machine for Casting Metallic Eyes or Mails of Heddles for Looms.*—Patented August 22, 1854, No. 11,589; extended September 8, 1868.

Claim.—1. The method, within described, of casting the eyes or mails on the strands of yarn or other material, by inserting the yarns successively within a mold, secured on a vibrating frame L, operated at the proper intervals of time by means of the eccentric cams I I, said mold being opened at times to disengage the mail therefrom, and provided with a core 24, for forming the eye in the mail, and capable of being withdrawn therefrom before the mold opens, substantially in the manner and for the purpose herein set forth.

2. The manner of operating the core, so as to enable it to be so withdrawn from the eye of the mail after the same is formed and while it is firmly embraced within the mold, by means of the spring S and screws 25 and 33, operating in the manner described.

3. The core carrier 27, resting in a notch formed in the top of the spring S, and having pins 26 on its face, which pass through slots in the mold plates and spring W, for moving the core horizontally from the stationary half of the mold, and keeping it midway between the mold plates, when they are opened by the lever T, and preventing it being thrown violently either way, as herein set forth.

4. The manner of operating the heddle-frame holder D, by means of the eccentric cams I on the shaft B, capable of being moved longitudinally over the grooves in said shaft, right-angled levers D, to which the heddle frame is secured, and spiral springs 21, for keeping the ends of the levers always in contact with the eccentric cams; and in combination therewith the screw shaft C and clamps J and the adjustable gearing K, at the ends of the screw and main driving shafts, the whole being constructed and operating in the manner and for the purpose herein fully set forth.

Joseph H. Tuck, Brooklyn, N. Y.—*Packing for Stuffing Boxes, &c.*—Patented June 26, 1855, No. 13,145; patented in England August 25, 1854; extended September 8, 1868.

Claim.—The forming of packing for pistons or stuffing boxes of steam engines, and for like purposes, out of saturated canvas, so cut as that the thread or warp shall run in a diagonal direction from the line or center of the roll of packing, and rolled into form either in connection with the India-rubber core or other elastic material, or without, as herein set forth.

Claim.—Attaching the spindles *b* of the wings or

Daniel Halladay, Batavia, Ill.—*Governor of Windmills.*—Patented August 29, 1854, No. 11,629; extended September 8, 1868.

sails F to a sliding head G, by means of the levers *f h*. or their equivalents, and operating said head G, by means of the lever H, or its equivalent, and a governor of any proper construction, for the purpose of giving the desired obliquity to the wings or sails, and thereby insuring an equal motion and power during the variable velocity of the wind.

Sarah W. Flanders, Newburyport, Mass., administratrix of Joseph F. Flanders, deceased, and Jeremiah A. Marden, of Boston, Mass.—*Leather-splitting Machine.*—Patented August 29, 1854, No 11,604; extended September 8, 1868.

Claim.—The use of the continuously-revolving or endless-belt knife, as applied to machines for splitting leather, and operating in the manner substantially as set forth.

Caleb Swan Easton, Mass.. executor of **Daniel Hayward**, deceased.—*Manufacture of India-Rubber.*—Patented August 29, 1854, No. 11,608; extended September 8, 1868.

Claim.—The improvement in the process of vulcanizing native India-rubber, or rubber once vulcanized, compounded with other articles as above set forth, which consists in heating and curing them with steam, and under pressure, and in regulating the application of steam, and the induration of the product by the introduction of steam and water, as described, by which a very great saving is made in the time and fuel required for the process, as hereinabove stated.

Benjamin Bray, Salem, Mass.—*Improvement in Spring Rollers for Window Curtains, &c.*—Patented September 5, 1854, No. 11,638; extended October 13, 1868.

Claim.—Providing the tubular or hollow curtain roller with a long spiral spring within it, when said spring is used for the purpose, not merely of drawing up the curtain by its recoil, as that is not new, but of balancing it in any position in which it may be placed, substantially as herein described.

Elias Ingraham, Bristol, Conn.—*Design for Clock Case Front.*—Design No. 107, dated September 3, 1861; extended October 13, 1868.

Claim.—The design for a clock case, as hereinabove illustrated and set forth.

William H. Akins and **Joseph C. Burritt**, Ithaca, N. Y.—*Calendar Clock.*—Patented September 19, 1854. No. 11,711; extended October 13, 1868.

Claim.—1. The arrangement of the four rows of teeth on wheel L, (as shown in Fig. 8,) in combination with the corrugated plate N, the detent X, and the arm O, the rocking shaft P, and the slotted arm Q, or the equivalent of said arms and rocking shaft, and for the purposes set forth.

2. Raising the click 37 over four or more of the teeth of the wheel L, (when run down,) on the first day of the month, thereby acquiring a retaining power sufficient to be used in the short months, thus moving the wheel L, carrying the hand I, on the dial, from the 28th day of February, past the 29th, 30th, and 31st divisions of the wheel L, to the figure 1, or the 1st day of March, those teeth (the 29th, 30th, and 31st) being removed, the detent X stopping the wheel L at the point marked 1 on figure 8, indicating the first day of every month, one tooth only being used, except at the last day of a short month, the rod 30 slipping through the end of the lever Y.

3. The combination of the helix V, the lever Y, lifting rod 30, the detent X, the pin 55, the click 37, the wheel L, and spring 7, and for the purposes described, that is, giving movement to the wheel L, the rollers F, G, and H being moved by similar devices.

William Thornley, Philadelphia, Pa.—*Safety Washer for Securing Wheels to Axles.*—Patented September 19, 1854, No. 11,705; extended October 13, 1868.

Claim.—A washer having a projecting flange, and stop or stops; also, the cap, with the stop or stops, as described, for the purpose specified.

Horace W. Peaslee, Malden Bridge, N. Y.—*Machine for Washing Paper Stock.*—Patented January 23, 1855, No. 12,283; antedated September 20, 1854; reissued January 8, 1856, No. 340; again reissued March 19, 1867, No. 2,515; extended October 13, 1868.

Claim.—1. A rotating pervious cylinder, provided with projecting teeth on the inside, and mounted, substantially as herein described, so as to be sustained and rotated without a shaft and arms, that the inside and ends may be unobstructed for the passage of the stock, substantially as and for the purpose described.

2. In combination with a pervious rotating cylinder, armed with teeth on the inside, substantially as described, the means, substantially as described, for the introduction of water through the meshes of the cylinder to the stock inside, as and for the purpose described.

Gardner Chilson, Boston, Mass.—*Furnace or Heat Generator and Radiator.*—Patented September 26, 1854, No. 11,718; reissued September 27, 1864, No. 1,782; extended October 13, 1868.

Claim.—1. In combination with one or more tapering tubes, substantially as described, made to communicate in the fire chamber essentially as specified, a conical or tapering radiator closed at top, and arranged directly over the fire, and made to open near its base in the said tapering tube or tubes, and to operate, with respect to them, and the fire pot or chamber and the surrounding air or medium to be warmed or heated, substantially as specified.

2. Arranging the feed or fire-place door within the trunk or mouth piece to the fire pot or place, and so as to operate as specified.

3. In combination with the mouth piece and the door arranged in it as specified, the passage in the mouth piece and its plate *c*, for the thin sheet or stratum of air to pass under the door (while it is wholly closed) and said plate *c*, and be heated by contact with the plate before it (the said air) reaches the fuel.

4. In combination with the inclined door of the fire place, the plate *c*, and the air passage directly under it, the ledge or flange *a'*, arranged as described, the same being not only for the purpose of regulating the admission of air into the passage, but of keeping it from passing under the door and over the plate *c*, while the ledge is below the level of the top surface of the plate.

5. The arrangement of the register hole, (viz., in line of or axially with respect to the shaft of the grate,) in combination with the arrangement of the outer end of said shaft, viz., entirely within the throat of the ash pit, or in rear of the registry plate or opening as specified, the said arrangement not only enabling me to dispose the grate shaft entirely within the ash-pit mouth, (the end of said shaft, when projecting from the front face of the furnace, being, generally speaking, more or less in the way, besides presenting an appearance often disagreeable to the eye,) but to make the registry opening answer the purpose not only of admitting air to the fire when required, but of enabling a person to place a key or crank upon the shaft for the purpose of turning or moving the grate when necessary, and this without danger of ashes escaping out of the ash pit, provided its door be closed.

6. The combination of a fire pot, a dome surmounting it, a series of flues, (leading from the base or lower part of the dome,) the whole being substantially as hereinbefore described.

7. The combination of a fire pot, a dome surmounting it, a series of flues, (leading from the base or lower part of the dome,) and a series of conical or partially conical bases or semicones, serving not only to facilitate the entrance of smoke and heat into the conical radiators or flues, but the absorption of heat and its radiation toward the floor, and its reflection into the tapering radiators, the whole being substantially as specified.

8. The combination of a fire pot, a dome surmounting it or placed over it, a series of flues, (leading from the base or lower part of the dome,) and a hollow ring or annular radiator placed on and opening out of the said flues, the whole being substantially as hereinbefore explained.

Stephen J. Gold, Cornwall, Conn. — *Warming Houses by Steam.*—Patented October 3, 1854, No. 11,747; extended November 3, 1868.

Claim.—1. The combination of generator, radiator, and condenser, as herein described, for the purpose of heating buildings, when the connection between the generator and condenser is perforated as specified, so as to admit of the formation of a hydrostatic column balancing the pressure of steam on the valve *h*, and permitting the water from the condensation of the steam to return to the generator, as hereinbefore specified.

2. The mode of regulating the quantity of steam admitted to the radiator, by means of the cord *o' o'*, and tubes constructed and operating as set forth.

3. The herein-described method of producing a steam-tight connection between the plates of the condensing and radiating chambers E E′, by means of a cord packed between the edges of the plates, substantially as set forth.

4. The securing of the thin metallic sheets forming the chambers E and E′ by depressing and riveting, as shown in Fig. 3, for giving the requisite strength to withstand the outward pressure of the steam in a simple and economical manner.

John Ross, Brooklyn, N. Y., administrator of Charles Ross, deceased.—*Grinding Surface in Mills.*—Patented October 17, 1854, No. 11,811; extended November 10, 1868.

Claim.—The forming of a grinding surface in mills by lining a cast-iron concave with radial segments of burr or other stone, said segments being fitted and secured to their places in the manner herein set forth.

William Porter, Williamsburg, N. Y.—*Securing Lamps to Lanterns.*—Patented October 24, 1854, No. 11,849; extended November 10, 1868.

Claim.—The above-described lantern, constructed substantially as described.

Jacob Senneff, Philadelphia, Pa.—*Metallic Heddles.*—Patented January 13, 1852, No. 8,662; additional letters patent July 20, 1852, No. ·102; extended November 10, 1868.

Claim.—Casting the eye on the wire which constitutes the heddle, harness, or heald, through which the warp passes, in the manner and for the purpose set forth, producing a heddle much superior to any other known or used, and which will remove many of the difficulties heretofore experienced in the use of the common twisted wire heddle.

Additional Claim.—Casting eyes of harness or heddles upon single or multiplied strands of worsted, silk, cotton, thread, or other material, in the manner and for the purpose herein set forth.

Samuel Van Syckel, Titusville, Pa.—*Grate Bars.*—Patented October 31, 1854, No. 11,879; reissued June 9, 1868, No. 2,980; extended November 10, 1868.

Claim.—Constructing grate bars with pins or projections on one of the sides of the bar, and with corresponding mortises or recesses in the other side, whereby the bars can be interlocked and held together, and made self-sustaining throughout their entire length, substantially as described and specified.

Jonathan S. Turner, Fair Haven, Conn.—*Alarm Clock.*—Patented July 18, 1852, No. 9,123; extended November 10, 1868.

Claim.—The combination of the double-notched cam I with the locking apparatus K and L, with their appendages *f*, *m*, *r*, *n*, *i*, *j*, and *q*, when used in any kind of time pieces for giving alarms at the time desired, and giving more than one alarm with once winding, when the whole is constructed, arranged, and combined substantially as herein described.

George Miller, Providence, R. I.—*Manufacturing Leather Banding for Machinery.*—Patented November 7, 1854, No. 11,902; extended December 8, 1868.

Claim.—An improved manufacture of round banding, as made substantially as described, that is to say, by reducing a strip of leather, or other suitable material, to the shape denoted in Fig. 1, and subsequently rolling and cementing it together into that essentially as exhibited in Fig. 2, of the drawings hereinbefore mentioned.

Stephen E. Booth, Orange, Conn., administrator of Sheldon S. Hartshorn, deceased.—*Buckle.*—Patented November 7, 1854, No. 11,892; reissued May 26, 1868, No. 2,955; extended December 8, 1868.

Claim.—1. A buckle, in which the tongues are formed from a single piece of metal, and constructed so as to clasp the divided side, and turn freely thereon, substantially in the manner herein set forth.

2. The combination of the two parts or loops, one side of one of which is divided, and the two parts or loops, hinged together, as described, and the tongue clasped and hinged upon the divided side, substantially as set forth.

Harry H. Evarts, Chicago, Ill.—*Shingle Machine.*—Patented October 31, 1854, No. 11,858; extended December 8, 1868.

Claim.—1. Placing the blocks to be sawed into shingles in a rotating carriage, which is combined with inclined tables *p p*, (or a single table,) and with saws *o o*, (or a single saw,) in such a manner that the blocks will be carried continuously forward and be automatically operated upon to convert them into shingles, substantially as herein set forth.

2. The arrangement of the weighted levers H H, the fastening teeth *i i*, and the inclined planes *l l*, with each other, and with the inclined tables *p p*, and the other series of teeth in the ledge *r*, substantially as herein set forth.

3. Presenting the sides of the fibers of the wood to the action of the saws in the sawing of shingles, or equivalent articles, for the purpose of giving them smoother surfaces than can be produced by the usual mode of sawing, substantially as herein set forth.

Eliza Mascher, Philadelphia, Pa., administratrix of John F. Mascher, deceased.—*Daguerreotype Case.*—Patented March 8, 1853, No. 9,611; additional improvement February 19, 1856; extended December 8, 1868.

Claim.—1. Constructing a daguerreotype case with an adjustable flap or supplementary lid, C, said flap or lid C being within the case, and having two ordinary lenses, D D, placed in it; by which, upon adjusting the flap or lid as shown, a stereoscope is formed of the case, and the two daguerreotypes E E, by binocular vision, are apparently formed into a like figure.

2. The combination and arrangement of a series of leaves, of any suitable material, containing photographic or other pictorial representations, (interspersed or not with blank or printed leaves,) with the supplementary lid or adjustable flap containing a lens or lenses as described, the same being united or bound together so as to form a book, substantially in the manner and for the purposes described.

George Crompton, Worcester, Mass.—*Loom for Weaving Figured Fabrics.*—Patented November 14, 1854, No. 11,933; reissued December 28, 1858, No. 639; extended December 8, 1868.

Claim.—1. Combining with hook jacks which are connected with the harness, and with the mechanism for operating them to open the shed, substantially as described, a pattern chain, or cylinder constructed with two or more patterns, and operated so that either of the patterns can be made to act on the hook jacks to place them in the required position to be operated upon by the mechanism for opening the shed, substantially as described.

2. In combination with a pattern chain, arranged with two or more patterns in the direction of its length, the mechanism, substantially such as herein described, for changing the movements of the chain to effect the changing of the pattern, as described.

3. Placing two or more patterns upon the rods of a pattern chain, side by side, and operating them in succession by vibrating the chain laterally, in the manner substantially as described.

4. Pivoting the lifting and depressing rods G P at one end, the other being made adjustable, in the manner and for the purpose set forth.

5. Moving the rods or jacks out of contact with the rollers on the pattern chain before the chain is moved, by means of what are termed the vibrating fingers, or the equivalents thereof, substantially as described.

Charles Parham, Philadelphia, Pa.—*Sewing Machine.*—Patented November 21, 1854, No. 11 971; reissued November 3, 1863, No. 1,562; extended December 8, 1868.

Claim.—1. So forming and constructing the shuttle driver of a sewing machine that, while it performs the required duty of driving the shuttle, it serves to maintain the latter in the desired proximity to the plate C, as set forth.

2. The combination of the driver A, shuttle B, and stationary plate C, the whole being formed and arranged substantially as described, so as to retain the shuttle, during its flight, in its proper position for the purposes specified.

CLARA M. B. SNOW, Independence, Iowa, executrix of HARVEY SNOW, deceased.—*Presser Bar for Planing Machines.*—Patented November 21, 1854, No. 11,984; extended December 8, 1868.

Claim.—Combining the pressure bar H with the rotary cutters, so as to secure the same relative position of the inner edge of the bar, and the path of the cutting edge in holding and cutting the surface of a board throughout its varying thickness, substantially as described.

SAMUEL H. MILLER, Dedham, Mass.—*Anchor.*—Patented June 29, 1852, No. 9,076; extended December 8, 1868.

Claim.—1. The nature of my invention consists in having two separate shanks (marked A and B in Fig. 1 of the inclosed drawings) and flukes to them, C and D, the shanks being confined together near the rings by the bolt E, secured at one end by a large head, and at the other by a strong nut or key F, and separated at their elbows or crowns the length of one of the flukes by a spur or brace projecting from the shank A. In the other shank B there is a hole through which the end of the spur G passes, and is secured by a nut or key at H. The flukes are pointed in opposite directions, and so disposed that it is impossible for the anchor to lie otherwise than with one of the flukes in the ground.

2. There being no stock to this anchor it is not liable to become "stock foul" in "letting it go," nor can a vessel be "stock rode," as it is termed, by the stock entering the ground and being dragged along until it meets a hard vein of earth or a stone, when the stock is bent or broken, and the anchor is useless. But in this form, the instant a strain comes on the cable the anchor enters, and is drawn down into the mud until the broad surface of the fluke presents its full power of resistance. The fluke sinks readily in the ground from the effect of its plowshare-like point, which passes the earth on one side, instead of lifting up and breaking it.

3. By unscrewing the nut F, and withdrawing the bolt E, which connects the two shanks at the rings, and so detaching the shank B from the end of the spur G, both flukes can be turned downward and geared as in Fig. 2 of the drawings, becoming in effect a double "mooring anchor," which sinks with certainty both flukes in the ground by attaching to the middle of the spar chain I, which connects the two elbows, and is twice the length of one of the flukes, an empty beef barrel, small water cask, or anything of sufficient buoyancy to insure the turning of the flukes down by its resistance to the sinking of the anchor. To this chain the buoy rope is also made fast. In many ports ships are obliged to lie moored, and much inconvenience is experienced with the old form of anchor by the fluke, which stands up from the ground, catching the cables of the ships as they sheer about with the wind or tide. In my anchor this difficulty is entirely obviated, for when the flukes are sunk in the mud there is nothing above the ground which can catch a chain or hawser. In anchoring upon a lee shore the anchor, being disposed as above, will take a double hold of the ground, thus rendering the anchorage more secure.

4. If one of the flukes or shanks should be broken near the elbow or crown, (the place where they usually break,) this anchor can yet be made available by lashing a spar of the length of the shank and one fluke across the remaining shank to the spur or brace G, as in Fig. 3. It then becomes the same as the common one-fluked mooring anchor, and can be used in the same manner, or as the double anchor described in the third specification by securing to the ends of the spar a temporary stock, a rope of twice its length, and from the middle or bight of that extend another to the ring at the elbow, then at the bight, or where the ropes are united, secure a buoy or small cask, and let go the anchor, the fluke will strike the point into the ground. Or it can be lowered down by a rope made fast to the elbow or crown, as is the mode with the mooring anchor now in use. In the old form of anchor, if the shank is broken both flukes are lost and the anchor is useless.

5. It is frequently necessary to carry out anchors in boats, which service, if in the night time, or in a heavy sea, is always attended with great peril because of the anchor stock lying athwart the boat's gunwales, embarrassing the men in rowing, and its liability to turn, and the stock catching in the boat's quarter when about to be let go. In carrying out this anchor of my invention there is no such danger. There being no stock, it lies along the middle of the boat, with flukes over the stern; and when the hawser is run out the anchor follows, without the possibility of fouling or catching in the boat.

6. By the mode in which this anchor is made greater strength is insured than can be obtained in the old one with the same weight, each shank and fluke being in shaft forged into shape, and then heated at the proper place and bent into the form requisite, without the necessity of welding any part but the spur or brace to the stock. In the old anchor there must be a weld (and commonly there are two) at the crown, and there they most frequently break.

7. While making a passage this anchor can be readily stowed by withdrawing the key H, and lifting the shank B from the spur G, and laying it upon the shank A. The anchor thus closed occupies but little space. This can be done while the anchor hangs at the cat-head, and with greater ease than when on the deck, by taking out the key, drawing off the shank B, and allowing it to drop to its fellow. Then, by the tackle hooked to the spur chain, it is taken over the ship's side.

8. In case of extremity this anchor can be separated and used as two, by lashing across the shank A, at G, a spar for a temporary stock, and driving through the hole in the shank B, at H, a handspike, and lashing thereto a spar, as on the shank A; then rig them with buoys, as described in specification 4, and illustrated in Fig. 3. Thus arranged, the anchor being provided with two rings, can be shackled to two chains or cables, thereby securing greater safety to the ship than if moored with but one.

What I claim as my invention, and desire to secure by letters patent, is, the above-described anchor for holding ships.

DESIGNS.

2,858.—LEVI HEYWOOD, of Gardner, Mass., assignor to HEYWOOD BROTHERS & CO., same place.—*Chair.*—January 14, 1868.

2,859.—JOHN T. WEBSTER, New York, assignor to EDWARD HARVEY, Brooklyn, N. Y.—*Floor Oil Cloth Pattern.*—January 14, 1868.

2,860.—WILLIAM G. ALGEO, Pittsburg, Pa.—*Coffin.*—January 28, 1868.

2,861.—CHARLES A. FLESCHE and JOHN PERPENTE, New Haven, Conn.—*Scarf Pin.*—January 28, 1868.

2,862.—CHARLES J. HAUK, Brooklyn, N. Y.—*Oil Can.*—January 28, 1868.

2,863.—WILLIAM J. LUSK, Fentonville, Mich.—*Frame.*—January 28, 1868.

2,864 and **2,865.**—LEVI G. MALKIN, New York, N. Y., assignor to HARTFORD CARPET COMpany, Hartford, Conn.—*Carpet Pattern, (two patents.)*—January 28, 1868.

2,866.—John McArthur, Jr., Philadelphia, Pa.—*Masonic Hall.*—January 28, 1868.

2,867 and **2,868.**—Theodore G. Meier, St. Louis, Mo., assignor to St. Louis Cotton Factory.—*Trade Mark, (two patents.)* — January 28, 1868.

2,869.—Charles J. Miller, Philadelphia, Pa. —*Trade Mark.*—January 28, 1868.

2,870.—James M. Taft, North Providence, R. I.—*Trade Mark Label.*—January 28, 1868.

2,871.—Henry G. Thompson, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.—January 28, 1868.—*Thirty-two other patents, having the same title as the above, also granted, the numbers extending from* 2,871, *ending* 2,903.

2,904. — W. H. Wilson, Providence, R. I.—*Good Templar Badge.*—January 28, 1868.

2,905.—John Alexander, Brooklyn, N. Y., assignor to George W. Brown & Co., Forestville, Conn.—*Lantern.*—February 4, 1868.

2,906.—William Baker, New York, N. Y.—*Molding.*—February 4, 1868.

2,907.—Frederick Booss, New York, N. Y.—*Muff.*—February 4, 1868.

2,908.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.—*Carpet Pattern.*—February 4, 1868.

2,909.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.—*Carpet Pattern.* —February 4, 1868.

2,910.—William G. Creamer, Brooklyn, N. Y. —*Car Basket.*—February 4, 1868.

2,911.—Charles Gautier, Washington, D. C. —*Trade Mark.*—February 4, 1868.

2,912.—Emerson Goddard, Brooklyn, N. Y., assignor to E. S. Renwick, New York City.—*Pistol Barrel.*—February 4, 1868.

2,913.—William Hailes, Albany, N. Y.—*Stove.* —February 4, 1868.

2,914.—Margaret J. Hays, Allegheny City, Pa.—*Label.*—February 4, 1868.

2,915.—Louis Lacour, San Francisco, Cal.—*Bottle.*—February 4, 1868.

2,916.—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson.—*Floor Oil Cloth Pattern.*—February 4, 1868.

2,917 and **2,918.**—Charles T. Myer, Bergen, N. J., assignor to Edward C. Sampson.—*Carpet or Floor Oil Cloth Pattern, (two patents.)*—February 4, 1868.

2,919.—Carl Muller, New York City.—*Statuette.*—February 4, 1868.

2,920.—Nicholas Muller, New York City.—*Base or Stand.*—February 4, 1868.

2,921 to **2,926.**—Elemir J. Ney, Lowell, Mass., assignor to Lowell Manufacturing Company.—*Carpet Patterns, (six patents.)*—February 4, 1868.

2,927.—Joshua Pusey, Philadelphia, Pa.—*Top* —February 4, 1868.

2,928.—Frederick Stearns, Detroit, Mich.—*Bottle.*—February 4, 1868.

2,929.—Jacob H. Armbruster, Philadelphia, Pa.—*Trade Mark.*—February 11, 1868.

2,930.—Neail N. Brown, Philadelphia, Pa.—*Glass Bottle.*—February 11, 1868.

2,931.—Sampson Hainemann, Simon Hainemann, and David Steiner, New York, N. Y.—*Trade Mark.*—February 11, 1868.

2,932. — William H. Page, Norwich, Conn., assignor to William H. Page & Co., same place.—*Painter's Board.*—February 11, 1868.

2,933.—Abel C. Tallman, Philadelphia, Pa.—*Skate Runner.*—February 11, 1868.

2,934.—William C. Walker, St. Louis, Mo.—*Trade Mark.*—February 11, 1868.

2,935.—H. P. Conant, Boston, Mass.—*Hat Rack.*—February 18, 1868.

2,937.—Thomas S. Hudson, East Cambridge, Mass.— *Inkstand, Sponge Cup, and Pen Rack.*—February 18, 1868.

2,938.—Albert E. Powers, Lansingburg, N. Y., assignor to D. Powers & Son.—*Floor Oil Carpet Pattern.*—February 18, 1868.

2,939.—Albert E. Powers, Lansingburg, N. Y., assignor to D. Powers & Son.—*Floor Cloth Pattern.*—February 18, 1868.

2,940.—Amos Wilder and Cyrus W. Strout, Boston, Mass.—*Clock Front.*—February 25, 1868.

2,941.—Samuel A. Blake, Milford, Conn.—*Imitation Braid for Bonnets.*—March 3, 1868.

2,942.—John P. Connolly, Ravenswood, N. Y. —*Cuspador.*—March 3, 1868.

2,943.—Carl Muller, New York, N. Y.—*Clock Case.*—March 3, 1868.

2,944.—Carl Muller, New York, N. Y.—*Figure and Base.*—March 3, 1868.

2,945.—Harrison Parker and Jonathan C. Sleeper, Boston, Mass.—*Trade Mark.*—March 3, 1868.

2,946. — Horace C. Wilcox, West Meriden Conn., assignor to The Meridan Britannia Co.—*Pitcher.*—March 3, 1868.

2,947.—Charles S. Chaffee and Charles H. Vandercook, Birmingham, Conn.—*Hoop Skirt.*—March 10, 1868.

2,948.—James H. Mann, Lewistown, Pa.—*Ax Label.*—March 10, 1868.

2,949.—John Schatz, New Haven, Conn.—*Reed Organ Case.*—March 10, 1868.

2,950.—Julius Schenck, New York City.—*Trade Mark.*—March 10, 1868.

2,951.—Charles Binzer, New York, N. Y.—*Lamp Shade.*—March 17, 1868.

2,952.—Charles P. Kimball, Portland, Me.—*Exterior of the Body of a Sleigh.*—March 17, 1868.

2,953.—John Martino, Jacob Beesley, and John Currie, Philadelphia, Pa., assignors to Orr, Painter & Co., Reading, Pa. — *Cooks' Stove.* — March 17, 1868.

2,954.—John Polhamus, New York, N. Y.—*Handle of a Fork or Spoon.*—March 17, 1868.

2,955.—Joseph Robley, Brooklyn, N. Y.—*Floor Oil Cloth Pattern.*—March 17, 1868.

2,956.—Joseph Robley, Brooklyn, N. Y.—*Floor Oil Cloth Pattern.*—March 17, 1868.

2,957.—Joseph Robley, Brooklyn, N. Y.—*Floor Oil Cloth Pattern.*—March 17, 1868.

2,958.—Nicholas S. Vedder, Troy, N. Y., assignor to George Williamson and Company, Milwaukee, Wis.—*Plate of a Hop Stove.*—March 17, 1868.

2,959.—E. N. Welch, Forestville, Conn.—*Clock Case Sash.*—March 17, 1868.

2,960.—Meigs Jackson, Clarksburg, W. Va.—*Bottle.*—March 24, 1868.

2,961.—George M. Bull, New Baltimore, N. Y.—*Tobacco Box.*—March 31, 1868.

2,962.—William S. Carr, New York, N. Y.—*Container of Water Closet.*—March 31, 1868.

2,963.—Daniel S. Colby and Robert Scorer, Troy, N. Y., assignor to Edward J. Hicks, and Gurdon G. Wolfe, same place.—*Stove Door.*—March 31, 1868.

2,964.—Daniel S. Colby and Robert Scorer, Troy, N. Y., assignor to Edward J. Hicks and Gurdon G. Wolfe, same place.—*Leg and Door of a Stove.*—March 31, 1868.

2,965.—Daniel S. Colby and Robert Scorer, Troy, N. Y., assignor to Edward J. Hicks and Gurdon G. Wolfe, same place.—*Stove Urn.*—March 31, 1868.

2,966.—Lewis Hillebrand, Philadelphia, Pa.—*Key Socket.*—March 31, 1868.

2,967.—Joseph C. Hoagland, Fort Wayne, Ind—*Trade Mark.*—March 31, 1868.

2,968.—Elias Ingraham, Bristol, Conn.—*Clock Front.*

2,969.—Elias Ingraham, Bristol, Conn.—*Clock Case Front.*—March 31, 1868.

2,970.—Frederick Liebrandt and William L. McDowell, Philadelphia, Pa.—*Stove.*—March 31, 1868.

2,971.—John Martino, Jacob Beesley and John Currie, Philadelphia, Pa.—*Cook Stove.*—March 31, 1868; antedated February 11, 1868.

2,972.—Sylvester S. Marvin, Pittsburg, Pa.—*Trade Mark.*—March 31, 1868.

2,973.—Albert H. Mershon, Philadelphia, Pa.—*Furnace Door.*—March 31, 1868.

2,974.—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson.—*Floor Cloth Pattern.*—March 31, 1868.

2,975.—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson.—*Floor Cloth Pattern.*—March 31, 1868.

2,976.—Carl Muller, New York, N.Y.—*Clock Case Front.*—March 31, 1868.

2,977.—George B. Owen, Winsted, Conn.—*Clock Case Front.*—March 31, 1868.

2,978.—George B. Owen, Winsted, Conn.—*Clock Case Front.*—March 31, 1868.

2,979.—William H. Page, Norwich, Conn., assignor to W. H. Page & Co.—*Alphabet of Letters.*—March 31, 1868.

2,980.—William H. Page, Norwich, Conn., assignor to W. H. Page & Co.—*Alphabet of Letters.*—March 31, 1868.

2,981.—William H. Page, Norwich, Conn., assignor to W. H. Page & Co.—*Painters' Border.*—March 31, 1868.

2,982.—William H. Page, Norwich, Conn., assignor to W. H. Page & Co.—*Painters' Border.*—March 31, 1868.

2,983.—John Rogers, New York, N.Y.—*Group of Figures.*—March 31, 1868.

2,984.—John R. Rose, and Edward L. Caley, Philadelphia, Pa., assignors to Cox, Whiteman & Cox, same place.—*Door of a Stove.*—March 31, 1868.

2,985.—Garrettson Smith and Henry Brown, Philadelphia, Pa., assignor to William Fresh and J. J. Roeper, same place.—*Cook Stove.*—March 31, 1868.

2,986.—Garrettson Smith and Henry Brown, Philadelphia, Pa., assignors to Smith, Johnson & Co., same place.—*Cook Stove.*—March 31, 1868; antedated February 25, 1868.

2,987.—Philip Sum, New York, N. Y.—*Show Case Molding.*—March 31, 1868.

2,988.—Nicholas S. Vedder, Troy, N. Y., assignor to Edward J. Hicks, and Gurdon G. Wolfe, same place.—*Plate of a Stove.*—March 31, 1868.

2,989.—Nicholas S. Vedder, Troy, N. Y., assignor to Edward J. Hicks and Gurdon G. Wolfe, same place.—*Door and Leg of a Cook's Stove.*—March 31, 1868.

2,990.—Nicholas S. Vedder, and Francis Ritchie, Troy, N. Y., assignors to William Rosor & Co., Cincinnati, Ohio.—*Cook Stove.*—March 31, 1868.

2,991.—Thomas Walker, Troy, N. Y., assignor to Edward J. Hicks and Gurdon G. Wolfe, same place.—*Stove Door.*—March 31, 1868.

2,992.—Le Roy S. White, Waterbury, Conn.—*Spoon or Fork Handle.*—March 31, 1868.

2,993 to **2,999.**—George Wilkinson, Providence, R. I., assignor to The Gorham Manufacturing Company, same place.—*Fork or Spoon Handle, (seven patents.)*—April 7, 1868.

3,000.—William G. Algeo, Pittsburg, Pa.—*Burial Casket.*—April 21, 1868.

3,001.—Isaac J. Baxter, Peekskill, N. Y.—*Stove.*—April 21, 1868.

3,002.—James A. Bradley and Foster N. Smith, New York, N. Y.—*Ornamentation of a Horse Brush.*—April 21, 1868.

3,003.—J. H. Garnhart, St. Louis, Mo.—*Trade Mark.*—April 21, 1868.

3,004.—Willard Jefts, Battle Creek, Mich.—*Legs of a Table.*—April 21, 1868.

3,005.—Anna Niffeler, Chicago, Ill.—*Sad Iron.*—April 21, 1868.

3,006.—Noah Pomeroy, Hartford, Conn.—*Clock Case.*—April 21, 1868.

3,007.—George L. Witsil, Philadelphia, Pa.—*Trade Mark.*—April 21, 1868.

3,008.—Henry Wolf, Detroit, Mich.—*Ornamenting Trunks, &c.*—April 21, 1868.

3,009.—Gustavus Arnd, New York, N. Y.—*Stake to Mark Graves.*—May 5, 1868.

3,010.—John Fahnestock, Astoria, N. Y., assignor to B. E. Barker, Indianapolis, Ind.—May 5, 1868.

3,011.—Thomas R. Gould, Boston, Mass.—*Statuette of W. E. Channing.*—May 5, 1868.

3,012.—William Morot Marshall, Philadelphia, Pa.—*Medallion Head of General Grant.*—May 5, 1868.

3,013.—Charles F. Martine, Boston, Mass.—*Weather Glass.*—May 5, 1868.

3,014.—Daniel W. Pepper, Philadelphia, Pa., assignor to N. G. Taylor and Company, same place.—*Tinsman's Stove.*—May 5, 1868.

3,015.—J. R. Rose and Edward L. Calely, Philadelphia, Pa., assignors to Cox, Whiteman and Cox, same place.—*Fire-cylinder Cap for a Stove.*—May 5, 1868; antedated April 7, 1868.

3,016.—W. H. Savournin, Philadelphia, Pa.—*Box.*—May 5, 1868.

3,017.—Carl Schultz and Thomas Walker, New York, N. Y.—*Trade Mark.*—May 5, 1868.

3,018.—A. D. Smith, Grafton, Ohio.—*Churn Body.*—May 5, 1868.

3,019.—Samuel A. Blake, Milford, Conn.—*Imitation Braid for Bonnets, &c.*—May 12, 1868.

3,020 to **3,032.**—F. W. Brockseiper, New Haven, Conn., assignor to Sargent and Company, same place.—*Brackets, (thirteen patents.)*—May 12, 1868.

3,033.—F. W. Brockseiper, New Haven, Conn., assignor to Sargent and Company, same place.—*Card Receiver.*—May 12, 1868.

3,034.—F. W. Brockseiper, New Haven, Conn., assignor to Sargent and Company, same place.—*Match Safe.*—May 12, 1868.

3,035.—Garrett Erkson, Brooklyn, N. Y.—*Medallion.*—May 12, 1868.

3,036 to **3,039.**—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson,—*Floor Oil Cloth Patterns, (four patents.)*—May 12, 1868.

3,040 and **3,041.**—Carl Müller, and John Deacon, New York, N. Y.—*Figures, (two patents.)*—May 12, 1868.

3,042.—George B. Owen, Winsted, Conn.—*Clock Case.*—May 12, 1868.

3,043.—Asa Snyder and Alexander Delaney, Richmond, Va.—*Box Stove.*—May 12, 1868.

3,044.—James S. Waters, St. Louis, Mo., assignor to St. Louis Lead and Oil Company.—*Trade Mark.*—May 12, 1868.

3,045.—John Johnson, New York, N. Y.—*Steam Valve Case.*—May 12, 1868.

3,046.—John Martino, Jacob Beesley, and John Currie, Philadelphia, Pa., assignors to March, Sisler and Company, Limerick Station, Pa.—*Door of a Cook's Stove.*—May 12, 1868.

3,047.—C. L. L. Nieberg, New Haven, Conn., assignor to Sargent and Company, same place.—*Coffin Handle.*—May 12, 1868.

3,048.—Dudley F. Stevens, Boston, Mass.—*Trade Mark.*—May 12, 1868.

3,049.—Stephen D. Arnold, New Britain, Conn., assignor to P. and F. Corbin, same place.—*Cupboard Latch.*—May 26, 1868.

3,050.—Daniel S. Colby and Robert Scorer, Troy, N. Y.—*Cook's Stove Plate.*—May 26, 1868.

3,051.—Daniel S. Colby and Robert Scorer, Troy, N. Y.—*Parlor Stove Plate.*—May 26, 1868.

3,052.—George P. Farmer, Philadelphia, Pa.—*Trade Mark.*—May 26, 1868.

3,053.—Alonzo Hebbard, New York, N. Y., assignor to Edward Corning, same place.—*Spoon or Fork Handle.*—May 26, 1868.

3,054.—George W. Waitt, Philadelphia, Pa.—*Trade Mark.*—May 26, 1868.

3,055.—J. J. Anderson, Rochester, Pa.—*Cook's Stove.*—May 26, 1868.

3,056.—Thomas S. Mitchell, Pittsburg, Pa.—*Cook's Stove.*—May 26, 1868.

3,057.—Henry M. Sherwood, Chicago, Ill.—*Frame of a School Desk and Seat.*—May 26, 1868.

3,058.—Garrettson Smith and Henry Brown, Philadelphia, Pa., assignors to Abbott & Noble, same place.—*Plates of a Cook's Stove.*—May 26, 1868; antedated May 5, 1868.

3,059.—Garrettson Smith and Henry Brown, Philadelphia, Pa., assignors to Abbott & Noble, same place.—*Illuminating Ring for Gas Stoves.*—May 26, 1868; antedated May 5, 1868.

3,060.—William Smith, San Francisco, Cal.—*Water Closet Receiver.*—May 26, 1868.

3,061.—Hugh Christie, Morrisania, assignor to D. Powers and Sons, Lansingburg, N. Y.—*Floor Cloth Pattern.*—June 2, 1868.

3,062.—Joseph P. Delahenty, Cohoes, N. Y.—*Knitted Fabrics.*—June 2, 1868.

3,063.—John M. Hall, Philadelphia, Pa.—*Burial Casket.*—June 2, 1868.

3,064.—George B. Owen, Winsted, Conn.—*B. Clock Case.*—June 2, 1868.

3,065.—Roland H. Smith, Pittsburg, Pa.—*Street Lamp Post.*—June 2, 1868.

3,066.—Henry Whitney, East Cambridge, Mass.—*Perfume Bottle.*—June 2, 1868.

3,067.—Henry Whitney, East Cambridge, Mass.—*Toilet Bottle.*—June 2, 1868.

3,068.—Henry Whitney, East Cambridge, Mass.—*Lamp Foot.*—June 2, 1868.

3,069.—Henry Berger, New York, N. Y.—*Center Piece.*—June 16, 1868.

3,070.—Andrew Little, New York, N. Y.—*Printers' Type.*—June 16, 1868.

3,071.—George S. McKenzie, Cleveland, Ohio.—*Trade Mark.*—June 16, 1868.

3,072.—Charles W. Anderson, Cincinnati, Ohio.—*Soda Water Fountain.*—June 30, 1868.

3,073.—Samuel Crump, New York, assignor to E. C. Hazard, New York City, N. Y.—*Label.*—June 30, 1868.

3,074.—F. A. Howell, New York, N. Y.—*Show Case Frame.*—June 30, 1868.

3,075.—Calvin L. Hubbard, New Haven, Conn., assignor to New Haven Steam Heating Company.—*Screen.*—June 30, 1868.

3,076.—George Jones, New Haven, Conn.—*Coffee Urn.*—June 30, 1868.

3,077.—A. Legrand Aîné, Fecamp, France.—*Bottle.*—June 30, 1868.

3,078.—Edward Moore, Portland, Me.—*Badge.*—June 30, 1868.

3,079.—J. A. Price, Scranton, Pa.—*Cook's Stove.*—June 30, 1868.

3,080.—Charles J. Woolson, Cleveland, Ohio,—*Doors of a Cook's Stove.*—June 30, 1868.

3,081.—Spencer H. Brown, and Charles H. Willets, New York, N. Y.—*Toy Gun.*—June 30, 1868.

3,082.—Maro S. Chapman, Hartford, Conn.—*Scroll to be Applied to Envelopes.*—June 20, 1868.

3,083.—Spencer M. Clark, Washington City, D. C.—*Trade Mark.*—June 30, 1868.

3,084.—Augustus Conradt, Philadelphia, Pa.—*Handle of Spoon or Fork.*—June 30, 1868.

3,085.—Augustus Conradt, Philadelphia, Pa.—*Fork or Spoon Handle.*—June 30, 1868.

3,086 and **3,087.**—Ralph S. Jennings, New York, N. Y.—*Medallion Scarf Ring,* (*two patents.*)—June 30, 1868.

3,088 to **3,093.**—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson, New York City.—*Floor Oil Cloth Patterns,* (*six patents.*)—June 30, 1868.

3,094.—George L. Underwood, Boston, Mass.—*Card Basket.*—June 30, 1868.

3,095 and **3,096.**—Henry Berger, New York N. Y.—*Center Piece,* (*two patents.*)—July 14, 1868.

3,097.—Samuel A. Blake, Milford, Conn.—*Imitation Braid for Bonnets.*—July 14, 1868.

3,098.—Paschal Converse, New Haven, Conn.—*Clock Case.*—July 14, 1868.

3,099.—John B. Geyser, Pittsburg, Pa., assignor to Mitchell, Stevenson & Co., same place.—*Parlor Stove.*—July 14, 1868.

3,100.—John Hart, Lancaster, Pa.—*Bottle.*—July 14, 1868.

3,101.—Robert Hoskin, Brooklyn, assignor to Edward C. Sampson, New York, N. Y.—*Floor Oil Cloth Pattern.*—July 14, 1868.

3,102.—D. D. Mallory, Baltimore, Md.—*Trade Mark.*—July 14, 1868.

3,103.—John P. Reynolds, Salem, Mass.—*Army and Navy Emblem.*—July 14, 1868.

3,104.—Robert R. Campbell, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.—*Carpet Pattern.*—July 14, 1868.

3,105 to **3,107.**—Thomas Dolan, Philadelphia' Pa.—*Stocking Fabric.*—July 14, 1868.

3,108.—R. H. Fisher, Beaver Falls, Pa.—*Knife Handle.*—July 14, 1868.

3,109.—Carl Müller, New York, N. Y., assignor to Nicholas Müller, same place.—*Figure.*—July 30, 1868.

3,110.—George Wilkinson, Providence, R. I. assignor to Gorham Manufacturing Company, same place.—*Fork or Spoon Handle, called "Bridal."*—July 14, 1868.

3,111.—George Wilkinson, Providence, R. I., assignor to Gorham Manufacturing Company, same place.—*Knife or Fork Handle, called "Ivy."*—July 14, 1868.

3,112.—George Wilkinson, Providence, R. I., assignor to Gorham Manufacturing Company, same place.—*Knife or Fork Handle, called "Elizabethian."*—July 14, 1868.

3,113.—Henry Albers, Warsaw, Ill., assignor to C. Albers & Co., same place.—*Trade Mark.*—July 21, 1868.

3,114.—C. P. Arnold, New York, N. Y., assignor to the Gyroscopic Top Company, same place.—*Frame of a Gyroscopic Top.*—July 14, 1868.

3,115.—Charles K. Brown, Troy, N. Y., assignor to himself, Charles A. Brown, and Franklin Field, same place.—*Shirt Collar.*—July 14, 1868.

3,116 and **3,117.**—William C. Davis, Cincinnati, Ohio, assignor to W. C. Davis and Co., same place.—*Cook's Stove,* (*two patents.*)—July 21, 1868.

3,118.—Henry M. Myers, Allegheny City, Pa.—*Trade Mark.*—July 21, 1868.

3,119 to **3,123.**—Elemir J. Ney, Lowell, Mass., assignor to Lowell Manufacturing Company, same place.—*Carpet Patterns,* (*five patents.*)—July 21, 1868.

3,124.—James Frederick Travis, New York, N. Y., assignor to Archer, Pancoast and Co., same place.—*Gasolier.*—July 21, 1868.

3,125 to **3,127.**—George L. Underwood, Boston, Mass.—*Picture Frames.*—July 21, 1868.

3,128 and **3,129.**—George L. Underwood, Boston, Mass.—*Ink Tray.*—July 21, 1868.

3,130.—Quimby S. Backus, Winchendon, Mass.—*Vise.*—July 28, 1868.

3,131.—William C. Comstock, Essex, Conn.—*Ivory Tablet.*—July 28, 1868.

3,132.—Thomas Dolan, Philadelphia, Pa.—*Knitted Fabric.*—July 28, 1868.

3,133.—Ralph S. Jennings, New York, N. Y.—*Shirt Collar.*—July 28, 1868.

3,134.—Ralph S. Jennings, New York, N. Y.—*Shirt Cuff.*—July 28, 1868.

3,135.—Ralph S. Jennings, New York, N. Y.—*Toy.*—July 28, 1868.

3,136.—Edward M. Judd and Rodney L. Smith, Walcottville, Conn., assignors to Twiner, Seymour, and Judds.—*Twine Holder.*—July 28, 1868.

3,137.—W. N. Moore, Neenah, Wis.—*Stove.*—July 28, 1868.

3,138.—Nicholas Müller, New York, N. Y.—*Clock Case.*—July 28, 1868.

3,139.—Joseph M. Mumford, South Reading, Mass., assignor to himself and Auguste F. Mason.—*Trade Mark.*—July 28, 1868.

3,140.—John E. Parker, Meriden, Conn.—*Drawer Pull.*—July 28, 1868.

3,141.—Morris B. Powell and Charles W. Stutenroth, Naperville, Ill.—*Bottle.*—July 28, 1868.

3,142.—Ellen F. Price and Eliza A. Murphy, New Haven, Conn.—*Embossed Paper, &c.*—July 28, 1868.

3,143.—James Allinson, Philadelphia, Pa., assignor to John Bromley and Sons, same place.—*Carpet Pattern.*—August 4, 1868.

3,144 to **3,147.**—Benjamin Crabtree, Jr., Philadelphia, Pa., assignor to John Bromley and

Sons.—*Carpet Pattern*, (*four patents.*)—August 4, 1868.

3,148.—Joseph Hill, Newark, N. J.—*Knife or Fork Handle.*– August 4, 1868.

3,149 and **3,150.**—Ralph S. Jennings, New York, N. Y.—*Scarf Ring.*—August 4, 1868.

3,151.—Dayton Morgan, Chillicothe, Ohio.—*Bust of Frederick Douglas.*—August 4, 1868.

3,152.—J. S. Palmer, Portland, Me.—*Goblet.*—August 4, 1868.

3,153.—Jacob Steffe, Philadelphia, Pa., assignor to Francis Buckwalter and Co., Royer's Ford, Pa.—*Cook's Stove.*—August 4, 1868.

3,154.—Thomas Cutter, Birmingham, assignor to Frank Semple, H. C. Fry, and John D. Reynolds, Pittsburg, Pa.—*Feet and Stems of Glassware.*—August 11, 1868.

3,155.—Harrison Eaton, Amherst, N. H.—*Cooking Stove.*—August 11, 1868.

3,156.—B. L. Fahnestock, Pittsburg, Pa.—*Trade Mark.*—August 11, 1868.

3,157.—George Fay, Newton, Mass., assignor to himself, J. Henry Simonds, and Henry Chase. *Advertising Panel.*—August 11, 1868.

3,158.—Henry J. Hancock, New York, N. Y—*Sewing Machine Frame.*—August 11, 1868.

3,159.—Charles Lyne, Philadelphia, Pa.—*Perambulator Body.*—August 11, 1868.

3,160.—Ezra G. Cone, East Hampton, Conn.—*Sleigh Bell.*—August 18, 1868.

3,161 to **3,163.**—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson, New York City.—*Floor Oil Cloth*, (*three patents.*)—August 25, 1868.

3,164.—Thomas J. Hodgkins, Jr., Peekskill, N. Y.—*Base of a Stove.*—August 25, 1868.

3,165 and **3,166.**—Levi G. Malkin, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.—*Carpet Pattern*, (*two patents.*)—August 25, 1868.

3,167 and **3,168.**—Eugene Paulus, Philadelphia, Pa.—*Top Plate for Watch*, (*two patents.*)—August 25, 1868.

3,169.—John Rogers, New York, N. Y.—*Group of Statuary.*—August 25, 1868.

3,170.—Edwin Charles Ruthven, Philadelphia, Pa., assignor to Mackeller, Smiths & Jordan, same place.—*Printing Type.*—August 25, 1868.

3,171.—Rodney L. Smith, Wolcottville, Conn.—*Match Box.*—August 25, 1868.

3,172 to **3,183.**—Henry G. Thompson, New York, N. Y., assignor to Hartford Carpet Company, Hartford, Conn.—*Carpet Pattern*, (*twelve patents.*)—August 25, 1868.

3,184.—William Henry Winslow and Erving Winslow, Boston, Mass.—*Trade Mark.*—August 25, 1868.

3,185.—David W. Wright, New York, N. Y.—*Pocket Sun Dial.*—August 25, 1868.

3,186.—Luman L. Chapman, Philadelphia, Pa.—*Corset.*—September 1, 1868.

3,187.—Hugh Christie, Morrisania, N. Y.—*Carpet Pattern.*—September 1, 1868.

3,188.—John D. Flansburgh, Philadelphia, assignor to Thomas, Roberts, Stevenson and Company, Bucks County, Pa.—*Cook Stove Plates.*—September 1, 1868; antedated August 11, 1868.

3,189.—D. L. Gibbs, Worcester, Mass.—*Base of a Mortising Machine.*—September 1, 1868.

3,190.—John Martino, Jacob Beesley, and John Currie, Philadelphia, Pa., assignors to Abbot & Noble, same place.—*Plates for Portable Ranges.*—September 1, 1868.

3,191 and **3,192.**—Joseph D. McKee, Philadelphia, Pa.—*Pattern for Knitted Fabric*, (*two patents.*)—September 1, 1868.

3,193.—John R. Rose and Edward L. Calely, Philadelphia, assignors to Thomas, Roberts, Stevenson & Company, Bucks County, Pa.—*Cook Stove Plates.*—September 1, 1868; antedated August 11, 1868.

3,194.—B. D. Deiderhase, New York, N. Y.—*Spoon Handle.*—September 22, 1868.

3,195.—L. L. Davis, Springfield, Mass.—*Spirit Level.*—September 22, 1868.

3,196.—Thomas Dolan, Philadelphia, Pa.—*Lower Portion of a Gored Skirt.*—September 22, 1868.

3,197 to **3,199.**—Thomas Dolan, Philadelphia, Pa.—*Stocking Fabric Pattern*, (*three patents.*)—September 22, 1868.

3,200 and **3,201.**—Israel Foster, Philadelphia, Pa.—*Carpet Pattern*, (*two patents.*)—September 22, 1868.

3,202.—J. W. Gardner, Shelburne Falls, Mass.—*Table Fork.*—September 22, 1868.

3,203 to **3,206.**—William Hailes, Albany, N. Y., assignor to John F. Rathbone and Company, same place.—*Stove*, (*four patents.*)—September 22, 1868.

3,207.—Frederick A. Hasenclever, New York, N. Y.—*Trade Mark.*—September 22, 1868.

3,208.—Joseph H. Jessop, Cambridge, Mass.—*Trade Mark.*—September 22, 1868.

3,209 and **3,210.**—Victor Meyer, Kearney, N. J., assignor to Edward C. Sampson, New York City.—*Floor Cloth Pattern*, (*two patents.*)—September 22, 1868.

3,211.—Solomon C. Spring, Bristol, Conn., assignor to Welch, Spring & Company, same place.—*Clock Case.*—September 22, 1868.

3,212.—Carl Müller, New York, N. Y., assignor to Nicholas Müller, same place.—*Clock Case.*—October 20, 1868.

3,213.—John B. Bartlett, New York City.—*Glass Bottle.*—November 3, 1868.

3,214.—Fred. W. Burrows, New York City.—*Tobacco Pipe.*—November 3, 1868.

3,215.—Hugh Christie, New York, assignor to D. Powers & Sons, Lansingburg, N. Y.—*Floor Oil Cloth Pattern.*—November 3, 1868.

3,216.—Hugh Christie, Morrisania, assignor to William M. Brasher & Company, Brooklyn, N. Y.—*Floor Oil Cloth Pattern.*—November 3, 1868.

3,217.—Elihu Dwight, New York, N. Y.—*Stair Oil Cloth.*—November 3, 1868.

3,218.—Jeremiah Dwyer, Detroit, Mich., assignor to Detroit Stove Works Company, same place.—*Ornaments of a Stove.*—November 3, 1868.

3,219.—Eberhard Faber, New York, N. Y.—*Pencil Trade Mark.*—November 3, 1868.

3,220.—Israel Foster, Philadelphia, Pa.—*Carpet Pattern.*—November 3, 1868.

3,221.—Henry C. Fry, Pittsburg, Pa., assignor to himself, Frank Semple, and John D. Reynolds. *Ornamentation of Glassware.*—November 3, 1864.

3,222.—Luther W. Harwood, Troy, N. Y., assignor to Fuller, Warren and Co., same place.—*Plates of a Cook's Stove.*—November 3, 1868.

3,223.—Charles S. Lord and William N. Walker, Otter River, Mass.—*Cook's Stove.*—November 3, 1868.

3,224.—George B. Owen, Winsted, Conn.—*Clock Case.*—November 3, 1868.

3,225.—William J. Peake, New York, N. Y.—*Trade Mark.*—November 3, 1868.

3,226.—Charles Zeuner, Cincinnati, Ohio, assignor to M. Greenwood & Co., same place.—*Shovel and Tongs Stand.*—November 3, 1868.

3,227.—Conrad Harris and Paul William Zoiner, Cincinnati, Ohio.—*Stove.*—November 3, 1868.

3,228.—Hardy N. Baker, assignor to Benjamin B. Washburn, Boston, Mass.—*Blind Hinge.*—November 10, 1868.

3,229.—Peter Baumgras, Washington, D. C., assignor to George W. Thomson.—*Vapor Burner.*—November 10, 1868.

3,230 and **3,231.**—David Benson, Nanuet, N. Y.—*Well Curb,* (*two patents.*)—November 10, 1868.

3,232.—Alfred Berney, Jersey City, N. J.—*Trade Mark.*—November 10, 1868.

3,233.—Amory Edwards, Elizabeth, N. J., assignor to Union Metallic Cartridge Company, Bridgeport, Conn.—*Trade Mark.*—November 10, 1868.

3,234.—James Spear, Philadelphia, Pa.—*Ornaments of a Stove.*—November 10, 1868.

3,235.—James Frederick Travis, New York, N. Y.—*Branches of a Gasolier.*—November 10, 1868.

3,236.—David Bruce, Brooklyn, N. Y., assignor to David Wolfe Bruce, New York City.—*Printers' Type.*—November 17, 1868.

3,237.—David Wolfe Bruce, New York City.—*Ray-shaded Printers' Type.*—November 17, 1868.

3,238.—Paschal Converse, New Haven, Conn.—*Clock Case.*—November 17, 1868.

3,239.—James H. Downs, assignor to C. Cowles & Co., New Haven, Conn.—*Coach Lamp Glass.*—November 17, 1868.

3,240.—James H. Downs, assignor to C. Cowles & Co., New Haven, Conn.—*Coach Lamp.*—November 17, 1868.

3,241 and **3,242.**—Israel Foster, Philadelphia, Pa.—*Carpet Pattern,* (*two patents.*)—November 17, 1868.

3,243.—Alonzo French, Philadelphia, Pa.—*Fruit Jar.*—November 17, 1868.

3,244.—Julius Herriet, New York, N. Y., assignor to David Wolfe Bruce, New York City.—*Ornamental Type for Printers.*—November 17, 1868.

3,245.—Julius Herriet, New York, N. Y., assignor to David Wolfe Bruce, New York City.—*Ornamented Printers' Type.*—November 17, 1868.

3,246.—John W. Kissam, New York, N. Y.—*Scale Dish.*—November 17, 1868.

3,247.—Robert Macdonald, New York, N. Y.—*Ladies' Collars and Cuffs.*—November 17, 1868.

3,248.—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson, New York City.—*Floor Cloth Pattern.*—November 17, 1868.

3,249.—Carl Müller, New York, N. Y.—*Clock Case.*—November 17, 1868.

3,250.—Conrad Reuter, Cincinnati, Ohio.—*Printers' Flourishes.*—November 17, 1868.

3,251.—Edgar A. Robbins, Wrentham, Mass.—*Trade Mark.*—November 17, 1868.

3,252.—Samuel Roebuck and John Roebuck, New York, N. Y.—*Cuspador.*—November 17, 1868.

3,253.—Solomon C. Spring, Bristol, Conn., assignor to Welsh, Spring & Company, same place.—*Clock Case.*—November 17, 1868.

3,254.—David W. Storer, Bangor, Me.—*Trade Mark.*—November 17, 1868.

3,255.—Charles M. Theberath and Jacob H. Theberath, Newark, N. J.—*Harness Trimming.*—November 17, 1868.

3,256.—James Frederic Travis, New York, N. Y.—*Branch of a Gasolier.*—November 17, 1868.

3,257.—Edward H. Turner, Quincy, Ill.—*Trade Mark.*—November 17, 1868.

3,258.—Michael Werk, Cincinnati, Ohio.—*Trade Mark.*—November 17, 1868.

3,259.—Leonard Eggleston, Seneca Falls, N. Y., assignor to Rumsey & Co., same place.—*Steam Boiler Pump.*—November 17, 1868.

3,260 and **3,261.**—D. Foerster, Zanesville, Ohio.—*Trade Mark,* (*two patents.*)—November 17, 1868.

3,262.—Calvin W. Sherwood, Chicago, Ill.—*Standards of a School Desk.*—November 17, 1868.

3,263.—Henry C. Knowlton, Gardner, Mass.—*Chair Seat Bow.*—November 24, 1868.

3,264.—B. B. Wilcox, New Haven, assignor to J. W. Nash, Madison, Conn.—*Trade Mark.*—November 24, 1868.

3,265.—Leonidas L. Coleman, Nashville, Tenn.—*Trade Mark.*—December 1, 1868.

3,266.—John Corrigan, Charlestown, Mass.—*Axle Box for Railway Carriages.*—December 1, 1868.

3,267.—Benjamin Crabtree, Jr., Philadelphia, Pa.—*Carpet Pattern.*—December 1, 1868.

3,268.—Israel Foster, Philadelphia, Pa.—*Carpet Pattern.*—December 1, 1868.

3,269.—Charles Fraser, New York, N. Y.—*Bridle Front, &c.*—December 1, 1868.

3,270 and **3,271.**—Hermann Ilenburg, Philadelphia, Pa., assignor to Mackellar, Smiths & Jordan, same place.—*Printers' Type,* (*two patents.*)—December 1, 1868.

3,272.—Peter A. Jordan, Philadelphia, Pa., assignor to Mackellar, Smiths & Jordan, same place.—*Printers' Type.*—December 1, 1868.

3,273.—Andrew Little, New York, N. Y.—*Printers' Type.*—December 1, 1868.

3,274.—Nicholas Müller, New York, N. Y.—*Clock Case.*—December 1, 1868.

3,275.—Charles F. Richers, New York, N. Y.—*Spoon or Fork Handle.*—December 1, 1868.

3,276.—George Wilkinson, Providence, R. I.—*Fork or Spoon Handle.*—December 1, 1868.

3,277.—Francis C. Heiser, Brooklyn, E. D., N. Y.—*Snuff Box.*—December 1, 1868.

3,278 to **3,290.**—Elemir J. Ney, Lowell, Mass., assignor to The Lowell Manufacturing Company, same place.—*Carpet Pattern,* (*thirteen patents.*)—December 1, 1868.

3,291.—Franz Doerschuck, New Haven, Conn.—*Cabinet Organ Case.*—December 15, 1868.

3,292.—Henry H. Hayden, New York, N. Y., assignor to Holmes, Booth, and Haydens, Waterbury, Conn.—*Fork or Spoon Handle.*—December 15, 1868.

3,293 to **3,295.**—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson.—*Floor Cloth Pattern,* (*three patents.*)—December 15, 1868.

3,296.—Carl Müller, New York, N. Y., assignor to Nicholas Müller, same place. *Figure.*—December 15, 1868.

3,297.—W. P. Uhlinger, Philadelphia, Pa.—*School Desk.*—December 22, 1868.

3,298.—N. P. Chipman and William T. Collins, Washington, D. C.—*Badge.*—December 29, 1868.

3,299.—John H. Fraser, New York, N. Y.—*Show Case.*—December 29, 1868.

3,300.—Henry H. Hayden, New York, N. Y., assignor to Holmes, Booth and Haydens, Waterbury, Conn.—*Fork or Spoon Handle.*—December 29, 1868.

3,301.—Francis D. Pastorius, Philadelphia, Pa.—*Machine Frame or Housing.*—December 29, 1868.

3,302.—Henry G. Reed, Taunton, Mass., assignor to Reed and Barton, same place.—*Spoon or Fork Handle.*—December 29, 1868.

3,303.—Arthur Stafford, Brooklyn, N. Y.—*Key Tag.*—December 29, 1868.

REISSUES.

2,830.—Joseph Steger, New York, N. Y.—*Car Starting Apparatus.*—Patented July 9, 1867, No. 66,648; reissued January 14, 1868.

Claim.—1. The multiplying gear, consisting of the traction bar T, lever or equivalent L, pivoted pawl R, ratchet wheel W, spiral spring S, and spring P S, constructed and operating substrntially as and for the purpose specified.

2. The gearing device, consisting of the spring P S, provided with a foot button and the pawl R, suspended from said spring, substantially as and for the purpose set forth.

2,831.—Milo S. Burr, Boston, Mass., assignee by mesne assignments of Francis J. La Forme.—*Nursing Bottle.*—Patented November 29, 1859, No. 26,327; reissued January 14, 1868.

Claim.—1. An improved nursing bottle, having its body A composed of glass or other suitable material, and provided with an elastic nipple or mouth piece, *f*, and a flexible or pendulous tube, C, applied thereto, substantially in manner and so as to operate as and for the purpose set forth.

2. In a nursing bottle, otherwise properly organized, the use or application of a flexible or pendulous tube, substantially as and for the purpose set forth.

3. The application of a gravitating tip or tube, *e*, to the lower end of the flexible tube C, substantially as and for the purpose set forth.

2,832.—Thomas S. Cloogston, Boston, Mass.—*Heating Apparatus.*—Patented December 13, 1864, No. 45,389; reissued January 14, 1868.

Claim.—The application and use, for heating purposes, of one or more tubes having a corrugated or annular ribbed surface, in combination with a boiler, or other suitable steam generator, and pipes for conducting the steam or hot water from said generator to the corrugated tubes, essentially as herein shown and described.

2,833.—William N. Ely, Stratford, Conn., assignee of Edgar M. Stevens.—*Pegging Machine.*—Patented May 28, 1867, No. 65,294; reissued January 14, 1868.

Claim.—1. The combination of a vibrating moving awl with a sliding or vertically moving, or a swinging head, substantially as described.

2. The combination of a feeding awl with a sliding and swinging head, or with a sliding head, or with a swinging head, substantially as described.

3. Raising and driving the awl bar and peg-driving bar, or either of them, positively and directly, by means substantially as described, in combination with a laterally moving or feeding awl.

4. So constructing the parts that the awl bar, moving up and down perpendicularly to its carriage, shall also move laterally, substantially as and for the purposes described.

5. In combination with the foregoing, the laterally and vertically moving peg-driving bar, substantially as and for the purposes described.

6. Constructing and arranging the knife in relation to the driver and peg tube, substantially as described.

7. Cutting the peg from the strip, substantially as described.

2,834.—Pinckney Frost, Springfield, Vt.—*Scythe Fastener.*—Patented January 11, 1853, No. 9,531; reissued February 9, 1858, No. 524; extended seven years; reissued again January 14, 1868.

Claim.—The loop bolt, provided with the groove *b* and the hook or loop *e*, in combination with the set ring, also provided with a groove, *b′*, all constructed and arranged substantially as and for the purpose set forth.

2,835.—John T. Hancock, Boston, Mass.—*Boiler Furnace.*—Patented March 1, 1864, No. 41,770; reissued January 14, 1868.

Claim.—The method of supplying air and steam to ignited fuel in furnaces, by commingling and then introducing them into an inclosed space under the grate bar, by means substantially as above described.

2,836.—B. B. Hill, Chicopee, Mass.—*Hand Stamp.*—Patented November 6, 1866, No. 69,395; reissued January 14, 1868.

Claim.—1. The employment of an indicator index or calendar, R R′, to represent the period of time, in combination with stamp-canceling wheels I J, arranged and operating substantially as described.

2. The wheel case G, stud or axis pin *a*, with the ribbon cylinder when made in one piece of metal, substantially as and for the purpose described.

3. The calendar wheels R R′, arranged upon the same axle with the wheels I J, in combination with the hand stamp, arranged and operating substantially as described.

4. The bracket H, made on or secured to the same

G, having a step, *c*, or its equivalent, to enter the lower end of the spindle, and orifice for the screw *e*, for attaching and detaching said case to the spindle E, substantially as and for the purpose described.

5. In a hand stamp, the employment of the flanch K on the chase L, in combination with the case G and bed C, for the purpose of easily and quickly attaching and detaching said chase on or off of said case.

2,837.—FRANKLIN BENJAMIN HUNT, Richmond, Ind.—*Straw Cutter.*—Patented January 5, 1864, No. 41,070; reissued October 2, 1866, No. 2,368; reissued again January 14, 1868.

Claim.—1. The bar *x*, cast in one piece, with the bearings *b b* of cutter-shaft *e*, and extending cross from one to the other, substantially as shown.

2. Connecting the feed rollers G and H by means of the pinions *a'*, *b'*, *d'*, and *e'*, the pinions *b'* and *d'* being placed on studs on the swinging plate *c'*, attached to the shaft *n*, the pinions *d'* and *e'* being kept in gear by the link *f*, or its equivalent.

3. The swinging plate *c'*, connected to the shaft *n*, and carrying the pinions *b'* and *d'*, substantially as and for the purpose shown and set forth.

4. Mounting the upper feed roller H in a frame, with sling extending below the lower feed roller, and acted upon by a spring, or its equivalent, substantially as shown and for the purpose set forth.

5. The hooked slings *q q*, in combination with the yielding feed roller H and spring I, or its equivalent, whereby the said feed roller H is limited in its upward movement, as set forth.

6. The hubs or bearings *u' u'*, attached to the slings *q q*, and surrounding the shaft *p* of the feed roller H, said hubs moving in slots *b b* in plates *w*, and relieving the shaft from friction against the plates, as set forth.

7. The guide board or plate *u*, connected to and moving with the frame *t* of the upper feed roller H, and extending downward at the back of the said roller to near a level with its axis, substantially as and for the purpose set forth.

8. The slots *v v* in the plates *w*, when made concentric with shaft C, in combination with pinions *a*, *b*, *d*, and *e*, said pinions connecting feed rollers H and G, so that the adjustable roller can move up and down concentric with shaft C, and the pinions remain in gear, substantially as set forth.

9. In combination with the bar *x* and adjustable bar E, a revolving knife, D, with its axis placed above the plane of the adjustable cutter bar E, to act with a slanting and shearing cut, substantially as set forth.

2,838.—FRANKLIN B. HUNT, Richmond, Ind., assignee by mesne assignments of himself.—*Straw Cutter.*—Patented December 27, 1859, No. 26,637; reissued January 14, 1868.

Claim.—1. Combining in one piece the bed piece R, upon which the adjustable bar T rests, and the side pieces V V, substantially as shown and described.

2. The adjustable bar T, against which the knife cuts, when secured by vertical bolts U to an immovable bearing within the limits of the width of the cutting knife, as shown.

3. The plate Y, for the purpose of covering the joint between the adjustable bar T, against which the knife cuts, and the bed piece R, in manner substantially as set forth.

4. The link bearings M, attached to the shaft D, and carrying the feed roll Q, in combination with the springs W, in such manner that, as the roll rises, it shortens the operative length of the springs, and thereby gives the greatest pressure to the roll when most needed, in manner substantially as shown.

5. Attaching the fly wheel of a feed cutter to its shaft in such manner as to constitute a yielding device between said wheel and the cutting knife, for the purpose described.

6. Attaching the knife cylinder of a feed cutter to its shaft in manner shown, or in an equivalent way, to constitute a yielding device between the knife and other parts of the machine, for the purpose herein shown and set forth.

2,839.—CHARLES T. JEROME, Minneapolis, Minn.—*Fire Annihilator.*—Patented July 9, 1867, No. 66,498; reissued January 14, 1868.

Claim.—1. The application of a quick-match, or its equivalent, which will take fire at a low temperature, to an apparatus for extinguishing fires by the injection upon the same of a gaseous or a liquid non-supporter of combustion, substantially as described.

2. Preparing the ends of the quick-matches with a composition composed of the within-described ingredients mixed together in about the proportions set forth.

2,840.—C. H. KNOX, Mount Pleasant, Iowa.—*Clothes Wringer.*—Patented July 2, 1867, No. 66,362; reissued January 14, 1863.

Claim.—1. The double cog wheel P, and double pinion S, substantially as set forth.

2. The combination of cog wheel P and pinion S with rollers D D, substantially as and for the purpose set forth.

3. The arrangement and combination of lever M, hinged to box A, roller L, rods K, levers I, and plate C, arranged to operate upper roller D, as set forth.

2,841.—BRADFORD S. PIERCE, New Bedford, Mass., and MASON R. PIERCE, Woodstock, N. Y.—*Machine for Making drain Pipes*—Patented April 19, 1859, No. 23,703; reissued February 28, 1865, No. 1897; re-issued again January 14, 1868.

Claim.—1. A mold, consisting of a case capable of being properly secured around the material while the pipe is being molded, and of being freed from the pipe when the molding is completed, in combination with a core, and also with a core socket, having a provision for freeing the socket or pipe, or both, from the core, the whole operating substantially as set forth.

2. A mold, in which the core socket is made separate and distinct from the other parts, and so formed, and so combined with such other parts, that it is capable of being connected with them when the mold is ready for use, and of being continuously kept connected with them during the entire process of molding and finishing the pipe, substantially as and for the purposes described.

3. The arrangement of the mixing apparatus and of the core relieving devices above the platform, which conveys the molds in the manner and for the purpose substantially as specified.

4. The combination of the core socket with the revolving disk which receives the core and the mold, when the disk contains a provision for enabling the socket or pipe, or both, to be freed from the core, the whole operating substantially as described.

2,842.—WILLIAM S. RYERSON, Philadelphia, Pa.—*Hoop Skirt.*—Patented August 27, 1867, No. 68,238; reissued January 14, 1868.

Claim.—A skeleton skirt, provided with buckles or their equivalents, near the waistband, for adjusting the vertical tapes or connections at the sides of the skirt to accommodate the size and shape of the hips, or vary the length of the skirt, substantially as set forth.

2,843.—WILLIAM SMITH, New York, N. Y.—*Weaving.*—Patented April 5, 1853; extended seven years; reissued June 18, 1867, No. 2,656; reissued again January 14, 1868.

Claim.—The process herein specified of weaving, consisting in the use of stationary warps, in combination with moving warps and filling that inclose such stationary warps, substantially as set forth.

2,844.—WILLIAM SMITH, New York, N. Y.—*Weaving.*—Patented April 5, 1853; extended seven years; reissued June 18, 1867, No. 2,656; reissued again January 14, 1868.

Claim.—The heddle or its equivalents, for supporting the stationary central warps, in combination with mechanism, substantially as set forth, for performing the weaving.

2,845.—DAVID M. WESTON, Boston, Mass.—*Centrifugal Machine for Draining Sugar and Other Substances.*—Patented April 9, 1867, No. 63,770; reissued January 14, 1868.

Claim.—1. In the construction of centrifugal machines for separating liquids from other substances, suspending such machines at the top by flexible connections, operating substantially as described.

2. The combination of the spindle D, and its accessories, with the socket B, and its India-rubber bushing C, or other equivalent spring connection, to form a flexible and elastic bearing for the shaft E, by which the cylinder may be suspended, substantially as described.

3. The employment, in a centrifugal machine, of a hollow shaft, and a spindle or axle on which it runs, to support the cylinder or basket, substantially as described.

4. So forming and arranging the driving pulley F upon the shaft E, that it shall surround the spring bearing, substantially in the manner and for the purpose described.

5. The construction of the openings I in the bottom of the cylinder, in such machines, and the valve J, for the purpose of closing the same, substantially as described.

6. The combination of the cylinder G, the hollow shaft E, the driving pulley F, the spindle D, its elastic bushing C, and socket B, to form the operative part of a centrifugal machine, substantially as described.

2,846.—Richard Yeomans, Cincinnati, Ohio.—*Printers' Chase.*—Patented October 24, 1865, No. 50,650; reissued January 14, 1868.

Claim.—The transverse notches or grooves, in combination with the projecting transverse obtuse edges, specifically as set forth, for the purposes designed.

2,847.—E. D. Chamberlain, Westfield, N. J., and Charles H. Brown, New York, N. Y., assignees of Dexter H. Chamberlain.—*Hand Stamp.*—Patented January 22, 1867, No. 61,396; reissued January 21, 1868.

Claim.—1. The combination, with a die in a hand stamp, of type wheels of different diameters, substantially as and for the purpose specified.

2. The die holder E, constructed and combined with the lever end *c'*, substantially as and for the purpose shown and described.

3. Making the type wheels *a b c* of different diameter, rotating upon separate and distinct axes, *a' b' c'*, substantially as and for the purpose shown and described.

4. The combination of the inking ribbon with the type wheels, substantially as herein described, so as to present a double fold of the ribbon under the type wheels, all as set forth.

2,848.—George Deal, Wilmot, Ohio.—*Horse Rake.*—Patented July 10, 1866, No. 56,189; reissued February 4, 1868.

Claim.—1. The combination and arrangement of the hinged arms I I, adjusting screws H H, or their equivalent, tooth roller D, and rake teeth L L, substantially as and for the purpose herein specified.

2. The locking arms N O, overlapping as described, in combination with the rake, arranged in relation to said arms, substantially as and for the purpose herein specified.

2,849.—William Allen Ingalls, Chicago, Ill.—*Method of Casting Screws.*—Patented May 15, 1866, No. 54,733; reissued February 4, 1868.

Claim.—1. The mode herein described for casting seamless screws.

2. The screw herein described, as a new and improved article of manufacture.

2,850.—Mary Jane Laird, Middletown, Pa., administratrix of the estate of Andrew J. Laird, deceased.—*Horse Hay Fork.*—Patented August 21, 1866, No. 57,337; reissued February 4, 1868.

Claim.—1. The tines D D, having cutting edges, in combination with rod C, substantially as and for the purpose specified.

2. The tines D D, in combination with the rod C, when the former are pivoted to the parallel bars A A, and work in slots arranged in the end of the same, substantially as described and for the purpose specified.

3. The rod C, link E, and lever F, when the same are arranged and combined substantially as described.

4. The bars A A, when they are connected and arranged as shown, in combination with the rod C and link E, substantially as described.

5. In combination with the sliding rod C, the lever F, having its upper horizontal arm adapted to project through the ring H, substantially as described and for the purpose specified.

2,851.—E. H. Bourne, E. Damon, Jr., and H. M. Knowles, Cleveland, Ohio, assignees of Samuel D. Lecompte, Leavenworth City, Kansas.—*Instrument for Opening Sealed and Other Cans.*—Patented September 19, 1865, No. 50,011; reissued February 4, 1868.

Claim.—1. A can opener, constructed of a cutter or knife, connected to a handle or holder, having a point so arranged in relation to said holder as to form an axial pivot for the cutter, in opening cans.

2. The point, when so arranged in relation to the holder and cutter, that it acts as a point in perforating the can, and an axial pivot for the cutter.

2,852.—Hugh W. Matthews, Chicago, Ill.—*Threshing Machine and Separator.*—Patented August 27, 1867, No. 68,095; reissued February 4, 1868.

Claim.—1. A longitudinally-slatted grain rack or platform, C, constructed substantially as described, in combination with vertically and longitudinally-moving shakers, D, arranged so as to play between the slats of said rack, substantially as described.

2. The combination of a threshing device, a perforated and longitudinally-slatted stationary rack, C, and blades or straw shakers D, operating substantially as described.

3. A stationary or movable rack, C, composed of perforated slats, having longitudinal spaces between them, in combination with serrated blades D, arranged and operated substantially as described.

4. The slatted and perforated grain rack, arranged so as to incline toward the threshing device, and hinged to the main box or frame A, substantially as described.

5. The combination of a slatted rack or grain platform, C, the serrated grain or straw shakers, operating through said grain rack, and a conveyer, arranged and operating substantially as described.

2,853.—James H. McLean, St. Louis, Mo.—*Dredging Machine.*—Patented July 9, 1867, No. 66,608; reissued February 4, 1868.

Claim.—1. The adjustable dredging frame C, when such adjustment is produced by a derrick *i i*, and fall, when constructed and operated substantially as shown and specified.

2. The scoops *d* of a dredging machine, having circular vertical cutting edges in advance of the usual lateral cutting edge *w*, Fig. 1, when constructed and operating substantially as shown and specified.

3. In combination with the dredging vessel, the pins L, for the purpose of moving the same, substantially as described.

4. The dredger, the receiving and discharging-apron, and the derrick of a dredging machine, all in combination, when constructed and operated substantially as shown and specified.

2,854.—William Painter, Baltimore, and Charles Painter, Owing's Mills, Maryland, assignees of William Painter by mesne assignments.—*Lamp Burner.*—Patented June 30, 1863, No. 39,102; reissued February 4, 1868.

Claim.—1. Having the side pieces *h h* and the ends *g g* constructed and arranged in reverse inclined positions, in the manner herein shown and described.

2. The combination of the attachment above specified with the tubes F A, the latter being screwed into the fountain or body B, of the lamp, and inclosing the wick-adjusting wheels *b*, as set forth.

3. Making the outer case F adjustable upon the tube A, so that the height of the cap G may be regulated, as and for the purpose set forth.

4. A deflector or flame spreader, constructed so as to form a continuous plate around the flame, and fashioned so as to cut off the ascending currents of air from the edges of the flame and deflect them against the sides thereof, substantially as described, and for the purpose set forth.

2,855.—Joseph Ridge, Richmond, Ind.—*Coal-Oil Lamp.*—Patented April 15, 1862, No. 39,984; reissued February 4, 1868.

Claim.—1. The use of transparent material between the base of the deflector and base of the burner, substantially as described, and for the purposes specified.

2. The combination and arrangement of the base B, of the burner, the transparent inclosure M, the deflector D, and chimney C, substantially as set forth, and for the purposes described.

3. The base of the chimney, located at a point above the base of the burner, and having interposed between said bases a transparent inclosure, for the purpose of utilizing the light emitted by the flame beneath the base of the chimney, substantially as described.

2,856.—Thomas P. Sink, Fairton, N. J.—*Oyster Dredge.*—Patented October 4, 1859, No. 25,680; reissued February 4, 1868.

Claim.—1. The combination of a horizontal roller E; turning in bearings adjacent to the gunwale of a vessel, and a horizontal grooved roller or pulley B, substantially as and for the purpose described.

2. The combination of a horizontal roller and a vertical roller, when the outer side of the latter is beyond the outer edge of the horizontal roller, and when the said rollers are arranged, in respect to each other, on the gunwale of a vessel, substantially as described.

3. The arrangement and combination, substantially as described, of the chock or block A, its pulley B, and the roller E, for the purpose specified.

2,857.—Thomas Welch, Churchville, N. Y.—*Crank-pin Box.*—Patented August 1, 1865, No. 49,185; reissued February 4, 1868.

Claim.—1. In combination with the adjustable boxes B D, a pitman P, so united therewith that it will freely move and work, for the purposes set forth.

2. In combination with the adjustable boxes and pitman *a*, set screw S, for the purpose set forth.

3. The combination of the cap C with the boxes B D, pitman P, and set screw S, for the purposes set forth.

2,858.—Jonathan C. Brown, Brooklyn, N. Y., assignee of Henry C. Smith.—*Lath Machine.*—Patented September 28, 1852, No. 9,286; extended seven years; reissued February 11, 1862.

Claim.—1. Turning the log to be cut by driving the mandrels at each end thereof by gearing them directly with the driving-shaft, substantially as and for the purposes set forth.

2. The dog A and its appurtenances, for connecting the log with the mandrels, and disconnecting it therefrom, as specified.

3. The combination of the cylinder cutter K and the stripping knife, moved up simultaneously and automatically, all substantially as and for the purposes set forth.

2,859.—Gustave Lautenschlager, Cincinnati, Ohio, and George L. Gott, New York, N. Y.—*Tobacco Pipe.*—Patented January 30, 1866, antedated January 17, 1866, No. 52,297; reissued February 11, 1868.

Claim.—A bowl or a nicotine receptacle of a tobacco pipe, made of coal dust mixed with pitch or other suitable cement, and formed substantially as and for the purposes described.

2,860.—E. M. Montague, Boston, assignee of Nathan Ames, Saugus Center, Mass.—*Index Door Plate.*—Patented July 31, 1860, No. 29,430; reissued February 11, 1868.

Claim.—1. The use, in a door plate, of a tablet or slate, and an adjustable plate or disk, having figures, or readable signs or characters, for the purposes specified and set forth.

2. In combination with the above door plate, a rotating disk C, marked with the hours and parts of an hour, as shown in Fig. 2, said disk being confined in the center to a spindle D, which passes through the door, substantially as and for the purpose described.

3. The spring S, arranged, combined, and operating substantially as described.

2,861.—Francis Morandi, Boston, Mass.—*Lantern.*—Patented February 5, 1866, No. 14,201; reissued February 11, 1868.

Claim.—The funnel applied to the lantern in the manner and for the purpose substantially as herein set forth.

2,862.—George M. Pullman, Chicago, Ill., for himself, and assignee of Ben Field, Albion, N. Y.—*Sleeping Car.*—Patented September 19, 1865, No. 49,992; reissued February 11, 1868.

Claim.—1. The construction and arrangement of the berth A, hinged to the car at B, and supported by the jointed suspenders C, or other analogous devices, the whole so adapted to the car that it forms a recess to receive the same when turned up, substantially as described.

2. In combination with the berth A, the sliding partition I, substantially as described.

3. In combination with the berth A, the movable head board J, substantially as described.

4. The construction and arrangement of a car seat with the back and seat cushions hinged together and disconnected from the seat frame, so that the back cushion may be placed on the seat frame and the seat cushion extended to meet the seat cushion of the opposite chair, substantially as described.

2,863.—Adam R. Reese, Phillipsburg, N. J, assignee of George W. Lee.—*Lantern.*—Patented November 21, 1854, No. 11,967; reissued February 11, 1868.

Claim.—1. The cast-iron ends of the seed box of a grain drill, provided with flanges formed thereon, fitting and supporting the ends of the front and rear boards, and with legs or feet for supporting the box on the main frame as described.

2. The scores *o o*, or their equivalent, at the extremities of the holes *c*, in the disks M, in combination with the gradual narrowing of the holes toward their extremities, so as to save the grain from being cut, substantially as described.

2,864.—Adam R. Reese, Phillipsburg, N. J., assignee of George W. Lee and Adam R. Reese.—*Seeding Machine.*—Patented January 15, 1861, No. 31,123; reissued February 11, 1868.

Claim.—1. The lifter handle that raises the seed tubes out of the ground, in combination with a mechanism or device that throws the feed out of gear, before the seed tubes are out of the ground, by the one movement of said lifter handle.

2. In combination with a grain drill tube and draw bar, a brace to support the tube, fastened at its lower end to the tube, and at its upper end embracing the draw bar, and a wooden pin, which holds the upper end in proper position, and which will allow the brace to slide back on the bar when the tube strikes an obstruction, for the purpose set forth.

3. The feed slide of a grain drill made of two bars, the one sliding in recesses of the grain stirrups, while the other is adjustable in relation thereto, in such manner as to maintain the parallelism of said bars, for the purpose set forth.

2,865.—Calvin W. Sherwood, Chicago, Ill. (School, Division A.)—*Desk and Seat.*—Patented November 6, 1866, No. 59,466; reissued February 11, 1868.

Claim.—1. The joint, composed of the nave C′ and axle B′, constructed and operating substantially as set forth.

2. The arrangement and combination of the arms C, nave C′, and axle B′, with the seat D and standard A, substantially as specified.

3. The double-acting stop *k*, constructed and operating substantially as specified.

4. So locating and arranging the stop *k* and axle B′ on the head B, that, with the nave C′, a covered and compact joint is provided, substantially as and for the purposes specified.

5. The double-acting stop *k*, in combination with the shoulder *l*, operating in the slot or space, substantially as specified.

2,866.—Calvin W. Sherwood, Chicago, Ill. (Division B.)—*School Desk and Seat.*—Patented November 6, 1866, No. 59,466; reissued February 11, 1868.

Claim.—1. The jointed braces F, when provided with lips *a* and ledges *b*, substantially as and for the purposes specified.

2. The combination and arrangement of the ledges *b*, lips *a*, and pins *d*, with the braces F and hinged shelf K, substantially as specified.

3. The arrangement and combination of the hinged arms H, jointed braces F, and hinged arms G, with the standards A and desk top I J, substantially as and for the purposes specified.

2,867.—The Middletown Wool Company, Middletown, Conn., assignee by mesne assignments of J. R. Henshaw.—*Self-mousing Hook.*—Patented October 26, 1858, No. 21,897; reissued February 6, 1866, No. 2,166; again reissued February 11, 1868.

Claim.—The combination and arrangement of the hooks proper, eye, spring bar, spring, and checks to protect the spring, substantially as before set forth.

2,868.—Thomas Welch, Churchville, N. Y.—*Crank Pin and Box for Harvester.*—Patented August 1, 1865, No. 49,183; reissued February 11, 1868.

Claim.—1. The crank-pin box of a harvester, with an oil reservoir, G, for the purpose set forth.

2. A crank-pin box or head D H, of a harvester, so constructed with reference to the crank pin C that the outer end of said pin will be enveloped by the head D H, for the purposes set forth.

3. In combination with a crank-pin box, provided with an oil reservoir, a screw cap, G, or its equivalent, for the purpose of allowing the reservoir to be filled with and prevent the escape of unnecessary oil therefrom.

4. The pitman E and knife head F, connected by the taper screw head *g* and socket *f*, or their equivalents, and the bolt which passes into or through the parts, as set forth.

5. In combination with the connecting parts *g f*, and bolt, as specified, a washer, in the manner and for the purposes set forth.

2,869.—Samuel Darling, Bangor, Me.—*Manufacture of Metallic Squares.*—Patented October 6, 1857, No. 18,327; reissued February 18, 1868.

Claim.—1. A hardened-edged tongue, united by soldering to a beam, constructed substantially as described.

2. A tongue for squares, which is hardened at the edges and soft in the center, substantially as described.

3. The mode or process described of hardening the edges of the tongue by pressure between plates of cold iron.

4. The mode or process described of hardening the edges of the tongue by confining it between pieces of iron, and then heating and tempering, as described.

2,870.—Harris M. Fish, New York, N. Y., assignee of L. K. Plimpton and William Foot, executors of James M. Fish, deceased.—*Machine for Weighing and Bagging Grain.*—Patented June 5, 1860, No. 28,568; reissued February 18, 1868.

Claim.—1. The hopper A A, fitted with a sloping bottom, and with a bagging spout or spouts, and gate or gates on the side or sides of said hopper, to regulate the flow of grain, substantially as described.

2. The use of said hopper, so fitted with sloping bottom, spouts, and gates, in combination with a weighing scale, substantially as described.

2,871.—Andrew J. Holman, Philadelphia, Pa., assignee by mesne assignments of Isaac Van Doren.—*Rake for Harvester.*—Patented September 22, 1857, No. 18,256; reissued February 18, 1868.

Claim.—1. The combination of the platform of a hinged-bar harvester with a rake mounted thereon, and discharging the grain automatically upon the ground, out of the way of the machine and horses on the next round.

2. The combination of an automatic rake, discharging upon the ground, with the platform of a hinged-bar harvester, which is suspended from the main frame.

3. The combination of an automatic rake with the platform of a harvester having an adjustable, suspended, hinged finger beam.

2,872.—Dennis Lane, Montpelier, Vt.—*Head Block for Saw Mill.*—Patented July 9, 1861, No. 32,774; reissued February 18, 1868.

Claim.—1. The employment or use of the ratchets H I J K, having teeth at different distances apart, in connection with the adjustable dog P, placed on the rod O, which is provided with retaining pins *h*, the ratchets being placed on the shaft F, having pinions G G at its ends, which gear into racks D D, attached to bar C, all being arranged as and for the purpose set forth.

2. The bar C, provided with supports A^2, dogs *l l*, on fixed posts *k k*, dogs *e e*, and lever cams *f*, when the parts are constructed and arranged relatively with each other, and operated in the manner and for the purposes substantially as described.

2,873.—Abram Van Order, Ithaca, N. Y.—*Construction of Boats.*—Patented September 10, 1861, No. 33,272; reissued February 18, 1868.

Claim.—1. The construction of the described layers of wood, placed one above the other, making the shell or sides and ends of the boat, the described method of spiking or bolting the said layers together, and the cross-rod bracing, connecting the bilge timbers with the gunwale timbers, when arranged in relation to each other substantially as and for the purposes described.

2. Constructing the sides and ends of boats wholly of horizontal layers of timbers, bolted or spiked one upon the other, substantially in the manner and for the purposes set forth.

3. The construction of a bilge or bottom frame, of solid timber, in whole or in part, about the bottom of a boat, when the floor timbers are attached thereunto, as described, and for the purposes specified.

4. The arrangement and construction of the bottom planking on the floor timbers within, and protected by the bilge frame, as set forth.

5. The floor timbers, dovetailed to the bilge timbers, on their inner side and top, and held in place by the horizontal layers on their ends, for strength and security against accident, as set forth.

6. Constructing the sides and ends of boats of layers of horizontal timbers, bolted or spiked one upon the other, and upon the bilge frame, and upward from it, substantially as and for the purposes described.

2,874.—Charles W. Cahoon, Portland, Me.—*Lamp.*—Patented December 3, 1861, No. 33,825; reissued February 25, 1868.

Claim.—1. A lever, with chimney fastenings, having that part of it on which the chimney rests extended, so as to form a deflector, substantially as described.

2. The deflector, broad, flat-shaped, or nearly so, when filling the interior of the chimney, and combined with an air screen and ring, with standards, substantially as and for the purposes specified.

3. The combination of the said deflector with the conical foraminous piece of metal and the cylindrical tubular air-screen, for the purpose of forming the air chamber A, protecting the flame, and admitting the air from below the same, substantially as described.

4. The combination, with the lever for raising the chimney, of the deflector, air-screen, and foraminous piece of metal, substantially as and for the purposes specified.

5. The ring, surrounding the wick tube, a little above the top of the same, with the standards *s s*, substantially as and for the purposes specified.

6. A chimney holder, having a projection for manipulating the same, chimney fastenings, a deflector, and a joint, substantially as and for the purpose set forth.

7. The combination of the ring *f*, supports *s s*, and air screen *c*, substantially as and for the purpose set forth.

8. In combination with the burner of a lamp having a glass body, a metallic handle, as herein described.

2,875.—WILLIAM N. ELY, Stratford, Conn., assignee by mesne assignment of N. AMES and J. E. GOWEN. (Division A.) *Eyeleting Machine.*—Patented May 14, 1867, No. 64,734; reissued February 25, 1868.

Claim.—1. A reciprocating heading seat, constructed, arranged, and operated substantially as described.

2. A reciprocating piston or holding pin, in combination with the heading seat, when constructed, arranged, and operated substantially as described.

3. A spring piston rest, in combination with the reciprocating heading seat and holding pin, arranged and operated substantially as described.

4. The reciprocating heading seat and piston, in combination with a vertical header, arranged and operated substantially as described.

5. A reciprocating heading seat, in combination with a header and work-supporting table, substantially as described.

6. A heading seat, header, and work-supporting table, in combination with a work-feeding device, substantially as described.

2,876.—WILLIAM N. ELY, Stratford, Conn., assignee by mesne assignments of N. AMES and J. E. GOWEN. (Division B.) *Eyeleting Machine.*—Patented May 14, 1867, No. 64,734; reissued February 25, 1868.

Claim.—1. A common receptacle or hopper, adapted and arranged for holding the eyelets when thrown in promiscuously, substantially as described, in order that they may be automatically discharged therefrom and delivered in proper position to the heading mechanism, for the purposes set forth.

2. Agitating the eyelets, so as to present them in proper position to the eyelet-feeding mechanism, substantially as described.

3. A promiscuous eyelet-holding hopper, provided with means for delivering the eyelets in proper position, an eyelet-feeding mechanism, and an eyelet-heading mechanism, when combined and operating substantially as described.

4. In combination with the above, a work-supporting table, substantially as described.

5. In combination with the elements of the third claim and a work-supporting table, a work-feeding device, for the purposes described.

2,877.—WILLIAM N. ELY, Stratford, Conn., assignee by mesne assignment of N. AMES and J. E. GOWEN. (Division C.) *Eyeleting Machine.*—Patented May 14, 1867, No. 64,734; reissued February 25, 1868.

Claim.—1. A reciprocating punching table, constructed and arranged so as to be alternately removed and replaced, substantially as described.

2. The reciprocating puncher, in combination with the reciprocating punching table, substantially as described.

3. The combination of a puncher, a work-holding table, and a work-feeding device, substantially as described.

4. The combination of a puncher and gauge for the line of holes, substantially as described.

2,878.—WILLIAM N. ELY, Stratford, Conn., assignee by mesne of N. AMES and J. E. GOWEN. (Division D.) *Eyeleting Machine.*—Patented May 14, 1867, No. 64,734; reissued February 25, 1868.

Claim.—1. The combination of a puncher and header with a movable punching table, substantially as described.

2. The combination of puncher, header, work-supporting table, and work-feeding device, substantially as described.

3. An organized eyeleting machine, in which the work is supported and fed along, the holes punched, the eyelets supplied, inserted, and headed down, substantially as described.

2,879.—WILLIAM N. ELY, Stratford, Conn., assignee by mesne assignment of N. AMES and J. E. GOWEN. (Division E.) *Eyeleting Machine.*—Patented May 14, 1867, No. 64,734; reissued February 25, 1668.

Claim—1. A puncher and header, operating reciprocally, when combined, arranged, and operating so as to strike alternately on or over the same fixed point, substantially as described.

2. A reciprocating heading seat, in combination with the puncher and header, when arranged and operating at the same fixed point, substantially as described.

3. A laterally-reciprocating punching table, in combination with the puncher, header, and heading seat, all arranged and operating at the same fixed point, substantially as described.

4. The reciprocating punching table and heading seat, so combined, arranged, and operating as to alternately occupy the same place for punching holes and heading eyelets at the same fixed point, substantially as described.

5. Supplying the eyelets from a common hopper to the heading seat or holding point by a belt and groove, substantially as described.

6. The work-feeding device, constructed and arranged with an eyeleting machine, substantially as described.

7. The adjustable gauge, in combination with the holding table for regulating the line of eyelets, substantially as described.

8. Punching the holes and furnishing, inserting, and heading the eyelets at the same fixed point automatically, by means substantially as described.

2,880.—WILLIAM N. ELY, Stratford, Conn., assignee by mesne assignment of N. AMES and J. E. GOWEN. (Division F.) *Eyeleting Machine.*—Patented May 14, 1867, No. 64,734; reissued February 23, 1868.

Claim.—1. The combination of hollow rod J and lever I, arranged and operating substantially as described.

2. The combination of hollow rod J and piston K, arranged and operating substantially as described.

3. The combination of hollow rod J, piston K, and lever I, arranged and operating substantially as described.

4. The combination of rod J, piston K, spring I′, and lever I, arranged and operating substantially as described.

5. The combination of rod J, piston K, lever I, and header C, arranged and operating substantially as described.

6. The combination of hopper N, with eyelet-feeding mechanism, and rods J and K, and header C, substantially as described.

7. The combination of puncher B and sliding plate U, substantially as described.

8. The combination of plate U and levers V and I, substantially as described.

9. The combination of puncher B, header C, sliding plate U, and rods J and K, substantially as described.

10. The combination of puncher B, header C, plate U, rods J and K, hopper N, belt R, and groove X, substantially as described.

11. The combination of table U and pawl Y, substantially as described, with the set, or punch and set, of an eyelet machine.

12. The combination of hopper N, with bristles or flexible arms *o*, substantially as described.

2,881.—DENNIS G. LITTLEFIELD, Albany, N. Y.—*Base-burning Lamp.*—Patented August 18, 1863, No. 39,582; reissued December 22, 1863, No. 1,594; and again reissued February 25, 1868.

Claim.—1. The devices described, by means of which the magazine, and each of the several sections of which it is composed, are held in their proper positions, while, at the same time, the several parts are so adjusted as readily to admit of being separated and reunited at pleasure.

2. The corresponding notches or shoulders in the iron cylinder and the lining, as described, by means of which the lining is held in its place, notwithstanding the greater expansion of the cylinder by heat, and without danger therefrom.

3. The magazine, constructed as described, in combination with the furnace separated from it, and suspended within a chamber isolated from the chamber surrounding the magazine.

4. The combination of a magazine contracting in diameter from the middle or other line downward to its lower end, with a furnace, suspended within a

chamber isolated from the chamber surrounding the magazine.

5. The devices described, by means of which I am able to construct what I denominate the upper and lower sections of the burner, each complete in itself separately, and so to adjust them as to admit of their being conveniently separated and reunited without injury to either.

6. The intercommunication, to be opened and closed at pleasure, between the chamber of a magazine coal burner, which surrounds the furnace, and that which surrounds the magazine.

2,882.—WILLIAM N. ELY, Stratford, Conn., assignee by mesne assignment of L. BAILEY and R. THAYER.—*Lamp.*—Patented May 4, 1858, No. 20,134; reissued February 25, 1868.

Claim.—1. Suspending the body of the lamp within an outer case, so arranged that the air shall pass within the case, and around the lamp body to the flame, substantially as described.

2. A hollow lamp case, pedestal, and base, constructed and arranged in relation to the lamp body, substantially as described.

3. An annular lamp body, in combination with an outer case, substantially as described.

4. Constructing and arranging the parts so as to deflect the air coming up from outside the lamp body toward the flame, substantially as described.

5. Supplying air to the flame by means of the channel formed between the body of the lamp and the outside shell or case, substantially as described.

6. Arranging and using the rod or wire K in relation to the flame and hollow pedestal and outer case, substantially as and for the purposes described.

7. The concavo-convex button, constructed and arranged substantially as and for the purpose described.

2,883.—JOHN SOLTER, Baltimore, Md.—*Tumbler Washer.*—Patented September 4, 1866, No. 57,786; reissued February 25, 1868.

Claim.—1. In a tumbler-washing machine, operating the valve *e*, by pressing the tumbler, in seating it, in the manner as shown and described, and for the purpose set forth.

2. The combination of the lever K and valve *e*, constructed and operated in the manner substantially as shown and described and for the purpose set forth.

2,884.—PHILO O. SOPER, San Francisco, Cal.—*Hay Knife.*—Patented January 29, 1867, No. 61,576; reissued February 25, 1868.

Claim.—1. The construction of the blade B, substantially as described.

2. The bearing of the shank C, in connection with the angle given to the edge of the blade B, substantially as and for the purpose described.

3. The point A, substantially as and for the purposes above described.

2,885.—AMBROSE TAYLOR, Ossawatomie, Kansas.—*Last.*—Patented November 5, 1867, No. 70,648; reissued February 25, 1867.

Claim.—1. The spring hook E, secured by its shank F, in the block B, and engaging with the hook C, set in the last A, all constructed and arranged to operate as herein set forth, for the purpose specified.

2. The prevention of lateral or backward movement of the block B, by having the hook C, extend upward above the surface of the upper side of the last, and within a recess in the under surface of the block B, substantially as shown and described.

2,886.—CHARLES L. ALEXANDER and VICTORIA A. OSBORN, Washington, D. C.—*Book-cover Protector.*—Patented September 24, 1867, No. 69,062; reissued March 3, 1868,

Claim.—1. The elastic or extensible bands or straps *b b b b*, connecting the top and bottom folds D D D D, by means of clasps or other devices, and thus applicable to various sizes of book covers, substantially as and for the purpose set forth.

2. The elastic bands or straps *a a a a*, to form an expansible connection for the two halves of the book cover protector, substantially as described.

3. Such a book-cover protector or mode of covering books, as by reason of its expansibility and extensibility, may be adjusted to books of various sizes, substantially as described.

2,887.—N. B. WALLACE, Fond du Lac, Wis.—*Watch.*—Patented September 10, 1867, No. 68,814; reissued March 3, 1868.

Claim.—The two-part cup F, for the winding post or other axis of a watch movement, substantially as and for the purpose described.

2,888.—WILLIAM HALL, Dubuque, Iowa.—*Lightning Rod.*—Patented October 18, 1859, No. 25,823; reissued March 3, 1868.

Claim.—A cylindrical lightning rod, made of sheet copper in sections, where the sheet is made to extend beyond a single cylinder, leaving the edges open or unsoldered, when the same is constructed substantially as and for the purposes herein set forth.

2,889.—SCHWEITZER PATENT BOLT COMPANY, New York, N. Y., assignee of FRANZIS SCHWEITZER, same place.—*Machine for Cutting Thread on Bolts, or Nuts.*—Patented March 5, 1867, No. 62,693; reissued March 3, 1868.

Claim.—1. The sliding or movable heads N O, in combination with the lever P and cutters or dies *a b*, substantially as and for the purpose described.

2. The adjustable lever P, provided with arms *d e*, substantially as and for the purpose set forth.

3. The elastic rest *g*, constructed and operating substantially as and for the purpose shown and described.

2,890.—JOHN STORER, New York, N. Y.—*Lubricator for Steam Engines.*—Patented March 13, 1866, No. 53,195; reissued March 3, 1868.

Claim.—A lubricator for steam engines, having a movable cap or valve, E, and a screw, F, to secure the said cap or valve in position, so arranged that the screw can turn without carrying the said cap or valve around with it, in combination with a soft-metal ring, for making a tight joint between the cap or valve and the body of the lubricator, all substantially as and for the purposes specified.

2,891.—BENJAMIN J. HARRISON and JAMES CONDIE, New York, N. Y.—*Folding Chair.*—Patented July 17, 1866, No. 56,410; reissued March 10, 1868.

Claim.—1. The pair of legs A, connected by the seat rail *b* at their upper ends, and by the rail *a* near their lower ends, in combination with the pair of legs B, pivoted at *c* to the legs A, and united only at their upper ends at the seat rail C, as specified, so that the rail *b* can pass entirely through beneath the rail C, when the legs are folded, as set forth.

2. The seat rail C, into which the side pieces or arms, E, of the back are framed, and extended through to the bar G, in combination with the tie bolt *e*, that connects the legs B, and forms the axis on which the back E F swings, substantially as specified.

3. Connecting the frame forming the back to the folding legs by a riveted bar or pivots above the point at which the flexible seat is united to the back seat rail, substantially as set forth, so that the flexible seat maintains the back in an upright position.

2,892.—LANSING MARBLE and TOWNSEND NORTH, Vassar, Mich., assignees of LANSING MARBLE.—*Basket.*—Patented January 7, 1862, No. 34,088; reissued March 10, 1868.

Claim.—1. A basket formed of two series of overlapping splints A A′, substantially as described, and fastened in any suitable manner.

2. In combination with the above, the hoops *a a*, D, and G G, substantially as and for the purpose specified.

2,893.—F. S. PEASE, Buffalo, N. Y.—*Hydrocarbon Vapor Apparatus.*—Patented March 13, 1860, No. 27,470; reissued March 10, 1868.

Claim.—1. The combination of the box A, one or more pans B, for containing hydrocarbon liquid, the supply pipe C at or near the top, the exit pipe

D at or near the bottom, and the condenser E, the whole operating substantially as and for the purposes herein set forth.

2. Condenser, employed in connection with an air carbureting apparatus, substantially as and for the purposes set forth.

3. The combination, with the pans or trays B, of the perforated plates *b*, through which the air passes in its course through the carbureting chamber.

2,894.—JABEZ W. HAYES, Newark, N. J.—*Fruit Box or Basket.*—Patented August 12, 1866, No. 15,514; reissued March 10, 1868.

Claim.—1. A box or basket formed of veneers or laminæ of wood, laid across each other, and turned up to form the sides; so that the bottom is made of two thicknesses, secured together substantially as specified, and the sides of single thicknesses.

2. A box or basket formed of veneers or laminæ of wood, crossing each other at the bottom, and turned up to form the sides, in combination with a cord, or its equivalent, passing around the sides to hold them together, substantially as set forth.

3. A box or basket in which one lamina of wood forms two of the sides and one thickness of the double bottom, substantially as set forth.

2,895.—J. J. SAVAGE, Troy, N. Y. (Division 3.) *Coal Stove.*—Patented February 12, 1867, No. 61,956; reissued March 10, 1868.

Claim.—1. Constructing a heating stove, with its fuel doorway or aperture B below and forward of its flame or combustion chamber, and contiguous to or adjoining its fire box A, in manner substantially as and for the purposes herein set forth.

2. The combination of the fuel doorway or aperture B and the fire box A, extended contiguously thereunder, as applied to heating stoves, in manner substantially as and for the purposes set forth.

3. In combination with a heating stove having its fuel doorway in the position as herein described, the employment therewith of a lifting lever, F, substantially in manner as and for the purposes herein set forth.

4. In a heating stove, in combination with its fire-box back lining plates and its fuel doorway or aperture B, the arrangement of a front lining plate, E, in position between the flame chamber C and the said fuel aperture, in manner substantially as and for the purpose set forth.

5. In combination with a lever lifter, F, as applied to heating stoves, in manner as herein described, the employment of a holding hook, *b*, and catch ridge *e*, substantially as and for the purpose set forth.

6. A heating stove so constructed that fresh fuel may be cast or fed directly into vacant room or open places, previously formed or made for it in, below, and between the ignited fuel or coke, within the fire box of said stove, by the means and operation in manner substantially as hereinbefore fully described and shown, for the purposes as set forth.

2,896.—WILLIAM W. WILCOX, Middletown, Conn.—*Trellis for Strawberry and other Plants.*—Patented August 27, 1867, No. 68,271; reissued March 10, 1868.

Claim.—A trellis, *a*, made substantially as described, with an upright post or posts, *e*, and branching arms, *c*, or their equivalent.

2,897.—WILLIAM M. DOTY, New York, N. Y.—*Washing Machine.*—Patented July 12, 1864, No. 43,484; reissued March 17, 1868.

Claim.—1. The combination of the oscillating wash board and swinging brackets with a removable hand lever or levers, operating in the manner substantially as herein shown and described.

2. The formation, in swinging brackets, to which the corrugated wash board is attached, of sockets, or the mechanical equivalents thereof, for the ready insertion and removal of the operating lever, substantially as and for the purposes herein shown and described.

3. The combination, with an oscillatory wash board and stationary wash tub, of the means herein shown and described, or the mechanical equivalent thereof, for rendering the said wash board stationary within the tub, at the pleasure of the operator.

2,898.—JOSEPH J. FRENCH and REUBEN A. McCAULLY, Baltimore, Md., assignees of JOSEPH J. FRENCH.—Patented July 2, 1867, No. 66,318; reissued March 17, 1868.

Claim.—A globe valve, composed of the body A, solid support H, carrying at its apex the hollow screw B, and lever A′, with plug to stuffing box F, the parts all made and arranged substantially as shown and described.

2,899.—R. HOE & Co., New York, N. Y., assignees of WILLIAM McDONALD, same place.—*Machine for Mitering Printers' Rule.*—Patented July 3, 1855, No. 13,197; reissued March 17, 1868.

Claim.—The combination, with a movable cutter, of a sector guide plate, a rule-holding bed, and adjusting mechanism, constructed and operating substantially as described and for the purposes specified.

2,900.—P. H. ROOTS and F. M. ROOTS, Connersville, Ind.—*Cross Head for Blower.*—Patented July 24, 1866, No. 56,614; reissued March 17, 1868.

Claim.—A piston, constructed of cross heads A, fastened to a shaft B, in combination with wooden lags or pieces C, which compose the covering of the piston, and are secured to the cross heads, substantially as and for the purpose set forth.

2,901.—W. H. LOVE, R. H. CHILDS, and H. W. CHILDS, Philadelphia, Pa., assignee by mesne assignments of JOHN C. LOVE, same place.—*Lamp Burner.*—Patented December 17, 1867, No. 72,209; reissued March 24, 1868.

Claim.—1. A flat slotted plate, *d*, arranged above the dome B of a lamp burner, as and for the purpose described.

2. The plate *d* with its flange *i*, and opening *n*, in combination with the casing A of a lamp burner, when the edges of the said opening *w* are parallel to the upper edge of the wick tube, as set forth.

2,902.—THOMAS E. PURCHASE, Reading, Pa.—*Fagot for Railway Rail.*—Patented February 2, 1858, No. 19,261; reissued March 24, 1868.

Claim.—1. The manufacture of railroad rails from a pile, the top bar of which is of a superior quality of iron, immovable laterally, and sufficiently heavy to give the rail when rolled a consolidated head, connecting with the lower layers in the stem of the rail, substantially as above set forth.

2. An intermediate iron form-piece for a fagot for a railroad rail, such form-piece being constructed with an irregular welding surface for fitting a corresponding welding surface in the superior metal cap or top piece, substantially as described.

2,903.—J. O. ADAMS and E. A. WARFIELD, Northampton, Mass., assignees of ROBERT H. ALDRICH, same place.—*Dusting Brush.*—Patented March 12, 1867, No. 62,724; reissued March 31, 1868.

Claim.—A brush made of sheep skin with the wool on, cut into strips, and fastened over one or more central cores, substantially as herein shown.

2,904.—DAVID BLAKE, Waterford, N.Y., assignee of JAMES DODGE.—*Machine for Rolling, Shaping, and Forging File Blanks, Fliers and other Metallic Articles of Small Dimensions.*—Patented May 1, 1866, No. 54,310; reissued March 31, 1868.

Claim.—1. The combination of a rolling apparatus, having an intermittent movement, in combination with a swaging apparatus, all constructed substantially as described, and so used alternately that a piece of metal will, as the mean effect of the rolling and swaging operations, be fashioned into shape substantially in the manner hereinbefore set forth.

2. Governing the rotation of the rollers, so as to stop and start such rotation at any desired time or position, by the means described, or by other mechanical equivalents.

3. The combination and use of the wedges and springs, constructed and arranged as described, for regulating the distance of the rollers.

2,905.—JOHN A. DODGE, Auburn, N. Y.—*Harvester.*—June 26, 1866, No. 55,837; reissued March 31, 1868.

Claim.—1. The frame A, attached to the platform, and arranged to support the rake and beater arms, substantially as set forth.

2. The combination, substantially as set forth, of a continuously revolving crown wheel, carrying rake and reel arms, with the frame or standard A, for the purpose described.

3. The combination of the cam B′ and bed-piece B with the frame A, these parts being constructed and arranged for joint operation, as set forth.

4. Pivoting the rake and reel arms to the crown wheel L, by means of the cross-heads or bars *b* fitting into suitable cavities in the wheel L, and held in place by the plate O, substantially as shown and described.

5. The combination, substantially as set forth, of the detent plate E and ratchet plate E′, with the sprocket wheel D, chain M, and pulley C, for the purpose set forth.

6. The combination, substantially as described, of the bracket I, socket I′, and overhanging arm H, for the purpose set forth.

7. The combination, substantially as described, with the overhanging arm H, of the chain P and arm G, to support the inner end of the platform.

2,906.—W. N. Ely, Stratford, Conn., assignee by mesne assignments of Francis D. Ballou.—*Mechanism for Boot and Shoe Sewing Machine.*—Patented January 22, 1861, No. 34,203; reissued March 31, 1868.

Claim.—1. The foot piece C, when constructed and arranged and used as a guard, or guard and gauge, substantially as and for purposes described.

2. The lip or standard *c*, when constructed, arranged, and used as a guard, or gauge, or support for the shoe, substantially as described.

3. The combination of a guide or guard, substantially as described, with an opener for opening the channel for the action of the needle, substantially as set forth.

4. The presser D, in combination with the adjustable foot pieces C and C′, substantially as described.

5. The bearing plate B and lip or standard *c*, in combination with the presser bar, substantially as described.

6. The projecting perpendicular plate B with standard *c*, substantially as and for the purposes described.

7. The combination of the bearing plate or table E with the lip or standard *c*, substantially as described.

8. The combination of the standard *c* with the foot piece C, arranged substantially as described, and for the purposes set forth.

9. The supporting, guarding, or guiding, and channel-opening mechanism, when combined and arranged in relation to each other, substantially as and for the purposes set forth.

10. The projecting horizontal table plate A, provided at its outer edge with a projecting standard, *c*, and arranged so that an opening is formed between the two for the needle, substantially as and for the purposes described.

2,907.—S. D. Engle, Hazleton, Pa.—*Watch.*—Patented April 24, 1866, No. 54,135; reissued March 31, 1868.

Claim.—1. The employment of a box or supplemental case, B, to receive the movement of a watch, secured in the external or principal case of the watch, by means of studs or pins and a groove, for the purpose herein set forth.

2. The cup *h*, with its flange, h^2, and washer *i*, arranged with the key hole *g*, in the manner and for the purpose herein described.

2,908.—Charles Parker, Meriden, Conn., assignee of George N. Cummings, Providence, R. I.—*Eye Glass.*—Patented July 30, 1867, No. 67,167; reissued March 31, 1868.

Claim.—1. The continuous spring B, combined with the two glasses A A, when attached and secured to each of the bows at or near the point D, in the manner substantially as herein set forth.

2. The arrangement of the guides E E upon each of the bows, and so as to wholly or partially surround the spring at a point above the point D, and so as to leave the spring free in the said guide, substantially as and for the purpose specified.

2,909.—John S. Rowell and Ira Rowell, Beaver Dam, Wis.—*Cultivator.*—Patented July 3, 1866, No. 56,102; reissued March 31, 1868.

Claim.—The combination of the slotted beam A, shank B, brace bar C, and bolt D, when the parts are constructed and arranged to operate as and for the purposes herein specified.

2,910.—William Anthony Shaw, Gardner Willard, Lewis Colwell, and Joseph Colwell assignees of William Anthony Shaw, New York, N. Y.—*Apparatus for Separating Shot.*—Patented January 9, 1866, No. 52,003; reissued April 7, 1868.

Claim.—1. In the process of manufacturing shot, the use of an automatic apparatus so constructed and operated as to separate the perfect from the imperfect shot, and so as to assort the different sizes of shot, and deposit them in separate places or receptacles, substantially as described.

2. Separating the perfect from the imperfect shot by the use of a series of inclined planes, so arranged and adjusted in respect to each other as to break one or more times the plane and direction of descent, and arrest in whole or in part the motion of the imperfect shot, for the purpose of changing its axis of motion, and thus gradually bring it to rest in receptacles at the foot of the various inclines, leaving the perfect shot only to descend to the bottom of the series of planes.

3. A series of revolving screens for assorting the shot, in combination with the inclines and receptacles, substantially as specified.

2,911.—Horace Baker, Cortland, N. Y.—*Hay Raker and Loader.*—Patented July 3, 1866, No. 55,979; reissued April 7, 1868.

Claim.—1. The two positively-actuated endless aprons, revolving in opposite directions, in combination with the toothed wheels R^2, or their equivalents, upon the shafts I and L, and so placed relatively that the hay may be picked by such toothed wheels, and directed between the aprons, and by them elevated, substantially as and for the purpose set forth.

2. The standards T T, when so constructed that by their elasticity they shall maintain the upper portions of said aprons face to face, and permit variations in the quantity of hay carried between them, as set forth.

3. In combination with said endless aprons, the guide boards, so constructed as to pass the hay over the forward apron and on to the wagon.

4. In combination with said endless aprons, the spur wheels F and H, and the shaft I operating in the slot I 1, and so constructed as to allow of a forward and backward movement of such shaft and forward apron, substantially as and for the purpose set forth.

2,912.—Charles L. Lege, San Antonio, Texas.—*Medicinal Preparation.*—Patented June 11, 1867; reissued April 7, 1868.

Claim.—A medicament produced from the material specified.

2,913.—Metropolitan Washing Machine Company, Middlefield, Conn., assignees by mesne assignments of Alfred F. Spaulding and Salmon M. Scott.—*Meat-chopping Machine.*—Patented January 31, 1865, No. 46,153; reissued April 7, 1858.

Claim.—1. The employment, in an organized machine for chopping meat, vegetables, and other substances, of a revolving tub, and one or more cutters, and actuating mechanism, under an arrangement substantially as described, so that the meat or other substance shall be cut with a "draw cut," or by a drawing stroke of the said cutters.

2. The arrangement of the frame and method of hanging the cutter or cutters in said frame, so that, when operated, the cutters shall travel toward the bottom of the revolving tub in a curvilinear path, substantially as herein described.

3. The combination, with the cutter and its vibratory arm and mechanism, whereby it is made to operate with a drawing cut, of the means for adjusting the cutter in said arm for the purpose of regulating the stroke of the said cutter, substantially as set forth.

4. The method herein described, or its substantial equivalent, of mounting the vibratory arms of the cutters upon a padded pin, or so that the cutters may yield to intervening obstructions, as herein set forth.

5. The combination, with one or more vibratory cutters, and a tub, of a removable cover overhanging the tub, substantially as herein shown and described.

6. A machine for cutting meat and other substances, composed of the following elements combined: First, a support for the tub, mounted on a central pivot; second, one or more cutters hung in such manner as to produce, when vibrated, a "draw cut;" third, a mechanism to impart vibrating motion to the cutters, and a rotary movement to the tub.

2,914.—Metropolitan Washing Machine Company, Middlefield, Conn., assignees by mesne assignments of Alfred F. Spaulding and Salmon M. Scott.—*Meat-chopping Machine.*—Patented July 11, 1865, No. 48,734; reissued April 7, 1868.

Claim.—1. The means for operating the cutter or cutters of a machine for chopping meat, &c., substantially as herein described, so that an up-and-down and back-and-forth movement shall be imparted to the cutter or cutters in the order herein described, thereby effecting an elongated draw cut upon the material to be chopped, as set forth, in combination with a tub rotating during the intervals of stroke—that is to say, when the knife or knives are lifted off the bottom of said tub.

2. The combination, with a rotary tub, of the chopping knives connected directly or through the intermediary of suitable arms, with a revolving crank, so as to operate in the manner and for the purposes herein shown and described.

3. The combination of cutters with mechanism for vibrating the same in the manner and means herein specified—that is to say, by arms hung upon a revolving crank, and supported by an oscillatory standard.

4. The combination, with the rotary tub and one or more chopping knives, and mechanism for moving such knives up and down and back and forth in said tub, of a plough, either with or without a guard, adjustable to the frame or other stationary part of the machine in the manner described, so that the same may be held in its proper relation to and within the tub, as set forth.

2,915.—Philo F. Stewart, Troy, N. Y.—*Cooking Stoves.*—Patented April 12, 1859. Reissued April 7, 1868.

Claim.—1. The method or the means, substantially as herein described and set forth, of preventing heat from passing through to the rising flue, leading to the chimney, by separating it from the back oven plate, and from the descending flues, by non-conducting partitions, or the equivalents therefor, and for the purposes herein set forth.

2. The employment of a double damper, filled in with cement or other equivalent non-conducting material, in combination with the flue above the oven, and with the rising flue leading to the chimney, in the manner substantially as and for the purposes herein described and set forth.

3. The separating of the direct sheet flue, under the oven, from the return sheet flue immediately below the same, by means of the dividing flue plate *i*, or any equivalent therefor, constructed, arranged, and combined with the said sheet flues, in the manner, and by the means, and for the purposes substantially as herein described and set forth.

4. The dividing of the space between the bottom plate of the oven and the bottom plate of the stove, by means of the inclined dividing flue plate *i*, or any equivalent therefor, in the manner and for the purposes substantially as herein described and set forth.

5. The employment of the space or chambers S′, in combination with the outer edge of the oven-bottom plate, and with the back end oven plate, in the manner and for the purposes substantially as herein described and set forth.

6. The sheet flue division plate *i*, having a recess *h′* at each front corner thereof, and the projection A between such recesses, substantially as and for the purposes herein described and set forth.

7. The employment of a broad or sheet flue division plate, *i*, or any equivalent thereof, in combination with the oven and oven-bottom flues, in the manner and for the purposes substantially as herein described and set forth.

8. The additional bottom plate or encasement *r*, in combination with the broad sheet flue *h*, or any equivalent therefor, in the manner and for the purposes substantially as herein described and set forth.

2,916.—Patrick Kennedy, New York, N. Y.—*Cement for Fixing Door Knobs.*—Patented June 11, 1867, No. 65,680; reissued April 14, 1868.

Claim.—The application of a cement, which is composed of sand and alum, with or without the addition of copperas, for fastening door or furniture knob tops to their metal or other shanks, as set forth.

2,917.—Edward H. Ashcroft, Lynn, Mass.—*Railroad Car Heater.*—Patented May 16, 1866, No. 54,662; reissued April 14, 1868.

Claim.—1. A safety car, constructed with a water space, with one or more showering pipes, and a fusible plug apparatus, arranged substantially in manner and so as to operate with respect to the car chamber, as specified.

2. In combination with a water space, substantially as herein set forth, a heating apparatus and circulating pipes, whereby the water shall be caused to circulate, substantially as herein set forth.

2,918.—Napoleon Aubin, Montreal, Canada.—*Fluid Meter.*—Patented August 19, 1862, No. 36,201; reissued April 14, 1868.

Claim.—1. The combination of a diaphragm with a reversing apparatus and a slide valve, connected each with the other, without the use of stuffing boxes, and the whole inclosed within a proper receptacle containing a valve seat, and constituting a fluid meter, constructed and operating substantially as above described.

2. Constructing fluid meters with a single slide valve of such length that it will not cover both of the outside ports in the valve seat at the same time, in combination with a reversing apparatus arranged to throw said valve, while acting upon it, rapidly across the said ports, substantially as and for the purpose above described.

3. The use, in fluid meters, of a diaphragm, when combined with a short slide valve of the above description, substantially as and for the purpose above described.

4. The use, in fluid meters, of compression springs, when combined with a short slide valve of the above description, substantially as and for the purpose above described.

5. Constructing the receptacle of fluid meters in two pieces, one-half of which contains part of the side pipe, and the other half the other part thereof, when the joint between the two is made by a diaphragm, and the latter acts upon a reversing apparatus contained in one half of the said receptacle, substantially as above described.

2,919.—Theodore A. Havemeyer, I. Laurence Elder, and Charles F. Loosey, New York, N. Y., assignees of Carl Kronig.—*Manufacture of Sugar Molds and other Articles.*—Patented June 28, 1864, No. 93,376; reissued April 14, 1868.

Claim.—1. The process, substantially as herein described, for making vessels and other articles, which process consists in saturating, with linseed or equivalent oil, vessels or articles made of paper, or equivalent substance, in manner substantially as described.

2. Coating articles, which have been made as herein described, and which have been saturated with oil, with a paste of red lead and oil, and then varnishing the same, substantially as described.

2,920.—The Metropolitan Washing Machine Company, Middlefield, Conn., assignees of S. W. Palmer and J. F. Palmer, Auburn, N. Y.—*Gearing.*—Patented May 8, 1866, No. 54,589; reissued April 21, 1868.

Claim.—The combination of toothed or cogged wheels, when used in pairs upon the same shaft, with a plate or plates arranged upon the interior opposite or exterior opposite faces of either pair, in the manner described, whereby the wheels on the one shaft shall be held in place by the plate or plates of the wheels on the other shaft, and thus prevent the lateral play of the one shaft with respect to the other, as set forth.

2,921.—HOMER WRIGHT, HENRY H. COLLINS, and BENJAMIN F. COLLINS, Pittsburg, Pa., assignees of HOMER WRIGHT.—*Construction of Jug Tops.*—Patented September 24, 1867, No. 69,151; reissued April 21, 1868.

Claim.—1. The flange S, when made as and for the purpose shown.

2. The hinge and knob combined in one piece, as specified.

3. The lid, when made to cover entirely the top rim of the body, as set forth.

4. The opening H, in the lid, when used in combination with the hinge and knob piece, as described.

5. The convex bulge P, or its equivalent, when used for the purpose indicated.

6. Hinging the lid so as to rotate from the inside of the body, as described.

2,922.—ELIAS SHOPBELL, Ashland, Ohio.—*Pattern for Cutting Boots.*—Patented January 27, 1863. No. 37,526; reissued April 28, 1868.

Claim.—1. The plate A, in combination with the pairs of plates B B', C C', and D D', or their equivalents, with their respective slots and angles, producing the simultaneous movement of the several pairs of plates, and the consequent unequal enlargement and contraction of the pattern for boot fronts, substantially as herein set forth.

2. Stationary and adjustable plates, so constructed and arranged in relation to each other and the slots as to produce a simultaneous contraction and expansion of said plates according to any required size of boot fronts and backs, substantially as set forth.

2,923.—DAVID WHISLER, Union Township, Ohio.—*Ditching Machine.*—Patented December 31, 1867, No. 72,953; reissued May 5, 1868.

Claim.—1. The adjustable features of the moldboard and knives for cutting a wide or narrow ditch, substantially as described.

2. The peculiar construction of the shovel, as and for the purpose set forth.

3. The construction of the coulter, as and for the purpose specified.

4. The hinged platform T, for regulating the depth of the furrow or ditch, substantially as described.

5. In combination with the above, screw *h* and spring *t*, substantially as set forth.

6. Axle B, wheels C C, beam A, platform T, screw *h*, springs *t*, and vertical knife P, all combined and arranged as and for the purpose set forth.

2,924.—SIMON F. STANTON, Manchester, N. H., assignee of J. M. STANTON and S. F. STANTON, same place.—*Head Block for Saw Mill.*—Patented May 1, 1866, No. 54,432; reissued May 5, 1868.

Claim.—1. The combination and arrangement of the pinions D D D and double sets of racks *b b b*, *c c c*, for moving the uprights by the turning of the shaft E, substantially as herein set forth.

2. The arrangement of the shaft E in sections, coupled together by clutches F F, so as to be connected or disconnected at pleasure, constructed and operating substantially as and for the purpose herein specified.

3. The notched guide R, in combination with the lever Q, which actuates intermediately the pawl P, ratchet wheel O, shaft E, pinions D D D, and racks *b b b*, or the equivalent thereof, for moving the uprights different and determinate distances, constructed and operating substantially as herein specified.

4. The clamp hooks or dogs M M M, arranged and operated substantially as and for the purpose herein set forth.

2,925.—CHARLES C. PRATT, Westfield, Mass., assignee by mesne assignments of GAMALIEL KING.—(Division 1.) *Covering Whips.*—Patented June 8, 1867, No. 65,917; reissued May 12, 1868.

Claim.—1. A water-proof coating, consisting of the combined ingredients herein shown and described.

2. The application of the dissolved caoutchouc, with or without the lead and oil, to a whip, substantially as and for the purpose shown.

2,926.—CHARLES C. PRATT, Westfield, Mass., assignee by mesne assignments of GAMALIEL KING.—(Division 2.) *Covering Whips.*—Patented June 18, 1867, No. 65,917; reissued May 12, 1868.

Claim.—1. The covering of the body of a whip with an inner braiding, *d*, substantially as shown and described.

2. The combination of the inner and outer braidings *d f* with the varnish or coatings *c e*, all applied in the construction of a whip, substantially as shown and described.

2,927.—EMANUEL ANDREWS, Williamsport, Pa., assignee of ROBERT G. PINE.—*Machine for Polishing Buckles.*—Patented April 8, 1856, No. 14,633; reissued May 12, 1868.

Claim.—1. The combination of the following instrumentalities, viz: The revolving polishing wheel, holder for the article, shaft for said holder, and springs to bear the article against the revolving wheel with a yielding pressure, substantially as before set forth.

2. The combination of the following instrumentalities, viz: The revolving polishing wheel, holder for the article, shaft for the holder, springs to exert a yielding pressure, and guides to limit the movement of the article under the yielding pressure, substantially as before set forth.

3. The combination of the following instrumentalities, viz: The revolving polishing wheel, holder for the article, shaft for the holder, springs to exert a yielding pressure, and traversing mechanism, to move the article transversely to the rim of the wheel, substantially as before set forth.

4. The combination of the following instrumentalities, viz: The revolving polishing wheel, holder for the article, guide to limit the movement of the article toward the polishing wheel, and pattern for the article, substantially as before set forth.

5. The combination of the following instrumentalities, viz: The revolving polishing wheel, holder for the article, shaft for the holder, guide to limit the movement of the article toward the polishing wheel, and pattern for the article, substantially as before set forth.

6. The combination of the following instrumentalities, viz: The revolving polishing wheel, holder for the article, shaft for the holder, springs, guide, and pattern, substantially as before set forth.

7. The combination of the following instrumentalities, viz: The revolving polishing wheel, holder for the article, shaft for the holder, springs to exert a yielding pressure, traversing mechanism, and guide to limit the movement of the article toward the polishing wheel, substantially as before set forth.

2,928.—ROBERT W. ANDREWS, Stafford, Conn.—*Operating the Treadles of Looms.*—Patented January 18, 1853; extended 7 years; reissued May 12, 1868.

Claim.—1. The combination, in a loom, of the harness frames and cords with the treadles and treadle cams, constructed and operating substantially as described.

2. The treadles and the movers or cams, combined, constructed, and arranged so that by reversal of the cams upon the shaft, a reversal of the movements and retentions of the harness frames is produced, substantially as herein set forth.

3. In a cam loom having upright treadles or harness levers strung to the harness leaves or frames, and actuated by a single set of cam wheels, the arrangement of the fulcrum shaft of the harness levers directly over or within the vertical plane of the cam wheels, substantially as described.

2,929.—FRANCES L. BARNES, New York, N. Y. administratrix of the estate of SAMUEL H. BARNES, deceased.—*Corset Spring.*—Patented July 17, 1866, No. 56,345; reissued May 12, 1868, *Claim.*—A corset spring, consisting of the parts B, provided with pins *b* and slotted springs B², riveted as shown, and having suitable clasps C, and headed rivets D, and of form corresponding to the body of the wearer, constructed and operating in the manner and for the purpose herein represented and described.

2,930.—HENRY E. WOODBURY, Washington, D. C.—*Paper File.*—Patented August 8, 1854, No. 11,504; reissued May 12, 1868.

Claim.—The box or compartment document file, consisting of a box part A, and spring platen or holder B, the said holder being hung or attached to a spring or springs C, at its back, so as to give a flexible or yielding character to the platen, all constructed and operating substantially as herein described.

2,931.—JACOB V. A. WEMPLE, Quincy, Mich.—*Harvester.*—Patented April 19, 1859, No. 23,730; reissued May 12, 1868.

Claim.—1. A separating rod or finger W, automatically interposed, for separating the falling grain from that which is being discharged from the platform.

2. The rod or finger W, pivoted piece C, and standard E, in combination with the rod B, constructed and operating substantially as specified.

3. A movable separating rod or finger, for separating the falling grain from the completed gavel on the platform, in combination with a single supporting standard or post, located at the inner end, or inner front corner of said platform, substantially as described.

2,932.—OSCAR N. BARTHOLOMEW and J. S. THURSTON, Elmira, N. Y., assignees by mesne assignments of OSCAR N. BARTHOLOMEW.—*Roofing Compound.*—Patented October 8, 1867, No, 79,612; reissued May 19, 1868.

Claim.—A composition of matter compounded from the ingredients named, and in the manner substantially as and for the purpose set forth.

2,933.—JOHN JAMES BODMER, Newport, England.—*Preparing Cement from Slags.*—Patented November 5, 1867, No. 70,510; reissued May 19, 1868.

Claim.—1. The rolling, laminating, grinding, and otherwise reducing or converting to scale or sheets, or to a lamellated or to a pulverulent state or condition, the cinder, slag, or scoria obtained from blast furnaces, copper-smelting and other furnaces, in a fluid or semifluid or pasty or viscous condition, in the manner and for the purposes substantially as described, and for other purposes.

2. The rolling, laminating, grinding, and otherwise reducing or converting to scale, or to a lamellated or to a pulverulent condition, of various descriptions of cement, and of materials from which cements are to be produced, substantially as described.

3. The application of slag, cinder, or scoria, whether artificially prepared for the purpose, or as obtained from blast furnaces or other furnaces, in the manufacture of cement, and the several modes or processes employed in the preparation of cements, substantially as described.

4. The manufacture of artificial stone from the above-described cements, either by themselves, or with the admixture of coarsely-ground materials, such as furnace slags, scoria, any descriptions of hard stones, or of shingle, sand, or other materials of a similar nature.

2,934.—W. D. GUSEMAN, Morgantown, W. Va.—*Fireplace.*—Patented June 30, 1863, No. 39,043; reissued May 19, 1868.

Claim.—1. The curved sliding blower E, in combination with the curved plate D and grate B, arranged to project in front of the chimney, as herein described, for the purpose specified.

2. The damper, in combination with the flue, sliding blower, or screen and grate, all arranged substantially in the manner as and for the purpose set forth.

2,935.—EDWARD HEATON, New Haven, Conn.—*Metallic Shank for Boots and Shoe.*—Patented February 23, 1864, No. 41,701; reissued May 19, 1868.

Claim.—1. A boot or shoe shank, composed of two strips, of different elasticities, the one being of a flexible but not necessarily elastic material, and the other of an elastic material, united, substantially as and for the purposes herein shown and described.

2. The combination of a tempered and an untempered spring, in the manner and for the purposes herein shown and set forth.

3. The combination, with a boot and shoe shank, of otherwise ordinary or suitable construction and material, of a spring united with the said shank, so as to bear upon the same at both ends thereof, substantially in the manner herein shown and specified.

2,936.—THOMAS C. RICHARDS, New York, N. Y.—*Attaching Ornamental Heads to Nails and Screws.*—Patented December 31, 1867, No. 72,905; reissued May 19, 1868.

Claim.—The attaching of ornamental heads to nails and screws by means of a clasping recess or groove formed on or attached to the inner side of the ornamental head, so as to admit the lateral or transverse insertion of the head proper of the nail or screw, substantially as shown and described.

2,937.—C. M. TITUS, Ithaca, N. Y., assignee by mesne assignments of E. L. BERGSTRESSER, Hublersburg, Pa.—*Horse Rake.*—Patented August 26, 1862, No. 36,268; reissued May 19, 1868.

Claim.—1. A lifting or pressure-bar, provided with hanging loops or staples, by means of which the rake teeth are lifted to discharge their load.

2. The pendent loops or staples, in combination with the rake teeth and lifting bar, all arranged as described.

3. The lifting or pressure bar, provided with lifting loops or staples, in combination with a lever connected therewith for operating the same, as described.

2,938.—A. B. WOODARD, Alfred Centre, N. Y., assignor to himself and THOMAS ELLIS, same place.—*Vulcanizing Flask.*—Patented January 16, 1866, No. 52,107; reissued May 19, 1868.

Claim.—1. Closing the flask A, within the vulcanizing vessel, by the pressure of steam, substantially as herein shown and described, so that while the rubber is gradually heated, the flask is gradually and automatically closed, and the rubber molded when in its most plastic state.

2. Applying steam pressure to close the flask A, within the vulcanizing vessel, by means of a piston.

3. Forming segmental flanges, *j*, upon the interior of the vulcanizing vessel or boiler C, and corresponding segmental flanges *k*, upon the exterior of the upper part or cover *b* of the flask A, substantially as herein shown and described, for the purpose of locking the said flask in and to the said vessel.

4. The segmental connections *e*, of the receiver B, in combination with the flattened sides of the flask A, and with the piston *f*, substantially as herein shown and described, and for the purpose set forth.

5. The combination of the annular plate *g* and ring packing *i* with the piston *f* and boiler or vulcanizing vessel C, substantially as herein shown and described, and for the purpose set forth.

2,939.—GEORGE W. GREGORY, Watertown, N. Y.—*Pulley Attachment for Raising.*—Patented August 14, 1866, No. 57,125; antedated February 14, 1866; reissued October 22, 1867, No. 2,784; and again reissued May 19, 1868,

Claim.—1. An adjustable pulley support, having one or more sockets, or their equivalents, by and through which the pulley support may be operated and changed from place to place, substantially as described.

2. An adjustable pulley support, provided with sockets or equivalents, and with means for supporting the pulley, substantially as described.

3. The combination of an adjusting pole with a pulley support, having sockets or equivalents, substantially as and for the purpose set forth.

2,940.—ROBERT O. LOWREY, Salem, N. Y.—*Composition for the Manufacture of Water-proof Paper and Other Articles.*—Patented December 10, 1867, No. 81,893; reissued May 19, 1868.

Claim.—1. The use of salt, in combination with any of the salts of alumina, or similar astringent material, for rendering a gelatinous compound or mixture insoluble in water, substantially as described.

2. The use of salt, in combination with the salts of alumina, or similar astringent material, for rendering soapy compounds or mixtures insoluble in water, substantially as and for the purposes set forth.

3. The use of alum or any of the salts of alumina, for rendering a soapy compound insoluble in water, when said soapy compound has been previously incorporated with paper pulp or fiber, substantially as described.

4. The use of glycerine, in combination with a gelatinous or a soapy compound, when applied to fibrous materials, substantially as set forth.

5. The new compound or composition of matter produced by the treatment of fibrous material, substantially as herein described.

6. The process herein described of treating fibrous material, for producing a new compound, substantially as described.

2,941.—Darius Skidmore, Seneca Falls, N. Y.—*Attaching Door Knobs to Spindles.*—Patented July 15, 1862, No. 35,899; reissued February 5, 1867, No. 2,473, and again reissued May 19, 1868.

Claim.—Covering or inclosing the end of the coupling device of the knob shank and spindle wholly or partially by the socket or sleeve of the rose, substantially as and for the purpose herein specified.

2,942.—Eliza Wells, Brooklyn, N. Y., administratrix of the estate of Henry A. Wells, deceased. —*Machinery for Making Hat Bodies.*—Patented April 25, 1846, No. 4,472; reissued September 30, 1856, No. 396; extended seven years; again reissued December 4, 1860, No. 1,087; again extended seven years by act of Congress, and again reissued May 19, 1868.

Claim.—1. The combination of the rotating brush or picker, substantially such as described, the rotating pervious cone, provided with an exhausting mechanism, substantially as described, and the bottom plate or guide, substantially as described, for directing the fur fibers toward the lower part of the cone, and preventing the fibers going to waste, the said combination having the mode of operation specified, and for the purpose set forth.

2. The combination of the feed apron, the rotating brush or picker, substantially as described, the rotating pervious cone, provided with an exhausting mechanism, substantially as described, and the guide or deflector, for directing the fur fibers on to the tip and upper part of the cone, substantially as described, the said combination having the mode of operation specified, and for the purpose set forth.

3. The combination of the rotating brush or picker, substantially as described, the rotating pervious cone, provided with an exhausting mechanism, substantially as described, and the side guides, or either of them, substantially as described, to prevent fur fibers from getting out of the proper influence of the currents traveling to the cone, and to protect the traveling fibers from disturbing currents, the said combination having the mode of operation specified, and for the purposes set forth.

4. The combination of the feeding apron, on which the fur can be placed in separate batches, as described, the rotating brush or picker, substantially as described, the rotating pervious cone or former, provided with an exhausting mechanism, substantially as described, the said combination having a mode of operation substantially such as described.

5. The combination of the feed apron, on which the fur fibers can be placed in separate batches, each in quantity sufficient to make one hat body, the rotating brush or picker, substantially as described, the rotating pervious cone, provided with an exhausting mechanism, and the devices for guiding the fur fibers, substantially as described, the combination having the mode of operation specified, and for the purpose set forth.

6. In combination with the pervious cone, provided with an exhausting mechanism, substantially as described, the covering cloth, wet with hot water, substantially as and for the purpose specified.

2,943.—Herman Bendix, New York, N. Y., assignee of Herman Bendix and J. H. Fleisch, same place.—*Neck Tie.*—Patented March 13, 1866, No. 53,102; reissued May 26, 1868.

Claim.—A fastening device for neck ties, consisting of a hook, *a*, elastically secured to its holder or retainer, substantially as described.

2,944.—La Fayette Louis, Providence, R. I.—*Melodeon.*—Patented November 18, 1856, No. 16,094; reissued February 26, 1867, No. 2,498; again reissued May 26, 1868.

Claim.—1. In combination with the reeds of a melodeon, (for that class of instruments in which the air is drawn through the reeds by the exhaust action of a bellows,) a tremolo valve or valves, so arranged that, when vibrated, it or they shall interrupt the passage of air through the reeds, and thereby produce the tremolo sound, at the will of the performer.

2. In combination with the reeds of a melodeon, a tremolo valve, actuated by a rotary fan or blade wheel, substantially as described.

3. In combination with the reeds of a melodeon, a tremolo valve or valves, having a positive connection with the valve-actuating mechanism, substantially as described.

2,945.—Robert Ramsey, New Wilmington, Pa.—*Fence Post.*—Patented December 10, 1867, No. 72,086; reissued May 26, 1868.

Claim.—1. The compensating features of the posts, whether effected by the formation of the gains or by keys, substantially as and for the purpose set forth.

2. The combination of posts P P′ P″, when provided with square or dovetail gains, with sills A A′, and keys *e e e e*, substantially as and for the purpose specified.

2,946.—E. Wooster and Co., and F. Hull and Co., Birmingham, Conn., assignees of John R. Latin.—*Skirt Hoop.*—Patented April 30, 1867, No. 64,231; reissued May 26, 1868.

Claim.—The bottom hoop for hoop-skirts, formed by combining one or more springs in a single cover, the upper edge of which is formed as described, so as to be secured to the tapes of a skirt, as and for the purpose set forth.

2,947.—L. F. Robertson, West Farms, N. Y. —*Compound for Treating Hides and Skins.*—Patented April 21, 1868, No. 77,099; reissued May 26, 1868.

Claim.—A compound for treating hides and skins, made of the materials herein described.

2,948.—Charles H. Sawyer, Buxton, Me.—*Steering Apparatus.*—Patented March 31, 1868, No. 76,105; reissued May 26, 1868.

Claim.—The apparatus as herein described, having the wheel shaft B, with its right-and-left screw *d*, the two small double gears *a b*, and larger gear D, with the teeth on the inner periphery thereof, substantially as and for the described purposes.

2,949.—William Shoup, Saltsburg, Pa.—*Pump.*—Patented December 27, 1864, No. 45,647; reissued May 26, 1868.

Claim.—1. The combination, with the pump tube A, of the outer tube C and seed bag F, placed around outside of it, irrespective of the gate or valve D, substantially as and for the purpose hereinbefore described.

2. The gate or valve D, in combination with the tube C and pump tube A, arranged as described, for the purpose set forth.

2,950.—William Heath, Bath, Me.—*Invalid Bedstead.*—Patented March 10, 1868, No. 75,365; reissued May 26, 1868.

Claim.—1. The combination of the recesses K K, L L, or their equivalents, with the frame A, the two frames D E, and mechanism for moving and depressing or operating the back frame E, substantially in manner as described.

2. The combination of the folding legs M M with the arms *h h*, or their equivalent, the toothed sectors,

their arms *f f*, the frame A, and the parts B C D E, arranged and connected substantially as described.

2,951.—SAMUEL JOHNSTON, Buffalo, N. Y., assignee by mesne assignments of himself.—*Combined Rake and Reel for Harvester.*—Patented February 7, 1865, No. 46.300; reissued May 26, 1868.

Claim.—1. In combination with a series of revolving arms carrying heads or rakes, which all gather the grain, and a part only of which discharge the grain, so constructing and arranging a cam way as to cause all the heads or beaters to descend to the same gathering level in front of the cutters, and then to elevate those which do not discharge above the cut grain on the platform, and above the level pursued by the discharging head or rake.

2. In combination with a series of revolving arms carrying heads or rakes which all gather the grain, and a part only of which discharge the grain, a cam so arranged as to cause all the heads or beaters to descend to the same gathering level in front of the cutters, and a device for throwing those heads, or the teeth thereof, which do not discharge, above the cut grain while passing the platform, and above the level pursued by the heads, or the teeth thereof, which so discharge the grain.

3. In combination with a series of revolving arms carrying heads or rakes which all gather the grain, and a part only of which discharge the grain, and a cam so arranged as to cause all the heads or beaters to descend to the same gathering level in front of the cutters, and then to rise above the cut grain on the platform, and the level pursued by the discharging head, making said cam, or a part thereof, movable, so as to permit any one of said rakes or heads to descend while passing the platform, and become a discharging rake or head.

4. In combination with a series of revolving arms carrying heads or rakes which all gather the grain, and a part only of which discharge the grain, a cam so arranged as to cause all the heads or beaters to descend to the same gathering level in front of the cutters, and a device for throwing those heads, or the teeth thereof, which do not discharge, above the cut grain while passing the platform, and above the level pursued by the heads, or the teeth thereof, which do discharge the grain. making the said last-mentioned device movable, so as to permit any one or more of said heads, or the teeth thereof, to descend to the level of the platform and discharge the grain.

5. In combination with the movable device set forth in the last claim, a cord, or equivalent connection, extending to the driver's seat for operating the said device, so as to regulate the size of the gavel at the will of the driver.

6. In combination with a series of revolving arms carrying heads or rakes which all gather the grain, and a part only of which discharge the grain, and a cam way so constructed and arranged as to cause all the heads or beaters to descend to the same gathering level in front of the cutter, and then to elevate those which do not discharge above the cut grain on the platform, and above the level pursued by the discharging head or rake, an auxiliary cam way for guiding and controlling the arm of the rake or head which discharges the grain while said arm is passing the platform.

7. In combination with a series of revolving arms carrying heads or rakes which all gather the grain, and a part only of which discharge the grain, and a cam so arranged as to cause all the heads or beaters to descend to the same gathering level in front of the cutters, and a device for throwing those heads, or the teeth thereof, which do not discharge, above the cut grain while passing the platform, and above the level pursued by the heads, or the teeth thereof, which so discharge the grain, an auxiliary cam way opposite to the platform for guiding and controlling the arm of the rake or head, which also discharges the grain.

8. The overhanging extension attachment to the heads or beaters, in combination with the outer divider and rim of the platform.

9. The combination of the elbow of the rake arm with the roller and the outer and inner tracks or ways, constructed substantially as described and for the purposes set forth.

2,952.—ISAAC REHN, Philadelphia, Pa.—*Model of Printing Photographic Pictures.*—Patented April 14, 1868, No. 76,660; reissued May 26, 1868.

Claim.—The combination of the silver, the albumen, and the salt, with a pigmentary substance, to give increased sensitiveness and consistency to the photographic compound, substantially as described.

2,953.—O. F. STEDMAN, Ravenna, Ohio.—*Watch.*—Patented January 28, 1868, No. 73,937; reissued May 26, 1868.

Claim.—The ring or band C, beveled or made thin at one edge or side, said band being made narrower than the movement, and wide enough to cover the space between the plates *a* and *b*, substantially as and for the purposes herein set forth.

2,954.—THE GOULD MACHINE COMPANY, Newark, N. J., assignees by mesne assignments of JOHN N. DENNISSON, same place.—*Fire Engine.*—Patented February 7, 1865, No. 46,219; reissued May 26, 1868.

Claim.—1. A force pump, which may be adapted to throw a larger or smaller quantity of water at each stroke, by varying the effective area of its piston surface, by means substantially as herein set forth.

2. A force pump, provided with one or more ports or passages, the opening of which will relieve a part of the piston surface from labor or pressure on the water, so that the whole power of the motor can be applied to the water delivered from the pump by the operative part of the piston, substantially as described.

3. Increasing or diminishing the effective area of the pump or pumps by means of a valve placed in the partition between them, so that the quantity of water discharged at a stroke can be increased or diminished at pleasure, without altering the speed or stroke, substantially as described.

2,955.—THE WEST HAVEN BUCKLE COMPANY, West Haven, assignees of SHELDEN S. HARTSHORN, Orange, Conn.—*Buckle.*—Patented November 7 1854, No. 11,892; reissued May 26, 1868.

Claim.—1. A buckle, in which the tongues are formed from a single piece of metal, and constructed so as to clasp the divided side, and turn freely thereon, substantially in the manner herein set forth.

2. The combination of the two parts or loops, one side of one of which is divided, and the two parts or loops hinged together, as described, and the tongue clasped and hinged upon the divided side substantially as set forth.

2,956.—JAMES M. BENT, Wayland, Mass.—*Machine for Punching Leather.*—Patented October 16, 1866, No. 58,762; reissued June 2, 1868.

Claim.—1. The combination of a die with a punch, substantially as and for the purposes described.

2. The punch and die, when made to revolve in combination, substantially as described.

3. The mechanically-revolving punch, substantially as described.

4. In combination with a cutting punch, a clearing pin, substantially as described.

5. So constructing the parts as to cause the die to adapt itself to different or varying thicknesses of leather, substantially as described.

6. The combination of a hollow cutting punch with a perforated punching table and clearing pin, substantially as described.

2,957.—COLBY BROTHERS AND COMPANY, Waterbury, Vt., assignees, by mesne assignments of HARVEY MURCH.—*Mop Head.* (Division A.)—Patented June 14, 1853, No. 9,781; extended seven years; reissued June 2, 1868.

Claim.—1. The combination of a socketed cross-head with a binder, having the two ends thereof united directly to each other, the combination being substantially such as described.

2. The combination of a socketed cross-head with a binder, having the two ends thereof united directly to or with each other, and a single fastening for holding the whole binder directly to the handle itself, in such position as to clamp rags, &c., the combination being substantially as described.

3. The combination of a socketed cross-head with

a handle and a binder, having the two ends thereof united to or with the handle itself, the combination being substantially such as described.

4. The combination of a cross-head with a handle and a binder, having the two ends thereof united directly together, and secured in clamping position on the handle proper, so as to sustain or aid in sustaining the cross-head, the combination being substantially such as set forth.

2,958.—Colby Brothers and Company, Waterbury, Vt., assignees by mesne assignments of Harvey Murch.—*Mop Head.* (Divison B.)—Patented June 14, 1853, No. 9,781, extended seven years; reissued June 2, 1868.

Claim.—1. The combination with a cross-head and binder of a ratchet fastening, the combination being substantially as described.

2, The combination of a ratchet fastening, handle, binder, and cross-head, the combination being substantially such as set forth.

2,959.—William N. Ely, Stratford, Conn., assignee by mesne assignments of Luther Hall.—*Eyeleting Machine.* (Division A.)—Patented May 14, 1867, No. 66,761; reissued June 2, 1868.

Claim.—1. A movable head or carrier, in combination with the punch and set, or either of them, constructed, arranged, and operating substantially as described.

2. A head or carrier, so constructed and operated as to allow the punch and set to be alternately depressed by the same lever, substantially as described.

3. So constructing the mechanism that the punching table and setting bed shall reciprocate laterally, and alternately occupy the same place, substantially as and for the purposes described.

4. The reciprocating punching table, in combination with a stationary work-supporting table, when constructed, arranged, and operated as described, so as to be moved to and from the punch, and under the material, substantially as set forth.

5. The striking lever, so constructed and arranged as to cause the set to pick up the eyelet while the punch is making the hole for its reception, substantially as described.

6. The setting die, so constructed and operating as to pick up the eyelets from the chute, and present them to the place of insertion, substantially as described.

7. The reciprocating setting bed, constructed, arranged, and operating automatically, substantially as described.

8. Feeding the material forward by means of the setting bed or holding point, substantially as described.

2,960.—William N. Ely, Stratford, Conn., assignee by mesne assignments of Luther Hall.—*Eyeleting Machine.* (Division B.)—Patented May 14, 1867, No. 64,761; reissued June 2, 1868.

Claim.—1. A feeding instrument, which engages with the work feeds forward, disengages, retracts, and engages again, in combination with a punch, or set, or both, substantially as described.

2. A presser foot, for holding the work to the table, in combination with a punch, or set, or both, substantially as described.

3. The spring presser foot, in combination with the feeding mechanism, arranged and operating with an eyeleting mechanism, substantially as described.

4. An adjustable work-feeding mechanism, in combination with the mechanism for punching and eyeleting, substantially as described.

5. Punching the holes, supplying, inserting, and setting the eyelets, adjustably spacing the distances, holding and feeding forward the work, by means of devices so combined as to effect this object automatically, substantially as described.

2,961.—William N. Ely, Stratford, Conn., assignee by mesne assignments of Luther Hall.—*Eyeleting Machine.* (Division C.)—Patented May 14, 1867, No. 64,761; reissued June 2, 1868.

Claim.—1. A hopper for holding the eyelets, in combination with agitating devices, substantially as described, and a chute, provided with an enlarged receptacle or dish at its lower end, substantially as and for the purposes set forth.

2. A hopper and chute, constructed and arranged substantially as described, so that the eyelets shall be delivered from the hopper flaring end down, and presented to the set flaring end up, substantially set forth.

3. A hopper and chute, arranged substantially as set forth, in combination with a set and work-feeding device, substantially as described.

2,962.—William N. Ely, Stratford, Conn., assignee by mesne assignments of Luther Hall.—*Eyeleting Machine.* (Division D.)—Patented May 14, 1868, No. 64,761; reissued June 2, 1868.

Claim.—1. The combination of movable carrier D with both punch E and set F, or either of them with lever K, constructed, arranged, and operating substantially as described.

2. The combination of movable carrier D, with both punch E and set F, or either of them, lever K, and cam L, constructed, arranged, and operating substantially as described.

3. The combination of movable carrier D, set F, and setting bed S, substantially as described.

4. The combination of movable carrier D, punch E, and sliding plate Q, substantially as described.

5. The combination of movable carrier D, punch E, set F, sliding plate Q, and bed S, substantially as described.

6. The movable carrier D, constructed, arranged, and operated substantially as described.

7. The combination of levers V and T and pin S, substantially as and for the purposes described.

8. The combination of plates Q and R, arranged and operated substantially as described.

9. The combination of levers V and T, pin S, and screw *w*, substantially as and for the purpose described.

10. The combination of lever T, block U, lever V, and eccentric wheel X, constructed, arranged, and operating substantially as described.

11. The combination of hopper B′, chute A′, dish *h*′, and set F, substantially as described.

12. The combination of presser foot N, spring O, with both punch E and set F, or either of them, and table A, substantially as described.

2,963.—Joshua Gibbs, Canton, Ohio.—*Machine for Grinding Plough Castings.*—Patented October 4, 1863, No. 10,068; extended seven years; reissued June 2, 1868.

Claim.—1. A frame or carriage, beneath a grindstone or polishing wheel, supported at one end by any suitable device, and at the other by the hands of the operator; said frame being capable of a lateral, longitudinal and oscillating adjustment during the process of grinding, for the purpose of adapting the stone to uneven, irregular, or plane surfaces of articles to be ground or polished, as herein set forth.

2. In combination with a carriage, supported and operated as above described, beneath a grindstone or polishing wheel, a cord or rope, or its equivalent, for relieving a portion of the weight of the frame in the hands of the operator, as is herein set forth.

2,964.—Barton H. Jenks, Bridesburg, assignee of Mathew Senior, Frankford, Pa.—*Lubricating Device.*—Patented March 17, 1868, No. 75,524; reissued June 2, 1868.

Claim.—1. Lubricating a shaft which is required to receive endwise motion, also motion about its axis, by means substantially as described.

2. The device for lubricating the feathered shaft C D from each side of the feather, through holes in the tubular journal B, and the hole *f* in the hollow cap *g*, as herein described.

3. The combination of the lubricating device with a shaft which moves longitudinally independent of its sleeve, and turns with said sleeve, substantially as described.

2,965.—Francis A. Mack, Niles, Mich.—*Well Tube.*—Patented September 11, 1866, No. 57,935; reissued June 2, 1868.

Claim.—A well tube, in which the openings or incisions *e e* are cut or formed from the inside, so as to leave a diminishing external protection from the inside, in the manner and for the purpose substantially as specified.

2,966.—FREDERICK MEYER, Newark, N. J.—*Machine for Grinding Scale Pivots.*—Patented May 14, 1867, No. 64,686.; reissued June 2, 1868.

Claim.—1. The combination of the two adjustable revolving grinding wheels G, with the reciprocating carriage E, provided with the head blocks *i*, notched rests *p*, and clamping device M, for holding the scale beam, arranged substantially as described, whereby the knife edges or pivots of scale beams are ground to great accuracy of adjustment, as set forth.

2. The construction and arrangement of the longitudinally-sliding carriage C, reciprocating carriage D, and carriage E, as herein set forth for the purpose specified.

3. Adjusting the scale pivots to be ground upon both sides, by means of the set screws or pins *k l*, secured to the arm *i* of the sliding carriage E, and bar H upon the frame A, substantially as herein set forth.

2,967.—TURNER, SEYMOUR & JUDDS, Wolcottville, Conn., assignees of FREDERICK J. SEYMOUR, same place.—*Mode of Attaching Ornamental Heads to Nails.*—Patented June 26, 1866, No. 55,917; reissued June 2, 1868.

Claim.—An ornamental picture nail head, made with a sheet-metal body or back, having within it a screw thread for the nail, substantially as specified.

2,968.—ALFRED B. ELY, (trustee,) Newton, Mass., assignee of L. R. STREETER.—*Plate for Artificial Teeth.*—Patented December 17, 1867, No. 72,428; reissued June 9, 1868.

Claim.—1. The use of hard resins or resinous bodies mixed with fibrous or textile materials, and shaped by means of heat and pressure, substantially as described.

2. The use of thin plates of metal, horn, shell, gutta percha, wood, or such other suitable material capable of being properly shaped, between or in combination with layers of the resinous and fibrous compounds, as and for the purposes substantially as described,

3. As a base for artificial teeth or gums, &c., the use of fiber or fibrous material, chemically or mechanically treated or prepared, and saturated or mixed with lac or other suitable substances, which, when heated and pressed, or pressed and heated, will assume the proper shape, and possess or acquire the proper hardness and elasticity, substantially as described.

2,969.—ALFRED B. ELY, Newton, Mass.—*Heel Stiffener.*—Patented December 31, 1867, No. 72,727; reissued June 9, 1868.

Claim.—1. The use of resinous bodies combined with fibrous materials, substantially as described.

2. A heel stiffener, made of the above described substances, and formed into shape by means of pressure, with or without heat, substantially as described.

3. A heel stiffener made of felted or woven fabric, saturated with resinous or other gums or analogous substances, which, when properly heated and pressed in molds, will assume the proper shape, and acquire or possess the proper hardness and elasticity, substantially as described.

2,970.—ROBERT GRANT, Brooklyn, N. Y.—*Charging Water with Carbonic Acid.*—Patented January 28, 1868, No. 73,712; antedated January 17, 1868; reissued June 9, 1868.

Claim.—1. The charging of water or other liquid with carbonic acid gas by the use, in combination, of two vessels, one containing the water or other liquid to be charged with carbonic acid gas, and the other containing carbonic acid gas, at a pressure greater than that of the atmosphere, the gas-holding vessel being separated from and not connected with the apparatus, by means of which the gas was generated or compressed.

2. The combination, with two vessels, one to contain water or other liquid, the other to contain gas at a high pressure, but disconnected from the gas generator, of pipes and coupling, and suitable stop cocks, for connecting and disconnecting the said vessels, as herein described, so that the gas-holding vessel may be readily replaced by others at pleasure.

3. In apparatus, such as herein described and claimed in the preceding clause, the use of a gauge for indicating the pressure in the water vessel of the liquid charged with gas, substantially as and for the purposes set forth.

4. The combination, with an independent gas-holding vessel, of a water vessel, provided or connected with a pump or other means of supplying the same with water or other liquid, substantially as herein described.

5. The combination of the water and gas-holding vessels, as herein described, with an injector, whereby the liquid from the water vessel may be more highly charged with gas from the gas holder, substantially as set forth.

6. In combination with a gas holder, disconnected from the gas generator, a water vessel provided with means of agitating and thoroughly mixing the water and gas which it may contain, substantially as herein specified.

7. In apparatus for charging water or other liquids with gas, as herein specified, the use of a regulator, such as described, for the purpose of regulating the flow of gas and maintaining a uniform pressure in the mixing vessel, as shown and set forth.

8. The combination with the gas holder of an injector, connected with a water reservoir, as herein described, so that the water, as it flows through the injector chamber, shall be charged with gas, substantially as set forth.

2,971.—GEORGE GUENTHER, Chicago, Ill.—*Manufacture of Glue.*—Patented June 4, 1867, No. 65,377; reissued June 9, 1868.

Claim.—The mode of drying glue by revolving or rotating surfaces having their temperatures raised either by steam or hot air, substantially as described.

2,972.—GEORGE GUENTHER, Chicago, Ill.—*Article of Glue.*—Patented June 4, 1867, No. 65,377; reissued June 9, 1868.

Claim.—Scale glue, produced as herein described, as a new article of manufacture.

2,973.—P. HANNAY, Washington, D. C., and HUDSON TAYLOR, Poughkeepsie, N. Y., assignees by mesne assignments of PASCAL PLANT, Washington, D. C., assignor to HUDSON TAYLOR, trustee.—*Lamp.*—(Division A.)—Patented April 6, 1858, No. 19,896.; reissued June 9, 1868.

Claim.—1. Causing a current of air to impinge upon or commingle with the lower or blue part of the flame of a hydrocarbon lamp, through the instrumentality of a cap piece or burner, without the aid of a chimney, substantially as described.

2. A cap piece or burner, combined with and applied to a hydrocarbon lamp, for the purpose of producing combustion, without the aid of a chimney, substantially as described.

3. Making the cap piece or burner adjustable relatively to the wick and wick tube, substantially as described.

4. The combination of a flat wick tube with a cap piece or burner, and arms or frame, whereby the burner is held on the wick tube, substantially as described.

5. The combination of the burner (with devices for attaching and supporting the same) with the wick tube, substantially as described.

2,974.—P. HANNAY, Washington, D. C., and HUDSON TAYLOR, Poughkeepsie, N. Y., assignees by mesne assignments of PASCAL PLANT, Washington, D. C., assignors to HUDSON TAYLOR, trustee.—*Lamp.*—(Division B.)—Patented April 6, 1858, No. 19,896; reissued June 9, 1868.

Claim.—1. Combining a cap piece or burner, substantially as and for the purposes set forth, with the wick tube or top of a hydrocarbon lamp, so that the burner may be thrown back from the wick tube, substantially as and for the purposes described.

2. The combination of a hinged cap piece or

burner, with the means of adjusting the same relatively to the wick tube, substantially as described.

3. A hinged burner or cap piece for a hydrocarbon lamp, when constructed and arranged with reference to the wick tube, wick, or flame, and the admission of air, substantially as described.

2,975.—Henry McClure and James Ellis, Terre Haute, Ind., assignees of Henry McClure.—*Steam Boiler Furnace.*—Patented October 2, 1868, No. 58,552; reissued June 9, 1868.

Claim.—1. The arrangement of a series of steam boilers within a furnace, so that they shall lie transversely with respect to the direction of the draught, so that the products of combustion on their way to the chimney shall be directed against the sides and bottom of the boilers, substantially as described.

2. Transversely-arranged boilers, in combination with an inverted arched flue, arranged beneath the boilers, substantially as described.

3. The ash troughs N, with end openings for the removal of ashes from an inverted arched flue which is beneath steam boilers, arranged substantially as described.

4. Regulating plates O, when applied beneath the spaces between transversely-arranged steam boilers, substantially as described.

5. While not claiming broadly the introduction of air into furnaces for facilitating and rendering more complete combustion of inflammable gases, we do claim air inlet pipes *a a*, applied to the ridges of the arched flue beneath spaces left between boilers, which are arranged substantially as described.

6. Transverse or cross ducts, longitudinal draught-passage, and steam generators, substantially as and for the purpose set forth.

2,976.—James A. Park, White House, N. J.—*Door and Gate Latch.*—Patented February 12, 1867, No. 62,061; reissued June 9, 1868.

Claim.—The annular latch C, constructed substantially as described, secured upon a suitable rock shaft, B, and operated in one direction, either by means of a weighted handle upon said shaft, or by means of a spring, as and for the purpose herein specified.

2,977.—S. B. Rowley, Philadelphia, Pa., assignee, by mesne assignments, of Thomas G. Otterson, Millville, N. J.—*Fruit Jar.*—Patented November 4, 1868, No. 36,853; reissued June 9, 1868.

Claim.—The within described recess, formed on the exterior of the jar, beneath the mouth of the same, the bottom of the recess forming a continuation of the shoulder on the neck of the jar, all substantially as and for the purpose herein set forth.

2,978.—William Ryner, Philadelphia, Pa., and John C. Hopewell, Flemington, N. J., assignees of William Ryner, Philadelphia, Pa.—*Steam Drying Apparatus.*—Patented August 27, 1867, No. 68,239; reissued June 9, 1868.

Claim.—A drying kiln, in which are an upper and lower series of pipes, for the passage of superheated steam to, and the introduction of the same into, the kiln, so that the material to be dried (situated between the two sets of pipes) may be subjected to the combined action of the heat from the said pipes and that of the superheated steam, as set forth.

2,979.—The Rumford Chemical Works, Providence, R. I., assignees, by mesne assignments, of Eben Norton Horsford.—*Pulverulent Acid, for use in the Preparation of Soda Powders, Farinaceous Food, and for other Purposes.*—Patented April 22, 1856, No. 14,722; reissued May 7, 1867, No. 2,597; and again reissued June 9, 1868.

Claim.—1. As a new manufacture, the above described pulverulent phosphoric acid.

2. The manufacture of the above described pulverulent phosphoric acid, so that it may be applied in the manner and for the purposes above described.

3. The mixing, in the preparation of farinaceous food, with flour, of a powder or powders, such as described, consisting of ingredients of which phosphoric acid or acid phosphates and alkaline carbonates are the active agents, for the purpose of liberating carbonic acid, as described, when subjected to moisture or heat, or both.

4. The use of phosphoric acid or acid phosphates, when employed with alkaline carbonates, as a substitute for ferment or leaven in the preparation of farinaceous food.

2,980.—Samuel Vansyckel, Titusville, Pa.—*Grate Bar.*—Patented October 31, 1864, No. 11,879; reissued June 9, 1868.

Claim.—Constructing grate bars with pins or projections on one of the sides of the bar, and with corresponding mortises or recesses in the other side, whereby the bars can be interlocked and held together, and made self-sustaining throughout their entire length, substantially as described and specified.

2,981.—Julia M. Colburn, Baltimore, Md., administratrix of the estate of James Stimpson, deceased.—*Vessel for Holding Liquids.*—Patented October 17, 1854, No. 11,891; antedated April 17, 1854; extended seven years; reissued June 9, 1868.

Claim.—1. A pitcher for preserving ice water cool, combined with double walls, inclosing between them air or equivalent non-conducting material, so arranged as not to impair the portability of the pitcher and its capability of discharging its contents by pouring nor its capacity for holding water.

2. In combination with a double-wall ice pitcher, a nose, lip, or spout, through which the water is discharged, and a movable cover across the discharge-way, which prevents access of air into the pitcher thereat, except during the act of pouring.

2,982.—Owen Dorsey, Newark, Ohio.—*Harvester Rake.*—Patented March 4, 1856, No. 14,350; reissued October 23, 1860, No. 1,067; and again reissued June 9, 1868.

Claim.—1. A continuously revolving rake, attached by a pivotal connection to the shaft on which it revolves, so as to allow it to describe the proper path to gather or discharge the grain, and to clear the frame.

2. The combination of a platform, a vibrating cutter, and a continuously revolving gathering and discharging rake, so arranged as to enter the uncut grain in front of the cutter, and to discharge the cut grain in the arc of a circle.

3. A continuously-revolving gathering and discharging rake, which enters the uncut grain in front of the cutters, and discharges the cut grain in the arc of a circle, in combination with one or more intermediate revolving gathering heads or beaters.

4. The combination of a continuously revolving gathering and discharging rake, which discharges the grain in the arc of a circle, and the camway or guide for regulating the course of the rake.

5. The combination of a continuously-revolving rake, which discharges the grain in the arc of a circle, with a platform, having a fender conformed substantially to the path described by the outer end of the revolving rake in passing over the same, substantially as described.

6. The combination of a continuously-revolving gathering and discharging rake, which discharges the grain in the arc of a circle, with a vibrating cutter.

7. The combination of a continuously revolving gathering and discharging rake, a camway or guide, and friction rollers, attached to the arms of said revolving rake.

2,983.—Sydney C. Long and F. Schumacher, Baltimore, Md., and Jackson Warner, Cincinnati, Ohio, assignees, by mesne assignments, of B. A. Lavender and Kate Lowe, administratrix of the estate of H. Lowe, deceased.—*Obtaining Cane-Fiber from Cane.*—Patented April 4, 1854, No. 10,722; extended seven years; reissued June 9, 1868.

Claim.—1. Obtaining the fiber from the cane or reed, (*Arundinaria Macrosperma* of Michaux,) for the purpose specified.

2. Cane cotton or hemp, as a new article of commerce and manufacture, for the purpose specified.

3. Breaking down woody fiber of cane and other like plants, and dissolving the gummy and other foreign matters therefrom by means of muriatic or sulphuric acid of the strength of 10° Baumé, or

thereabout, preparatory to making hemp or cotton for bagging, rope, paper pulp, &c., in the manner substantially as set forth.

2,984.—James M. Beebe, Casadaga, N. Y.—*Beehive.*—Patented November 12, 1867, No. 70,782; reissued June 16, 1868.

Claim.—1. The combination and arrangement of the outer case, A A′, ventilating board H, inner hive, and packing material J, substantially as and for the purpose set forth.

2. Securing the said comb frames together by means of a wire bail, *b*, and wedge *e*, in the manner shown and described.

2,985.—Helmuth Duesberg, New York, N. Y.—*Brick Machine.*—Patented November 26, 1867, No. 71,466; reissued June 16, 1868.

Claim.—1. The channel F F′, extending in opposite directions from the tapering spout E, and carrying the compressed clay to the reciprocating table H, substantially as and for the purpose set forth.

2. The feeder or pusher K, in combination with the forming dies F F′ and molds I I′, substantially as and for the purpose set forth.

3. The rocking lever M, carrying the followers L L′, and operating in combination with the reciprocating table H, molds I I′, and press boxes G G′, substantially as and for the purpose described.

4. The recesses *h* in the press boxes G G′, to allow the surplus clay to escape, as set forth.

5. The pieces of flannel, or other absorbent material, supplied with oil from cups *m*, in combination with the reciprocating table H, molds I I′, and followers L L′, constructed and operating substantially as and for the purpose described.

2,986.—Jonathan Haines, Pekin, Ill., assignee, by mesne assignments, of himself.—*Grass Harvester.* (Division D.)—Patented September 4, 1855, No. 13,523; reissued April 13, 1858, No. 545; reissued June 16, 1868.

Claim.—1. The two longitudinal ways or rails *o o*, located between the two driving and supporting wheels, for the purpose of supporting the driver's seat, substantially as set forth.

2. The use of an adjustable seat for the driver, when said seat is mounted upon two longitudinal rails or ways, or their equivalents, located between two driving and supporting wheels of a jointed finger-beam machine, so that the driver can, at pleasure, shift his seat backward or forward, to enable his weight to balance the machine, substantially as set forth.

2,987.—Samuel Harris and Daniel A. Harris, Shippensburg, Pa.—*Horse Hay Fork.*—Patented April 23, 1867, No. 64,100; reissued June 16, 1868.

Claim.—1. The combination, substantially as set forth, in a horse hay-fork, of a slotted main bar or shank, A, a lifting finger, C, pivoted centrally in the slot of the shank, and a link rod, D, connecting the finger with a forked lever, E, pivoted to an arm, F, projecting from the shank, and having the tripping rope attached to its upper end, whereby the lifting finger is automatically locked in a horizontal position by the weight of the load.

2. The combination, substantially as set forth, in a horse hay-fork, of two parallel rigidly-connected shanks, with pivoted fingers, for the purposes specified.

3. The combination, substantially as set forth, of the parallel shanks, the pivoted lifting fingers, the link rods crossing the shanks diagonally, and the cross-bar A′, whereby the load is compressed before being elevated.

2,988.—William W. Lyman, West Meriden, Conn.—*Fruit Can.*—Patented December 28, 1858, No. 22,436; reissued June 16, 1868.

Claim.—Compressing the cover and jar together against an intervening elastic packing ring, located between the lower edge of the flange of the cover and a seat formed below the upper end or edge of the neck or body of the jar, substantially as described.

2,989.—George Moebs, Detroit, Mich., assignee by mesne assignments of G. Albert Reiniger.—*Machine for Making the Bodies of Cigars.*—Patented October 29, 1861, No. 33,603; reissued June 16, 1868.

Claim.—1. The combination of the aprons F and H, knife K, and traveling racks 12 12, and boxes 15 15, substantially as described.

2. The combination of the taper trunk I I′ *c c*, the aprons F and H, the throat J, the knife K, and the revolving boxes, the whole operating together substantially as and for the purpose set forth.

3. Traveling racks and boxes, in combination with boxes for transferring the cut tobacco from the aprons to the traveling boxes, substantially as set forth.

4. The combination of endless aprons, knife transfer boxes or their equivalents, and suitable boxes to receive and keep the cigar bodies until the wrappers are applied.

2,990.—George Moebs, Detroit, Mich., assignee by mesne assignments of G. Albert Reiniger.—*Machine for Putting on the Wrappers of Cigars.*—Patented October 29, 1861, No. 33,604; reissued June 16, 1868.

Claim.—1. The combination of the roller H, apron J, and fixed table D, the whole operating together substantially as and for the purpose herein specified.

2. The auxiliary roller I, in combination with roller H, substantially as described.

3. In combination with the table D and apron J, the roller L, or its equivalent, adjusting the slackness of the apron, substantially as described.

4. The receiving hooks W, or their equivalents, in combination with the table D, apron J, and roller H, for the purpose specified.

2,991.—William B. Ready, Sacramento, Cal.—*Gang Plow.*—Patented December 3, 1861, No. 33,851; reissued June 16, 1868.

Claim.—1. The curved beams A, when used in connection with a gang plow, or a series of plows connected together by cross bars B B B, constructed and operating as and for the purposes herein set forth.

2. The arrangement of the arms G, wheels I, and lever J, when attached to the right hand arms G, and connected to the central beam A, as and for the purposes set forth.

2,992.—E. W. Bullard, Barre, Mass.—*Hay Spreader.*—Patented May 21, 1861, No. 32,350; reissued June 16, 1868.

Claim.—1. The employment, in a hay-spreading machine, of mechanism for giving motion to the forks or stirrers, so constructed and combined as to give to the fork or forks, after they have entered the hay to be spread, a sweeping or accelerated back-and-up motion, until the hay has been properly raised, and then a down or lag motion, for the purpose of disengaging the forks from the hay while the machine is drawn forward by the team, substantially as and for the purposes set forth.

2. Supporting or sustaining the forks in a hay-turning and spreading machine upon fulcra which move in the arc of a circle, while the hay is being acted upon, said forks having also a rocking or back-and-forward motion upon said moving fulcra, to aid in lifting the hay, and being disengaged therefrom by means of hinged levers or arms, substantially as and for the purposes set forth.

3. The combination, in an open-frame hay spreader, of a series of forks, for entering and lifting the hay, and then disengaging themselves from the hay while the team is advancing, substantially in the manner described.

4. Combining each fork with the spreader frame and the mechanism for operating the forks, by means of three joints or flexible connections, for the purposes set forth.

5. The combination, with each spreader fork, of a jointed arm, one end of which arm is hinged, or turns upon a stationary or fixed fulcrum, while the other end is so hinged and combined with the fork as to move and rock the latter upon its moving fulcrum, substantially as and for the purposes set forth.

6. The combination, in an open-frame hay spreader of a series of forks, arranged to alternately enter

the hay, lift it from the ground, and discharge it in the air, in rear of the advancing machine, substantially as described.

7. A double-tined fork for a hay turner or spreader, constructed from a single piece of wire, the center of the piece of wire being bent into a loop, and a spring coil formed on each side thereof, with the ends of the wire projecting from the outer ends of said coils, parallel, or nearly so, to each other, with backward curves to form the tines, substantially as described.

8. The combination, with the coils of the spreader forks, of removable journals or supports, upon which the coils are free to spring, but are not fastened thereto rigidly, whereby the said journals or supports can be easily removed from the fork coils by a lateral movement of the journals or supports, substantially as and for the purposes set forth.

9. The combination of the turner forks with their handles, so that the strain of holding the tines to their work, while lifting the hay, shall be sustained by the loops of the forks, whereby the liability of breaking and bending the tines of the forks during the operation of the machine is lessened, substantially as set forth.

10. Giving a number of forks, arranged to operate successively, a back-and-forward motion, by means of a crank shaft, to accomplish the purposes above set forth, substantially as described.

11. The combination, in a hay spreader, of the following elements, viz., a series of double-tined spring forks, to act alternately upon the hay, to lift and discharge in rear of the machine, without the aid of strippers, and an auxiliary frame, for supporting the forks from a point in rear of and above the axis of the main supporting wheels, to give room for the proper action of the forks.

12. The combination, in a hay turner or spreader, of the following elements, viz., a series of forks, arranged to lift and discharge the hay in rear of the machine, without the aid of strippers, as described; a seat for the driver, and mechanism for elevating and depressing the forks, the same mechanism being also used for throwing the forks in and out of action, whereby the driver, from his seat on the machine, can elevate or depress the forks, and also throw them in or out of action, substantially as and for the purposes stated.

2,993.—HORACE B. HAWKINS, Akron, Ohio, assignee of DAVIS B. WOODWARD.—*Horse Rake.*—Patented February 19, 1861, No. 31,507; June 16, 1868.

Claim.—1. The combination with the free, extended ends of the rake teeth, of guides which allow the extended ends to rise and fall, and also to move longitudinally, but prevent them from moving laterally, for the purposes stated.

2. The combination, in a horse hay rake, of curved metal teeth, with their support or fulcrum bar, in such a manner that neither end of the teeth shall be connected to any part of the frame, for the purposes stated.

3. The combination, in a horse hay rake, of metal teeth, with their main supporting or draught bearings, in such a manner that their upper or forward ends shall extend forward of the draught bearings or fulcrum connections, and serve as springs to keep the lower ends of the teeth down in proper positions for raking and gathering the hay, substantially as stated.

4. The combination, for the purposes stated, in a horse hay rake, of the following elements, viz., first, a rocking frame, for elevating and depressing the teeth to discharge the hay; second, a series of metal teeth, without coils, having single-draught connections or attachments in rear of the forward ends of the teeth; third, a series of bearings for the free ends of the teeth, forward of their draught connections, which admit of an up, down, and longitudinal movement of the extended ends of the teeth during the operation of raking.

5. A rocking frame in a horse hay rake, having the rear end pieces turned up for supporting the piece which elevates the teeth to discharge the hay in such a manner as to give proper room below it for the accumulating hay to form a windrow, while at the same time preventing the hay from working forward upon the teeth.

6. The combination, with the raking frame and ratchet wheels C C, of the cams or eccentric wheels or rings K K, straps or clasps *e e*, bar J, shaft L, and lever M, substantially as and for the purposes set forth.

7. The combination of the sliding bar J with one or both of the ratchet wheels, substantially as and for the purposes set forth.

8. The combination, with bar J and axle A, of the fingers *n n* and arms *o o*, substantially as and for the purposes set forth.

2,994.—GEORGE WHITCOMB, Port Chester, N. Y.—*Horse Rake.*—Patented October 5, 1858, No. 21,712; reissued June 16, 1868.

Claim.—1. The combination and relative arrangement of the rake head E and axle B, substantially as and for the purposes set forth.

2. The combination and relative arrangement of the hinged rake head with the supporting axle and carrying wheels, substantially as shown and described, whereby the head is supported above the rear upper edge of the axle, as shown, and the lower ends of the teeth, when gathering the hay, occupy positions in rear of the tread of the wheels, and forward of a vertical plane on a line with the rear edge of the wheels, substantially as shown in the accompanying drawings.

3. The combination of the rake head E, thills or shafts C C, hinges *e*, and axle B, substantially as described.

4. The arrangement of the rake head E and foot treadles H J and G K, or either, in relation to each other and the axle B, substantially as and for the purposes set forth.

5. The arrangement of the rake head E, foot treadles H J G K, and hand lever I, in relation to each other and the axle B, substantially as and for the purposes set forth.

2,995.—GEORGE WHITCOMB, Port Chester, N.Y. —*Horse Rake.*—Patented October 5, 1858, No. 21,712; reissued June 16, 1868.

Claim.—1. The combination, with the teeth of an adjustable hay guard, L, or equivalent device, substantially as and for the purposes set forth.

2. The combination, with the teeth of a horse hay rake, of a hay guard, which moves with the teeth when the head is raised or lowered, but which permits each tooth to rise and fall to a certain extent, independent of the others, while all the teeth are held from springing laterally from each other, thereby preventing wide, open, and increased spaces between any two teeth for the escape of hay while the rake is in operation.

3. The arrangement of the upwardly and inwardly inclined seat supports *b b*, with the cross piece *a* and angular braces *a' a'*, substantially as and for the purposes described.

2,996.—C. AULTMAN, Canton, Ohio, assignee of DANIEL M. SWARTZ and JONATHAN KREAMER, Milheim, Pa.—*Harvester Rake*—Patented May 12, 1868, No. 38,514; reissued June 23, 1868.

Claim.—1. The combination of a main frame, supported upon two wheels, a laterally-projecting platform and cutting apparatus, which shall be in advance of the main axle, with the support of a series of combined rake and reel arms, rigidly connected with the finger bar.

2. The combination with a two-wheel front cut harvester, of a main frame between the wheels, the hinged suporting bars L L, the cutting apparatus and platform, and a series of revolving rake and reel arms pivoted to a central hub, and driven by an extensible shaft from the main axle.

3. Mounting a combined rake and reel on a front cut harvester, in advance of the main axle.

4. The combination of a combined rake and reel, having independent hinged arms, a platform hinged to the main frame, and the support of the reel and rake rigidly connected with the platform and finger beam, so as to conform thereto.

5. A series of pivoted arms of a revolving rake and reel, attached near the periphery of an enlarged head or hub, in lines tangential to a circle, the center of which is in the shaft around which said arms rotate, so as to cause the revolving heads or rakes to

approach the cutter in lines parallel or nearly parallel thereto.

6. A combined revolving rake and reel, in combination with a hinged bar harvester, a coupling arm, and a movable brace or plate to support the finger bar, platform, and rake and reel.

2,997.—JONATHAN HAINES, Pekin, Ill., assignee by mesne assignment of himself.—*Grass Harvester.* (Division B.) — Patented September 4, 1855, No. 13,523; reissued April 13, 1858, No. 545; and again reissued June 23, 1868.

Claim.—1. In combination with a laterally projecting finger beam, entirely unsupported at the outer end, and provided with open slotted guard fingers, through which and across said fingers the cutters are reciprocated in straight lines, a connecting rod or brace bar *m*, having one end connected with and jointed to the heel of said finger beam, and its other end flexibly connected with the main frame of the machine, for the purpose of controlling the lateral movements of the finger beam, so that the cutters and guard fingers will be kept in unison with each other throughout the up-and-down movements of said finger beam, independent of the main frame, substantially as set forth.

2. The drooping bracket J, extending downward below the main frame, for the purpose of giving support to the crank shaft, and to bring the crank and pitman more nearly in the line with the cutters, substantially as set forth.

3. The shield brace Q, connected to the bracket J, to protect the crank which drives the cutters while passing over cut grass and other obstructions, substantially as set forth.

4. Connecting the upper end of the brace or bar *m* to the bracket J, substantially as set forth.

5. The combination of the guide *y* with the short cutter *h* and open slotted narrow divider, when all are arranged for joint operation, substantially as set forth.

2,998.—JONATHAN HAINES, Pekin, Ill., assignee by mesne assignments of himself.—*Grass Harvester.* (Division C.) — Patented September 4, 1858, No. 13,523; reissued April 13, 1858, No. 546; reissued June 23, 1868.

Claim.—1. Flexibly connecting a laterally-projecting cutting apparatus, which has its cutters reciprocated in straight lines through open-slotted guard fingers, to the main frame of a mowing machine, substantially as set forth.

2. The main frame and the gearing which drives the cutters of a mowing machine, mounted upon two driving and supporting wheels, a draught pole to draw the machine by, rigidly connected to said frame, and a finger beam and cutting apparatus, (the cutters of which reciprocate through open-slotted guard fingers in straight lines,) flexibly attached to the main frame in such a manner as will permit said finger beam and cutting apparatus to receive all their up-and-down movements from the undulations of the ground over which they are drawn, substantially as set forth.

3. In a mowing machine, having a laterally-projecting finger beam flexibly connected with the main frame, a lever so arranged that the driver can, while occupying his seat, by one single movement, raise the finger beam and cutting apparatus bodily from the ground while the machine is in motion, to pass over obstructions, &c., substantially as set forth.

4. Connecting the lever by which the cutting apparatus is raised to the heel of the finger beam, substantially as set forth.

5. In combination with the main frame which carries the gearing to drive the cutters, and to which is flexibly connected a laterally-projecting finger beam provided with open-slotted guard fingers and cutters reciprocating across said fingers in a straight line, a lever connected to said finger beam, and having its fulcrum upon the main frame, so that when the finger beam is raised by means of said lever, the weight of the entire cutting apparatus will be borne upon the main frame, substantially as set forth.

6. The combination and arrangement in a mowing machine, having a laterally-projecting cutting apparatus, the cutters of which are reciprocated in straight lines through open-slotted guard fingers, and the finger beam flexibly connected with the main frame of a lever conveniently placed within reach of the driver, to raise the cutting apparatus from the ground while the machine is in motion, and a holding device to lock and retain said lever, and hold the cutting apparatus elevated from the ground, as desired for transportation, substantially as set forth.

2,999.—SAMUEL JOHNSTON, Syracuse, N. Y., assignee of WILLIAM T. SHAW and JOHN MANZ, Wilmington, Del.—*Harvester Rake.*—Patented November 22, 1864, No. 45,185; reissued June 23, 1868.

Claim.—1. The combination of a main frame supported on two wheels, a laterally-projecting platform and cutting apparatus, so hinged to the main frame that the cutting apparatus shall be in advance of the main axle, with a series of combined rake and reel arms revolving on a support mounted on the platform.

2. The combination of a main frame supported on two wheels, and a laterally projecting platform and cutting apparatus, so hinged to the main frame that the cutting apparatus shall be in advance of the main axle, with a series of combined rake and reel arms revolving on a support mounted on the platform in front of the main axle, substantially as described.

3. The combination, with a two-wheel front-cut harvester, of a series of combined rake and reel arms on a standard or support, mounted on a hinged platform, the arms being independently hinged, and having a rising and falling movement independent of their axis of rotation.

4. The combination, with a two-wheel front-cut harvester, of a main frame, and a series of rake and reel arms, pivoted to a crown wheel or central hub, located on the platform, and driven by an extensible connection with the main axle.

5. The construction and adaptation of a combined rake and reel, which revolves entirely around a vertical center, so that it may be applied to the platform of a front-cut hinged bar harvester, in front of the main axle and below the highest point of the drive wheel.

6. The revolving head H H′, made in two disconnected parts, adapted to be coupled and uncoupled by means of the key h^1 and recess h^2, so as to cause the rakes to operate when the machine is moving forward, and to remain at rest during the backward movement thereof.

7. The frame or casing F, formed with the guide *f f′*, for controlling the movement of the rakes and reels, as described.

8. In combination with the aforesaid guide *f f′*, the roller L, arranged and operating substantially as described, to initiate and assist in the elevation of the rake and reel arms, as and for the object specified.

3,000.—GEORGE E. KING, New York, N. Y.—*Fluting Machine.* (Division A.)—Patented February 26, 1867, No. 62,492; reissued June 23, 1868.

Claim. — The guide E, constructed with one or more curved or arched portions *a′*, in combination with suitable fluting rollers, substantially as herein set forth for the purpose specified.

3,001.—GEORGE EDWIN KING, New York, N.Y.—*Fluted Puffing.* (Division B.) — Patented February 26, 1867, No. 62,492; reissued June 23, 1868.

Claim.—The within-described puffing, as a new article of manufacture, the same being formed by crinkling, gathering, or irregularly waving one portion of the strip of muslin or other material simultaneously with fluting it along the edges of such portion, as at *g*, and forming flattened borders or portions *h*, outside of the flutes, or between two next adjacent rows of them, to receive stitching, substantially as specified.

3,002. — CHARLES LOCKHART and JOHN GRACIE, Pittsburg, Pa.—*Still for Petroleum, &c.* (Division A.) Patented November 17, 1863, No. 40,632; reissued June 23, 1868.

Claim.—Providing a still used for distilling hydrocarbon, with a scraper or scrapers combined with a receiving device, said scraper or scrapers being rotated during the process of distillation, and operating, with relation to the bottom of the still and said receiving device, substantially as herein described and for the purpose set forth.

3,003.—Charles Lockhart and John Gracie, Pittsburg, Pa.—*Still for Petroleum.* (Division B.) Patented November 17, 1863, No. 40,632; reissued June 23, 1868.

Claim.—A still provided with a pipe or pipes, which is or are so arranged with relation to the still and its contents, that the vapor evolved from the contents of the still can be conveyed off at different heights, substantially as herein and for the purposes set forth

3,004.—G. C. Manner, New York, N. Y.—*Improvement in Piano Fortes.*—Patented November 13, 1866, No. 59, 619; reissued June 23, 1866.

Claim.—1. Placing the damper lifters in a slot of the metal frame behind the point supporting the strings, substantially as and for the purpose described.

2. The metal frame A, when imbedded in the wood work of the piano forte, so as to butt against the wrest plank, and when provided with an inverted hollow-filled bridge, *a*, with a slot, *b*, and a diagonal brace, *d*, all made and operating substantially as and for the purpose herein shown and described.

3,005.—Greenleaf Stackpole, New York, N. Y., and J. N. Winslow, Portland, Me., assignees of Greenleaf Stackpole.—*Bit Brace.*—Patented September 23, 1862, No. 36,538; reissued June 23, 1868.

Claim.—1. In combination with a divided bit-shank socket, having a contracted neck, the ring E, for holding the bearings upon the shank of the bit, constructed and operating substantially as set forth.

2. The bearings C C′, having grooves a^1 and a^2 therein, to admit different sized bit shanks, without an enlargement of the grooves to the extent of the whole length of the socket or the bit shank, substantially as specified.

3,006.—Mitchell Vance, & Co., New York, N. Y., assignees of Edgar M. Smith, same place.—*Harvester.*—Patented February 23, 1864, No. 41,746; reissued June 23, 1868.

Claim.—1. In combination with the main driving and supporting wheels, running loosely on their axles or journals, the main gear wheels D, running loosely on the hubs of said drive wheels, and having a ratchet and pawl connection with each other, substantially in the manner and for the purpose herein described and represented.

2. The arrangement of the two sets of plates and boxes on the opposite sides of the main frame, so that the cutting apparatus may be arranged on either side, as set forth.

3. In combination with the two sets of plates arranged on opposite sides of the main frame, the curved bar or brace F, extending from one to the other, so as to leave unobstructed space at I, for the free action of the rake, as described.

4. In combination with the loose and shifting main wheels and main cogged gears, the pinions *b*, permanently arranged on the shaft *d*, so that said loose and shifting wheels will, when on either side of the machine, mesh with said pinions, as set forth, whichever end of the machine goes foremost.

5. Hanging the reel blades to the reel shaft by means of the crossed arms, and adjustable heads, hubs, or sockets, for the purpose of enlarging or diminishing the circumference of the reel, substantially as described.

6. The adjustable pulley plate and adjustable pulleys thereon, for the purpose of taking up or letting out the reel belt when the reel is lowered or raised on its support, substantially as described.

3,007.—E. H. Barney, and John Berry, Springfield, Mass.—*Skate Fastener.*—Patented July 23, 1867, No. 66,965; reissued June 30, 1868.

Claim.—A skate fastener or key, composed of the socket B, point *f*, and button *e*, when made of one or more pieces, substantially as described, and for the purposes specified.

3,008.—John Commins, Charleston, S. C.—*Mode of Treating Mineral Phosphate for the Manufacture of Fertilizers.*—Patented February 25, 1858, No. 74,799; reissued June 30, 1868.

Claim.—Uniting, while hot, phosphatic minerals or earths, with a solution of common salt (chloride of sodium) and water, in part or whole, as and for the purpose herein described.

3,009.—James Easterly, Albany, N. Y.—*Base-burning Stove.* (Division 1.)—Patented February 13, 1855, No. 12,382; reissued June 30, 1868.

Claim.—Constructing a stove as herein described with openings for the admission of air to the burning fuel at some point or points above the grate, including between said points and the grate sufficient fuel for ignition, at any one time, substantially as described.

3,010.—James Easterly, Albany, N. Y.—*Base-burning Stove.* (Division 2.)—Patented February 13, 1855, No. 12,382; reissued June 30, 1868.

Claim.—1. A cooking stove, which is provided with a coal-supply magazine and a combustion chamber, arranged without the space inclosed by the outer walls of the stove, substantially as described.

2. The combination of a coal-supply magazine with a cooking stove, when such magazine is wholly outside of the outer walls of the stove, substantially as described.

3. In a cooking stove having a magazine for supplying the combustion chamber with fuel, inlets for the admission of air to the burning fuel, arranged at some point or points above the grate, substantially as described.

4. The relative arrangement of the several parts of the stove, whereby the heated products are caused to circulate around the oven, substantially as described.

3,011.—George Moebs Detroit, Mich., assignee by mesne assignments of G. Albert Reiniger.—*Cigar Machine.*—Patented May 29, 1866, No. 55,217; reissued June 30, 1868.

Claim.—1. The table A, provided with the troughs M, in connection with the cigar machine, substantially as and for the purpose described.

2. The spring hooks *j* in combination with the table A, apron *b*, and roller *a*, constructed and operating substantially as and for the purpose specified.

3,012.—John B. Raynor, Mazo Manie, Wis.—*Churn.*—Patented February 25, 1868.—No. 74,941; reissued June 30, 1868.

Claim—1. The shaft C, provided with a series of straight arms, H H, when arranged in combination with the box B, having a series of rods, I I, in the manner and for the purposes set forth.

2. The angular arms G, constructed as shown and described, and arranged upon the dasher shaft, to operate substantially as and for the purposes specified.

3,013.—Henry Valentine Scattergood, Albany, N. Y.—*Cotton Gin.*—Patented June 25, 1867. No. 66,202; reissued June 30, 1868.

Claim.—1. A ginning cylinder, formed with circular ribs or projections containing or supporting the teeth, said ribs or projections being elevated above the other portion of the surface of the ginning cylinder, and thus leaving grooves for the reception of the guards, substantially as specified.

2. Forming the ginning cylinder of a series of rings, between which rings or segments of rings, containing teeth, are secured, substantially as specified.

3. In combination with a cylinder carrying circular ranges of needle-pointed teeth, the guards R, formed with openings to their upper ends, as and for the purposes specified.

4. Attaching the delivering or doffing roller upon arms extending from the axis of the perforated condensing roller or cylinder, so that said delivery roller is allowed to rise and accommodate the thickness of the bat, and is kept properly in contact with the condensing cylinder, as set forth.

5. In combination with the condensing roller or rollers formed with smooth perforated surfaces, the screen V, and brush blower B, for conveying the cotton to the condenser, as specified.

6. A condensing roller or rollers formed of smooth perforated surfaces, in combination with a ginning

cylinder and a brush blower to pass the cotton fiber from the said cylinder to the said roller or rollers, substantially in the manner and for the purpose above described.

3,014.—William Smith, New York, N. Y.—*Corded Elastic Fabric*, (Division B.)—Patented April 5, 1853. No. 9,653; extended seven years; reissued June 18, 1867, No. 2,656; again reissued June 30, 1868.

Claim.—The corded fabric, substantially as hereinbefore described, in which the cords are elastic, and are held between the upper and under weft threads, and separated from each other by the interweaving of the upper and under weft threads with the warp threads in the spaces between the cords, and only there, substantially as above shown.

3,015.—John Tyler, West Lebanon, N. H.—*Water Wheel.*—Patented July 8, 1856, No. 15,309; reissued June 30, 1868.

Claim.—1. The curved bucket head *e*, when the said head is combined with the series of segment shaped buckets *d d*, substantially in the manner herein set forth.

2. The segment-shaped buckets *d d*, when the said buckets are formed with and project from the concave surface of the curved bucket head *e*, substantially as herein set forth.

3. The combination of the buckets *d d* with the bucket head *e*, when the said buckets are located in positions tangential to the inner guiding circle *c*, substantially as herein set forth.

4. The combination of the scalloped edged rim *f* with the lower edges of the series of buckets *d d*, substantially as and for the purpose herein set forth.

5. The combination of the elevated cover D with the curb of my improved water wheel, when the said cover is so proportioned as to receive and sustain the upper bearing box of the shaft of the wheel, substantially as herein set forth.

6. The combination of the detachable gate box B with the mouth of the water way of the water wheel, all substantially in the manner and for the purpose herein set forth.

3,016.—James Emery, Bucksport, Me.—*Lamp Shade.*—Patented July 9, 1867, No. 66,576; reissued June 30, 1868.

Claim.—A lamp-shade, made of a screen, A, and a carrier B, designed to be attached, by its upper end, to the chimney of a lamp, with a portion of its body formed to rest against the side of the chimney, which thus serves as a fulcrum on which to support the shade in an inclined position, constructed and applied together, substantially as specified.

3,017.—Francis H. Smith, Baltimore, Md.—*Drier.*—Patented February 26, 1861, No. 31,566; reissued June 30, 1868.

Claim.—1. The tunnel A B C, furnace R, and chimney L, when the former is so constructed and arranged that the current of warm air is supplied to the same at the opposite point from which the articles to be dried enter, which causes the articles to be subjected to the action of a varying temperature, substantially as described, and for the purpose specified.

2. The tunnel A B C, furnace R, and chimney L, and gates F, G, and H, when the same are so combined and arranged as to operate substantially, as described and for the purpose specified.

3. The tunnel A B C, furnace R, chimney L, and gates F G H, when the same are in combination with the rails E E, and car J, and the whole operates substantially as and for the purpose specified.

3,018.—John Tyler, West Lebanon, N. H.—*Water Wheel.*—Patented June 1, 1858, No. 20,456; reissued June 30, 1868.

Claim.—The hinged section *m* of the inner face of the scroll-shaped water way of said wheel, when arranged and operating in conjunction with the movable curb section *k* thereof, substantially in the manner herein set forth.

3,019.—Lewis J. Atwood, Waterbury, Conn., assignee by mesne assignments of himself.—*Lamp.*—Patented October 13, 1863, No. 40,226; reissued June 30, 1868.

Claim.—1. A concave draught plate, having an elongated slot, in combination with a chimney holder below the edges of that draught plate, and attached to the burner substantially as set forth, so that the flame will be spread and the light shine both above and below the draught plate.

2. An opening or series of openings between the said concave draught plate and the interior of the chimney, to allow an auxiliary draught to pass to the flame, in combination with a foraminous air distributor, connected to the burner, substantially as set forth.

3. A foraminous air distributor, *e*, formed with or connected to the burner, in combination with a draught plate, supported from the burner and within the chimney, substantially as specified, whereby the action of the air on the flame is regulated by the joint action of said draught plate, air distributor, and chimney.

4. An air distributor, substantially as specified, in combination with the draught plate and a glass chimney, having a contraction or neck at or near the said draught plate, whereby the said draught plate can be made smaller than with a straight or tapering chimney, and not obstruct the light, substantially as shown.

5. The chimney holder and the aforesaid draught plate, in combination with mechanism, substantially as specified, for connecting the chimney holder to the burner, whereby the chimney can be removed for trimming or lighting without being detached.

6. Connecting the said draught plate to the burner by a slide, so that it may be adjusted in position or removed, substantially as and for the purposes set forth.

3,020.—Charles S. Hall and Charles F. Hall, Brooklyn, N. Y., assignees by mesne assignments of Samuel Wing.—*Refitting Stop Valve.*—Patented August 1, 1868, No. 49,203; reissued July 7, 1868.

Claim.—1. The concave mill B, either provided with or not an internal yielding center *c*, and arranged in suitable bearings, *a*, in combination with the adjustable center *e*, constructed and operating substantially as and for the purpose set forth.

2. The guide E, and conical mill D, applied in combination with each other, substantially as and for the purpose described.

3. An improved portable apparatus, constructed substantially as herein described, for refitting the valves and valve seats of stop valves and water cocks.

3,021.—George O. Nixon and William L. Nixon, Sandyville, Ohio.—*Device to Prevent Hogs from Rooting.*—Patented February 18, 1868; reissued July 7, 1868.

Claim.—The within described device, consisting of the plate A, arms C C, with holes D D, and wire B, the several parts being arranged and used substantially in the manner and for the purpose herein specified.

3,022.—George W. Packer, Jr., Mystic River, Conn.—*Apparatus for Building Walls and Extracting Stumps.*—Patented August 29, 1865, No. 49,647; reissued July 7, 1868.

Claim.—1. The within described combination and arrangement of the pyramidal frame $M\ M^1\ M^2$ and curved reaches $E^1\ E^2$ with the four wheels and their accessories, substantially as and for the purposes set forth.

2. The employment of braces $P^1\ P^2$, in combination with the struts M, &c., and the curved reaches $E'\ E''$, and arranged to be supported on wheels, substantially in the manner described, so that the braces shall aid in maintaining the curvature or arching condition of the reaches by connecting each to the struts above, at one or more points, as and for the purpose herein set forth.

3. The spherical-based rocker C, having the king-bolt D connected thereto by a loose joint, as represented, in combination with a trussed frame M, &c., and with the wheels, substantially as and for the purposes herein set forth.

3,023.—ALEXANDER D. REEVES, Portland, Me. —*Female Supporter.*—Patented April 1, 1862, No. 34,845; reissued July 7, 1868.

Claim.—The sack *h*, made as and for the purposes herein set forth, and supported by the belt and braces, arranged as herein described.

3,024.—S. Y. BRADSTREET, Monticello, Iowa. —*Safety Truck.*—Patented April 28, 1868, No. 77,248; reissued July 7, 1868.

Claim.—1. The combination of the inclined grooved wheels C C, with the horizontal bracing wheels F F, substantially as and for the purpose set forth.

2. The spring J, in combination with the sliding plate G, and fixed plate or block H, substantially as and for the purpose set forth.

3. An auxiliary truck, provided with inclined wheels C C, and bracing wheels F F, and sliding vertically in guides H H, in the manner and for the purpose indicated.

4. The combination of the plates G G′, with the wheels C C, F F, the spindles D D, having shoulders *d d*, and the nuts *a a*, substantially as and for the purpose specified.

5. The guide blocks H H, when supported by pivots M M, working in elongated bearings, in the manner and for the purposes described.

6. The rubber cushions *e e*, when used in combination with the auxiliary safety truck above described, in the manner and for the purposes specified.

3,025.—ELI PERRY, Baldwinsville, N. Y.—*Pump.*—Patented September 20, 1864, No. 44,337; reissued July 7, 1868.

Claim.—1. The combination, with the wings E, of the eccentric arms or extensions E′, forming a division between the discharge space B and the interior of the case, except through passages *i*, in the manner and for the purpose specified.

2. The combination, with the wings E and extensions E′, of the flanges *k*, in the manner and for the purpose specified.

3. The under side of the wings, formed with the sharp edges *l l*, the same being used in combination with the floor of the case A, substantially as described.

3,026.—CALEB S. STEARNS and THOMAS COREY, Marlboro, Mass., assignees of CALEB S. STEARNS.—*Machine for Splitting and Stripping Leather.*—Patented February 9, 1864, No. 41,583; reissued July 7, 1868.

Claim.—1. A carrying cylinder, B, provided with an automatic grasping mechanism, substantially as set forth.

2. A carrying cylinder, B, with its grasping mechanism, in combination with a splitting knife, C, and spring presser, D, or equivalent, substantially as and for the purpose described.

3. A carrying cylinder, B, with its grasping mechanism, splitting knife C, and presser D, in combination with a pair of grooved rollers, E F, a series of stripping knives, G G, and knife or guide shear I, substantially as and for the purpose set forth.

3,027.—PHILO P. STEWART, Troy, N. Y.—*Cooking Stove.*—Patented January 18, 1859, No. 22,081; reissued July 7, 1868.

Claim.—1. The supplying of a continued current of atmospheric air, heated by the front plate of the fire box or chamber of combustion, and in a flue, chamber, or space immediately in front of the same, and in combination therewith, without the aid of any intervening plate or plates, to the oven of a cooking stove in which the oven is in the rear of the fire chamber, and at the same time extending under and beyond it, so as to include the said flue, chamber, or space at the lower part thereof, and thus and thereby permit the said heated air to enter the said oven in the manner and for the purposes substantially as herein described and set forth.

2. The flue, space, or intervening chamber A A′, immediately in front of the fire box or chamber of combustion, with a fire grate and ash pit or chamber combined therewith, and the whole arranged and suspended in the front and upper corner or part of the oven *i*, into which space or intermediate chamber atmospheric air is admitted through apertures *x*, or any equivalent thereof and therefor, and which are and shall be in and through the plate or door or doors in the front part of the cooking stove, and in combination with the oven of such stove, so that the air heated within such intermediate chamber, substantially as herein set forth, may or shall be conducted to and into the oven, for the purposes and by the means substantially as herein described and set forth.

3. In a stove constructed with an oven, and with a fire box or chamber of combustion, having a fire grate therein, and an ash pit or chamber below, and all combined therewith substantially like the one herein above described and set forth, the making of the front plate of the stove to open with a door or doors, *k*, and the attaching an apron in the front of the stove so as to receive and contain a kitchen or other suitable roaster, substantially as specified herein, so that the heat radiated by the front plate of the fire box or combustion chamber shall be aided by the heat radiated by oven plates therein, in the manner and for the purposes substantially as herein described and set forth.

4. The employment and arrangement of the front doors *k*, constructed with apertures *x′* or any equivalent thereof and therefor therein, in combination with the fire box or chamber of combustion *a*, by means of which atmospheric air, in a highly heated condition, is admitted to the oven of a cooking stove, for the purposes substantially as herein described and set forth.

5. The employment and arrangement of a door or doors, *k*, or any equivalent thereof and therefor, so that the same or a part thereof shall open (in the front of the cook stove) in front of the fire box or chamber of combustion, in combination with a fire chamber or chamber of combustion, having a fire grate therein, and ash pit or chamber combined therewith, and arranged and suspended in the front part of the oven of a cooking stove, in the manner and for the purposes substantially as herein described and set forth.

6. The arrangement of a fire chamber or chamber of combustion, with a fire grate and an ash pit or ash chamber combined therewith, and the whole suspended in the front part and upper corner of the oven of a cooking stove, in the manner and by the means substantially as herein described and set forth.

7. The employment and arrangement of the additional or extra bottom and encasement *u*, in combination with the flues of the bottom of a cooking stove and immediately underneath the oven *i*, and with the space or chamber between the same and the bottom plate of the stove, in the manner and for the purposes substantially as herein described and set forth.

8. The employment and arrangement of the additional or extra back and encasement *u*, in combination with the ascending and descending flues in the rear end of a cooking stove, and between the rear end of the oven and the rear vertical end plate of the stove, in the manner and for the purposes substantially as herein described and set forth.

9. The employment of a corrugated plate, perforated along the front thereof, for the top of the oven *i*, as arranged in connection with the flue *h*, and fire chamber or chamber of combustion and with the rear and vertical plate of the oven of a cooking stove, substantially as and for the purposes herein described and set forth.

10 The employment and arrangement of the front damper or valve Y, in the front and hearth of a cooking stove, in combination with the flue or flues (as the case may be) immediately underneath the oven and bottom plate of the oven of a cooking stove, in the manner and for the purposes substantially as herein described and set forth.

11. The employment and management of the damper *n*, or any equivalent thereof, and so combined with the flues of a cooking stove, having a boiler or reservior supported outside and back of the rear vertical end of a cooking stove and over a heating chamber or flue, so that the direct action of the heat upon such boiler or reservoir may be thrown or shut off, and the same caused to pass through

other parts and flues of said cooking stove before entering such chambers immediately underneath such boiler or reservoir and acting thereon for the purpose of warming or heating the water therein, in the manner substantially as herein described and set forth.

12. The employment and arrangement of the boiler or reservoir having a removable or detachable cover or top, and containing two inclined flues or tubes, which are separate at the bottom or lower end thereof from each other, and which unite at the top or upper end thereof, and thus and then form but one pipe, in the manner and for the purposes substantially as herein described and set forth.

3,028.—E. B. Bishop, New Orleans, La.—*Dredging Machine.*—Patented April 13, 1858, No. 19,908; reissued July 14, 1868.

Claim.—A revolving excavator or dredging machine, constructed and operating substantially as and for the purposes set forth.

3,029.—John Gibson, Jr., Albany, N. Y.—*Street Car Heater.*—Patented January 1, 1867, No. 60,714; reissued July 14, 1868.

Claim.—1. The stove or heater C and smoke pipe *e*, encased or not in whole or in part, either without or connected with other suitable heating pipes, (other than steam pipes,) when arranged under the seat of any traveling conveyance, or in a room under a seat, for the purpose set forth and described.

2. The "protection piece" D, constructed and arranged as described, or its equivalent, for the purposes set forth as specified.

3. The pinch screw P, or its equivalent, in combination with the draught doors *m m*, as and for the purposes specified.

3,030.—Amariah M. Hills, Hockanum, Conn.—*Lawn Mower.*—Patented January 28, 1868, No. 73,807; reissued July 14, 1868.

Claim.—1. The balanced frame on the roller E, in combination with the bail Q, to which the handle S is secured, all constructed and arranged substantially as and for the purpose set forth.

2. The horizontal cutter M, having the spiral cutters *e e*, when hung in front of the cutter D in a frame, which is adjustable upon the shoes N N, in the manner and for the purpose specified.

3. The combination of the frame, roller, shoes, cutting device, and handle, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

3,031.—D. S. Holman, Conneautville, Pa.—*Seed Planter.*—Patented January 22, 1867, No. 61,431; reissued July 14, 1868.

Claim.—1. The two seed slides H H′, placed one above the other, at the upper part of the tubes G, and having springs, *d*, bearing against them, in combination with the wheels I and projections *e*, having pins, *f g*, in their peripheries, all arranged to operate substantially in the manner as and for the purpose set forth.

2. The regulating slides J, in combination with the seed slides H H′, arranged substantially as and for the purpose specified.

3. The combination of the metallic tubes L and covering shares O, all arranged and applied so as to be capable of operating and being adjusted substantially as shown and described.

4. The seed slides H H′, tubes G, springs *d*, wheels I, projections *e*, with the pins *f g*, in combination with the slides J, metallic tubes L, and the covering shares O, all arranged to operate in the manner substantially as and for the purpose specified.

3,032.—Joel F. Keeler, Pittsburg, Pa.—*Platform Scale.*—Patented September 26, 1854, No. 11,729; reissued July 14, 1868.

Claim.—1. The combination of the platform scale with a device acting independently of the weighing levers, for the purpose of raising or lowering the platform simultaneously at all points, when constructed and operating substantially as described.

2. In combination with the weighing levers of a platform scale, the intermediate platform or frame G, constructed and operating in the manner and for the purpose substantially as set forth.

3. The combination of a spring balance with the vibrating beam of a weighing scale, substantially as and for the purpose set forth.

3,033.—Louisa R. Ketchum, Buffalo, N. Y., executrix of the estate of William F. Ketchum, deceased.—*Grass and Grain Cutting Machine.* (Division A.)—Patented February 10, 1852, No. 8,724; reissued February 28, 1854, No. 259; again reissued June 2, 1857, No. 466; extended seven years, and again reissued July 14, 1868.

Claim.—1. Extending the shoe H G from the heel of the rack or finger bar upward and forward, and firmly connecting its continuation with the draft when the finger bar is located as set forth, so that the power by which the machine is drawn shall, through the shoe, be communicated to and draw forward the heel of the rack or finger bar, thus relieving the great strain which would otherwise come upon the lateral connections of the rack or finger bar with the wheel frame, while the heel is enabled to slide over obstacles or obstructions, substantially as shown.

2. When the main wheel and inner end of the short finger bar or rack D are located relatively to the frame, substantially as described, projecting the shoe H G, which supports the inner or heel end of said bar, forward and upward from the said heel to a point in advance of the cutters, and above the plane thereof, sufficiently far to keep the grass down and prevent its rising over the shoe, thus aiding the shoe to ride over the mown grass or other obstructions, substantially as shown.

3,034.—Louisa R. Ketchum, Buffalo, N. Y., executrix of the estate William F. Ketchum, deceased.—*Grass and Grain Cutting Machine.* (Division B.)—Patented February 10, 1852, No. 8,724; reissued February 28, 1854, No. 259; again reissued June 2, 1857, No. 466; extended seven years, and again reissued July 14, 1868.

Claim.—When the main wheel and inner end of the finger bar or rack D are located relatively as described, supporting the heel of the rack or finger bar sufficiently near the ground, and at a convenient distance from the main wheel, by one or more arms or braces extending upward and backward therefrom, and connected with the frame or strong bars, firmly bolted across the frame, in rear of the said rack or finger bar, while the said frame or bars are elevated or arranged so as to pass over the cut grass, substantially as shown.

3,035.—Ripley and Company, Pittsburg, Pa., assignees of Daniel C. Ripley, same place.—*Gas Lamp.*—(Division No. 2). Patented January 7, 1868, No. 73,122; reissued July 14, 1868.

Claim.—1. The construction of the base A, and the two handles B B, of one piece, for receiving a blown glass bowl or reservoir, C, substantially as described.

2. A pressed base, A, produced with one or two handles upon it, and having a globe, C, blown upon and united to the base and handle or handles, substantially as described.

3. The construction of the base A, and handle or handles B, in one piece, by casting, and with a concave seat, for supporting and having blown upon the same a bowl or oil reservoir, substantially as described.

3,036.—Christian Shunk, Philadelphia, Pa.—*Refining Iron.*—Patented February 12, 1856, No. 14,257; reissued May 31, 1864, No. 1,686; again reissued November 28, 1865, No. 2,118; and again reissued July 14, 1868.

Claim.—1. The refining and decarbonizing of molten crude iron by the employment of an atmospheric air blast, uniting the oxygen of the air with the carbon of the crude metal, and thereby decarbonizing, or partially decarbonizing, and refining the same, thus preparing it to be molded into ingots, or otherwise, of iron or steel, fit for the hammer or the rolls, or to be molded into castings, or to be reconverted into fine cast steel.

2. Such alloying, when effected by the introduc-

tion of the oxide of manganese, as above described, by which the ore is not only reduced, but the metal is thoroughly fused and incorporated with the iron, through the instrumentality of the high heat produced by the air blast, in the manner above shown.

3. The use of a compound, consisting of common salt and manganese, as a flux and detergent in said process, as set forth.

3,037.—CHARLES LAFAYETTE TUCKER, Chicago, Ill.—*Manufacture and Preservation of Lard.*—(Division A.) Patented July 2, 1867, No. 66,268; reissued July 14, 1868.

Claim.—1. The box herein described, when constructed without a lid or cover rim, and with straight even sides, from top to bottom, substantially as and for the purposes specified.

2. The application of gum arabic, or its equivalent, to lard packages, for the purpose of making them tight and non-absorbing, substantially as specified.

3,038.—CHARLES LAFAYETTE TUCKER, Chicago, Ill.—*Manufacture of Lard.*—(Division B.) Patented July 2, 1867, No. 66,268; reissued July 14, 1868.

Claim.—1. The application or use of a tin or lead foil or foil paper covering for lard packages, constructed of wood or paper, substantially as and for the purposes specified.

2. The process of putting up lard in a light wood or paper casing or box, by drawing or pouring the lard therein in a fluid state, and closing up the casing or box, by inserting the head so as to leave a small space between the lard and the head, to provide for expansion, substantially as specified.

3. As a new article of manufacture, small measured or specific, quantities of lard encased in a light wood or paper casing or box, substantially as and for the purposes specified.

3,039.—CHARLES L. TUCKER, Chicago, Ill.—*Process of Putting up Lard for Storage and Transportation.*—(Division C.) Patented July 2, 1867, No. 66,268; reissued July 14, 1868.

Claim.—The mode herein described of packing lard for transportation or storage, by first packing the lard in separate small packages of light wood or paper, and inclosing such small packages in an outer close-fitting case, substantially as specified.

3,040.—JOHN WHITWORTH AND WILLIAM H. HAWKINS, Cleveland, Ohio, assignees of JOHN WHITWORTH.—*Cutter for Wood Molding.*—Patented December 3, 1867, No. 71,670; reissued July 14, 1868.

Claim.—The herein-described hard or chilled cast-iron rotary cutter for working wood, made in the manner as and for the purpose substantially as set forth, as a new article of manufacture.

3,041.—PHILO P. STEWART, Troy, N. Y.—*Cooking Stove.* (Division B.)—Patented January 18, 1859, No. 22,681; reissued May 31, 1864, No. 1,684; and again reissued July 14, 1868.

Claim.—1. The employment and arrangement of the top plate of a cooking stove, having a flue or flues immediately thereunder, and extended over and beyond the rear end and upper portion of the vertical flues, back of the oven thereof, in such manner as to receive and support a reservoir or water tank upon or over a suitable opening therein, and with a heating chamber immediately below or underneath the same, in the manner and for the purposes substantially as herein described and set forth.

2. The arrangement and employment of the heating chamber D, or its equivalent, in combination with the rear vertical end flues of a cooking stove, and with the reservoir or water tank C, in the manner and for the purposes substantially as hereinbefore fully described and set forth.

3. The combination of the chamber D, extending beyond the rear end of a cooking stove, and situated under or immediately below the reservoir or water tank C, with the flue H extending from the fire chamber or chamber of combustion, and over the top plate of the oven, and with the vertical rear-end flues of a cooking stove, in the manner and for the purposes substantially as herein described and set forth.

4. The arrangement and employment of the reservoir or water tank C in or upon and with the extended top plate A and A′ of a cooking stove, and heating chamber D, in combination with the heating or warming closet S, in the manner and for the purposes substantially as herein described and set forth.

5. The arrangement and combination of the heating or warming closet S, or any equivalent thereof, upon the rear end of a cooking stove containing vertical flues, in the manner and for the purposes substantially as herein described and set forth.

6. An opening, O, in and through the rear-end vertical plate of a cooking stove, of sufficient capacity to allow the passage of hot air, or of heated escaping products of combustion, through the same, and into a chamber underneath a reservoir or water tank, so as to warm or heat the water therein, in the manner substantially as herein described and set forth.

7. The combination of an exit chimney pipe or flue with the heating chamber D, underneath the reservoir or water tank C, in the manner and for the purposes substantially as herein described and set forth.

8. The arrangement of a reservoir or water tank upon the extended top plate of a cooking stove, and supported over or beyond the rear-end vertical flues of a cooking stove, in the manner and for the purposes substantially as herein described and set forth.

9. The vertical end plate of a cooking stove, containing the opening O, or any equivalent therein, for the passage of the hot air or escaping heated products of combustion into a suitable chamber underneath the reservoir or water tank, the same being regulated or controlled by a suitable damper, L, and all combined with a cooking stove, in the manner substantially as herein described and set forth.

10. The combination of the chamber or flue P with the vertical flues between the oven and the rear end plate of a cooking stove, and with the chamber D, and with the flue or flues in the bottom of the stove, in the manner and for the purposes substantially as herein described and set forth.

11. A reservoir or water tank, for the warming or heating of water therein, or for other purposes, arranged and combined with a cooking stove having vertical flues in the rear end thereof, and in the rear of the oven of such cooking stove, substantially as herein described and set forth.

3,042.—CHARLES DEAVES, New York, N.Y.—*Gas Apparatus.*—Patented July 25, 1867, No. 66,004; reissued July 21, 1868.

Claim.—1. The connecting couplings D and K, in combination with the retorts, when fitted with plates E G I, to facilitate the cleaning of the retort, substantially as described.

2. The use of two or more retorts, connected together in pairs, so that the first shall volatilize the oil or oily substance, and the second shall complete the conversion thereof into a fixed gas, suitable for illuminating purposes, the said retorts being constructed and arranged substantially as and for the purpose herein above set forth.

3. The combination, with the conducting pipe K, of a cooling trough, L, the water from which supplies the wash box, substantially as and for the purpose set forth.

4. The combination, with the discharge end of the conductor pipe K, of a perforated or reticulated disk *h*, substantially as and for the purpose set forth.

3,043.—FERDINAND FORMHALS, San Francisco, Cal.—*Machine for Collecting and Condensing Metallic Vapors.*—Patented January 21, 1868, No. 73,519; reissued July 21, 1868.

Claim.—1. In combination with the furnace A, the screw or submerger F, formed by a covered spiral flange or blade H H, around a central shaft or axis, substantially as and for the purpose described.

2. Drawing the volatile substances from the furnace into the submerging tank E by the screw F, from thence along the spiral opening to the chamber I, and out through the pipe J to the condensing tank or tanks, substantially as described.

3,044.—JAMES GRAY, Albany, N. Y.—*Base-burning Stove.*—Patented October 28, 1864, No. 44,719; reissued July 21, 1868.

Claim.—1. In a furnace, with a fuel magazine, which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, so constructing such furnace that the products of combustion rising from the fire chamber will be conducted toward the top of the furnace through flues which are formed by cylinders D and E, and partitions *h*, and which are arranged around an ascending warm-air passage, substantially as and for the purposes described.

2. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, the outer case *c*, constructed with horizontal openings *d*, and air passages e^1, substantially as and for the purposes described.

3. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, the construction of case *c*, with horizontal openings *d*, vertical openings *e*, and horizontal openings e^1, through it, substantially as and for the purposes described.

4. The outer case *c*, constructed with openings *d*, and horizontal air passages leading from the same into the annular air chamber e^2, in combination with a fuel magazine, which is supported free from the grate, and so constructed that the inflamed gases may burn in a free space, as they are evolved from the entire outer surface of the incandescent pile of coals, substantially as described.

5. The arrangement of the damper g^2, in combination with the vertical chambers formed by the walls C, D, and E, and a depressed fire pot B, substantially as described.

6. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, jacketed diaphragm $c^1\ c^2$, applied at the base of the fuel magazine, substantially as described.

7. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, air passages $b\ e\ e^1\ e^2$, in combination with flues $b''\ i$, and G, operating substantially as described,

8. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, case *c*, in combination with the jacketed diaphragm c^1, *c*, c^2, and fuel magazine C, substantially as described.

9. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, the combination of the fuel magazine C, the intermediate cylinder D, and the outer cylinder E, substantially as described.

10. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, the cylinders C, D, and E, in combination with air escape pipe J, and smoke escape G, arranged and operating substantially as described.

11. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, the combination of the fuel magazine C and the intermediate cylinder D, with the jacketed diaphragm $c^1\ c^2$ and openings $e^1\ e^2$, substantially as described.

12. In a base-burning air-heating furnace, the annular flue *i*, surrounding and over the supply cylinder C, in combination with the combustion chamber *b* and jacketed diaphragm, substantially as described.

13. In a furnace with a fuel magazine which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, the manner, substantially as described, of introducing and passing cool air into the periphery of the case *c*, and across the flue space or annular combustion chamber b', substantially as set forth.

14. In a base-burning air-heating furnace, having its magazine free from the grate, the window or doorway opening leading into the combustion chamber, through which the condition of the fires can be seen and regulated, substantially as described.

15. In a furnace with a fuel magazine, which is sustained from the grate, and so arranged that the inflamed gases may burn in a free space, constructing the top plate F of the same with a central opening for the escape of heated air, and also with a feed door or passage leading to the fuel magazine, substantially as described.

16. In a furnace with a fuel magazine, which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, the combination of the annular combustion chamber b', the jacketed diaphragm $c^1\ c^2$, and the horizontal openings *d* through the case *c*, the latter being covered with mica for the purpose of illumination and radiation, substantially as described.

17. The central opening J, for the escape of heated air, in combination with a fuel magazine, which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, as they are evolved from the entire upper surface of the incandescent pile of coals, substantially as described.

18. In a furnace with a fuel magazine, which is sustained free from the grate, and so arranged that the inflamed gases may burn in a free space, the central opening J, in combination with the jacketed diaphragm $c^1\ c^2$, substantially as and for the purposes described.

19. In an air-heating base-burning furnace, having its fuel magazine sustained free from the grate, a door-opening *d*, leading into the fire chamber above the fire pot B, substantially as described.

20. Making the jacketed diaphragm smaller at its base or lower end than it is at its upper end, substantially as shown.

21. The arrangement of a jacketed diaphragm over a grate a', which is of a larger area than the bottom of said diaphragm, substantially as described.

3,045.—RUDOLPH D'HEUREUSE, San Francisco, Cal.—*Fermenting and Oxidizing Mash, Malt, &c.*—Patented August 6, 1867, No. 67,512; reissued July 21, 1868.

Claim.—The improved mode of facilitating fermentation or germination by the introduction of air or other gaseous substance of proper temperature and moisture, with mash for distillation, vinous or other substances subject to fermentation or germination, at or near the bottom of the same, substantially as and for the purpose described.

3,046.—JOSEPH PALMER, Concord, N. H.—*Mode of Manufacturing Heads for Elliptic Springs.*—Patented September 3, 1867, No. 68,454; reissued July 21, 1868.

Claim.—1. The right and left dies, constructed substantially as and for the purpose herein described.

2. As an article of manufacture, the ears, as by them manufactured.

3. The application of the ears to the main leaf of elliptic springs, substantially as and for the purpose herein described.

3,047.—JOHN L. ROHRER, Upper Leacock Township, Pa.—*Harvester Rake.*—Patented December 3, 1867, No. 71,649; reissued July 21, 1868.

Claim.—1. A series of reel blades, revolving round an inclined axis, in combination with a rake revolving simultaneously with the blades, but round a vertical axis, and which is elevated and depressed during its revolution, substantially as and for the purpose described.

2. A series of reel blades, revolving round an inclined axis, in combination with a rake revolving round a vertical axis, and with the within-described devices, or their equivalents, whereby the motion of the rake may be arrested without interfering with that of the blades.

3. A shaft, Q, bent as described, and carrying revolving sleeves D F, a rake being jointed to the sleeve on the vertical portion of the shaft, and a series of arms being connected to the sleeve on the inclined portion of the shaft, substantially as and for the purpose specified.

4. The plate Q′, with its straight and curved slots, in combination with the arms and rake shaft or blades, as described.

3,048.—SAMUEL W. SEARS, New York, N. Y.—*Lawn Mower.*—Patented April 14, 1868, No. 76,831; reissued July 21, 1868.

Claim.—1. A lawn mower, so constructed that the cutter bar may be operated either by a driving wheel connection or by hand power, substantially as and for the purposes herein described.

2. In a hand mower, the combination of the roller or driver C with the concentric gear *f*, supporting the frame A, the crank shaft *d*, the shifting sleeve gear, the shaft E, and the reciprocating cutter bar D, constructed, arranged, and operating substantially as and for the purposes herein described.

3,049.—John F. Seiberling, Akron, Ohio.—*Harvester*, (Division B.)—Patented October 15, 1861, No. 34,496; reissued June 14, 1864, No. 1,699; again reissued July 21, 1868.

Claim.—1. The combination, in a harvester, substantially as set forth, of a platform oscillating on an axis parallel with the finger beam, with a device operated by the foot of the driver, for inclining the platform to discharge the gavel.

2. The combination, substantially as set forth, in a harvester, of two main wheels, a frame to support the gearing, a finger beam suspended from the frame by flexible connections, an oscillating platform, and a device, operated by the driver, for inclining the platform.

3. The combination, substantially as set forth, in a harvester, of two wheels, a main or gearing frame, a laterally-projecting finger beam suspended from the main frame by flexible connections, a platform oscillating on an axis parallel with the finger beam and connected with the main frame through the medium of the finger beam only, and a device to operate the platform from the driver's seat.

4. The combination, substantially as set forth, with a harvester platform, of a double-cranked rocking lever and a treadle, operated by the driver, for the purpose set forth.

5. The combination, substantially as set forth, with a harvester platform, of a treadle, P, a rod, p^3, a lever, P', a connecting rod, *p*, and an arm, O, for the purpose set forth.

6. The combination, in a harvester, substantially as set forth, of a cut-off, with a rod, m', arms, $o\ o'$, a rod, *p*, a lever, P', a rod, p^3, and a treadle, P, whereby the cut-off is operated by the same devices as those which operate the platform.

3,050.—The Union Nut Company, Unionville, Conn., assignees of Julius B. Savage.—*Machine for Making Nuts.*—Patented December 14, 1858, No. 22,310; reissued July 21, 1868.

Claim.—1. The combination of a shears with a table, transferrer, and edge swages, the whole constructed and operated substantially as described.

2. The combination of a shears with a table, transferrer, and face swages, substantially as described, in such manner that the transferrers do not hold or compress the sides of the nuts while its face is being swaged, the whole constructed and operated substantially as described.

3. The combination of a shears with both face and edge swages, by means of a supporting table and transferrers, the whole constructed and operated substantially as specified.

4. The combination of edge swages with face swages, by means of a table and transferrer, the whole constructed and operated substantially as described.

5. A combination of face swages with a punch, by means of a transferrer and supporting table, acting to transfer the blank, between the two operations, the combination being substantially as described, and the above parts in combination with edge swages, the whole constructed and operated substantially as set forth.

6. The combination of a shears and punch, edge swages and face swages, by means of transferrers and a table, the two latter acting to transfer the blank so that it is operated upon by the former in different localities, the whole constructed and operated as described.

7. The arrangement, in succession, of, first, a shears, second, swages, and, third, a punch, substantially as herein described, so that a blank is first cut off then swaged, and finally punched, the whole constructed and operated substantially as set forth.

8. In combination with a supporting table, a transferrer with a notched or angular acting face, operating both to turn and move a blank, the whole constructed and operated substantially as described.

3,051.—Damon R. Averill, Newburg, Ohio.—*Paint.*—Patented July 16, 1867, No. 66,773; reissued July 28, 1868.

Claim.—1. A paint composed of the ingredients herein named, and prepared and compounded substantially in the manner specified.

2. A liquid paint, when prepared and mixed for use, in any color, in its manufacture, and put up in packages for sale, and which may be preserved in such condition, substantially as and for the purpose described.

3,052.—Henry Disston, Philadelphia, Pa., assignee of Charles Disston, same place.—*Saw.*—Patented April 2, 1867, No. 63,486; reissued July 28, 1868.

Claim.—1. A detachable saw tooth, in which is combined a circular base adapted to a circular recess in the blade with a projection at the rear adapted to a shoulder on the blade, all as set forth for the purpose specified.

2. The lips *i* on the edge of the projection *d* of a saw tooth, or on the edge of a recess in the blade, in combination with a groove and recesses *m*, in the projection or in the blade, substantially as specified.

3,053.—Joseph W. Kendall, Philadelphia, Pa.—*Foot for Tubs, Buckets, &c.*—Patented November 26, 1867, No. 71,311; reissued July 28, 1868.

Claim.—A movable adjustable foot for tubs, buckets, barrels, &c., substantially for the purpose shown.

3,054.—Samuel M. Longley and E. J. Genet, New York, and Samuel B. Smith and Andrew C. Getty, Hudson, N. Y., assignees, by mesne assignments, of Solomon W. Ruggles, Fitchburg, Mass.—*Stump Extractor.*—Patented October 14, 1862, No. 36,673; reissued July 28, 1868.

Claim.—In the afore-described differential windlass, the combined use of power-multiplying toothed wheels, wrapping connected differential drums or pulleys, and a sheave block or blocks, substantially in the manner and for the respective purposes herein set forth.

3,055.—John G. Perry, Kingston, R. I., assignee, by mesne assignments, of Carlos W. Glover, Roxbury, Conn.—*Harvester.*—Patented October 14, 1856, No. 15,882; reissued July 28, 1868.

Claim.—1. So constructing and operating the vibrating sickle-driving mechanism of a harvesting machine, that such mechanism shall work through the driving wheel of the machine.

2. The combination of the cogs *e* on the driving wheel, the pinion *f*, upright shaft C, and wheel *g* with the pinion *h'* of the shaft D, arranged substantially as and for the purpose specified.

3. The combination, with the driving wheel, of the guide box B, bar F, rod H, and lever I, in such manner that the angle of presentation of the cutters carried by the finger bar E may be adjusted, substantially as set forth.

3,056.—William B. Wadsworth, Cleveland, Ohio.—*Water Elevator.*—(Division A.) Patented January 27, 1863, No. 37,535; reissued July 28, 1868.

Claim.—1. The toothed wheel, open and adapted to the chain, substantially as shown and described.

2. The said wheel, in combination with the chain *c b b f f d d*, substantially as shown and described.

3. The tilter *g y*, in combination with the flat chain *c b b f f d d*, substantially as shown and described.

4. The arrangement of the curved tilter *g y* and stops *h h*, substantially as shown and described.

3,057.—William B. Wadsworth, Cleveland, Ohio.—*Water Elevator.*—(Division B.) Patented January 27, 1863, No. 37,535; reissued July 28, 1868.

Claim.—The chain, composed of links, as shown at *c b b f f d d*, the bent cross bar *e*, running through to the outside of the hooks of the last link to *b b*, then angling, as shown at *f f*, to hooks *d d*, inside of bends *b b*, substantially as shown and described.

3,058.—Edward Whitely, Boston, Mass.—*Culinary Boiler.*—Patented April 8, 1856, No. 14,622; reissued July 28, 1868.

Claim.—1. The trap G and cap I, or its equivalent, as arranged and applied to the vessel B, whereby the latter may be employed either as a boiler or steamer, as set forth.

2. In combination with the vessel B, the interior vessel H, perforated to admit the steam, when placed within the outer receptacle B, and entirely surrounded or inclosed thereby, substantially as and for the purpose set forth.

3,059.—William H. Wiley, Fredonia, N. Y.—*Horse Power.*—Patented November 12, 1867, No. 70,768; reissued July 28, 1868.

Claim.—1. The gear table D, rigidly connected to the draught levers F by the interposed spindles E, or their equivalent, so as to form a gear frame for carrying the pinions and spur wheels G H about the internal stationary cog rim C, and also a support for the draught levers upon the stationary central spindle C′, substantially as described.

2. The pinion spindles E, when secured to the table D at varying distances from the center thereof, so that different sizes of pinions to gear with cog rim C, and spur wheels to gear with pinion I, may be used, as and for the purpose set forth.

3,060.—Virgil H. Lyon, Plainfield, Ind.—*Fruit Gatherer.*—Patented March 3, 1863, No. 75,035; reissued August 4, 1868.

Claim.—1. The head A A′, furnished with the fingers C and B, when formed, constructed, and arranged substantially as herein shown and described.

2. The head A A′, in combination with the sack or hose S, substantially as herein specified.

3. The sectional handle D, constructed as described, in combination with the head A A′, substantially as and for the purpose set forth.

3,061.—James Adair, Pittsburg, Pa.—*Card Rack.*—Patented October 2, 1866, No. 58,363; reissued August 4, 1868.

Claim.—1. A wire spring, of spiral or other continuous curve, when so made as to be fastened by hooks, eyes, or other similar device, either with or without an intermediate bed plate, to a desk, table, pedestal, or other like object, for use as a spring-rack, substantially as hereinbefore set forth.

2. A bed piece so made with raised sides and ends, as that a spring of continuous curve placed in the space inclosed therein, and properly fastened, shall be secured against both lateral and undue longitudinal motion, substantially as and for the purposes hereinbefore set forth.

3. Fastening a spring or springs of continuous curve to a bed piece, by a fastening rod passing longitudinally through or along the spring or springs, and properly secured at each end, substantially as and for the purposes hereinbefore set forth.

4. A spiral or other continuously curved spring or springs *a*, in combination with a metallic bed piece A, by which to fasten the spring to a table or pedestal or other like object, substantially in the manner and for the purposes hereinbefore expressed.

3,062.—Amos Broadnax, Montclair, N. J., and Rolin B. Gray, Brooklyn, N. Y., assignees, by mesne assignments, of N. N. McLeod, St. Louis, Mo.—*Hose Coupling.*—Patented May 24, 1859, No. 24,179; reissued August 4, 1868.

Claim.—Joining the end or ends of a pipe or tube by means of a tubular coupling, one end or each end thereof made conical or beveled, and having a a tubular screw nut and thread, said connection being susceptible of receiving or having cast upon it a branch or branches, without interfering with the construction of the joint or joints, all substantially as shown and described.

3,063.—Thomas Evans, Newark, N. J.—*Metallic Ear for Attaching Handles to Pails and Like Vessels.*—Patented June 21, 1859, No. 24,451; reissued August 4, 1868.

Claim.—1. Metallic ears, for attaching the handles to pails and other vessels, formed with concentric annular corrugations surrounding the bail orifice, substantially as and for the purposes set forth.

2. So arranging the hooked ends of the bail as to give them an additional bearing against one or more of said corrugations, substantially as set forth.

3. The drip opening or passage, formed by the downward continuation of the outer corrugation for draining the interior cavity, as shown and described.

4. A bail ear, formed with the portion surrounding the eye raised to receive the hooked end of the bail, when the marginal portion or portions thereof are formed on the plane of the part to which they are to be attached, substantially as set forth.

3,064.—John Ashton Greene and Henry A. Tweed, New York, N. Y., assignees, by mesne assignments, of G. W. Blake.—*Belt Fastening.*—Patented April 24, 1860, No. 28,033; reissued August 4, 1868.

Claim.—1. The employment, in connection with belts or bands, of a series of links or looped shanks, constructed to receive at either end a rod or locking bar, substantially as herein described.

2. The manufacture of belt studs constructed with eyes or loops, so that a series of them may be locked or fastened at either end by a single rod or cross bar, substantially as described.

3. The combination of double-eyed shanks with corresponding locking bars, substanttally as and for the purpose herein set forth.

4. The method, herein described, of fastening belt by means of two metallic bars united together by shanks passing through the ends of the belt or band to be united, substantially as set forth.

3,065.—John Ashton Greene and Henry A. Tweed, New York, N. Y., assignees, by mesne assignments, of G. W. Blake.—*Belt Fastening.*—Patented March 26, 1861, No. 31,859; reissued August 4, 1868.

Claim.—1. As an article of manufacture, double-headed studs shaped substantially as described, with a view to the uses herein set forth.

2. The method of fastening or uniting the ends of belts by a series of double-headed studs, substantially as herein shown and set forth.

3. The use, in combination with the ends of belts or bands, of double-headed studs, substantially as and for the purpose herein described.

3,066.—R. Hoe & Co., New York, N. Y., assignees of Alexander T. De Puy, same place.—*Printers' Galley.*—Patented December 4, 1868, No. 70,151; reissued Angus. 4. 1868.

Claim.—The combination, with the wooden frame of a printers' galley, of a metallic lining, secured thereto by means of a groove or grooves, substantially as and for the purpose specified.

3,067.—Isaac D. Johnson, M. D., Kennett Square, Pa.—*Check Brace for Carriage.*—Patented April 28, 1862, No. 67,196; reissued August 4, 1868.

Claim.—1. The brackets F F′, located upon the perch, substantially as and for the purpose described.

2. The brackets H H′, secured to the elliptic springs C C′, substantially as and for the purpose described.

3. The combination of the brackets F F′ and the brackets H H′ with the connecting plate springs G G′, when arranged and operating substantially as and for the purpose described.

4. The combination of the brackets F on the perch, the brackets H on the springs, the plate springs G, and the elliptic springs, whereby the torsion of the springs and the undue oscillation of the body are prevented.

5. The combination, with the body of the vehicle, of the shackle *c*, the spring C, the brackets F H, and the plate spring G, whereby the spring

is braced from the center, substantially as described.

6. The combination, with the body of the vehicle, of the shackles, springs, brackets, and connecting plate springs, substantially as and for the purpose set forth.

3,068.—Carl A. Kleeman, Erfurt, Prussia.—*Lamp.*—Patented March 10, 1863, No. 37,867; reissued August 4, 1868.

Claim.—1. An argand burner and chimney holder, in combination with the cone *q*, provided with openings 4, to admit air to pass in between the cone and the glass chimney, substantially as set forth.

2. The cone *q*, provided with air openings 4, in combination with the cylinder *p* and arms 5, for connecting the said cone to the argand burner, substantially as set forth.

3. The cup 3, in combination with the cylinder *p* and wick tube *o*, as and for the purposes set forth.

3,069.—Orson W. Stow, Plantsville, Conn.—*Machine for Bending Sheet Metal.*—Patented February 28, 1860, No. 27,319; reissued August 4, 1868.

Claim.—1. Making the folding bar, commonly used in such machines, in two parts, *f* and *i*, one part, *i*, being adjustable in respect to the folding plate *e*, by means of set screws *n*, or other equivalent means, so as to form a close or open lock, for joining two pieces of metal plate, or closing around a wire, substantially in the manner as described.

2. Arranging the griping jaw *s*, with the folding bar *f* and *i*, in such a manner that on motion being given to the folding bar *f*, on its axis *g*, the griping jaw *s*, is made to close on the folding plate *e*, and at the same time carry along with it the folding bar *f* into such a position as will bring its axis *g* of motion nearly into a line with the edge of the folding plate *e*, thereby placing the folding plate *f* and *i* in position to be turned over onto the folding plate *e*, necessarily, and simultaneously with the motion of the folding bar *f* and *i*, on its axis *g*, substantially in the manner as described.

3. The bed plate proper, *a a'*, to which is secured the folding plate *e*, in combination with the hinged frame *b*, having journal boxes *d*, and griping jaws *s*, the folding bar *f* and *i* having journals *g*, and cams *o*, arranged and operating together, substantially in the manner as and for the purpose described.

4. In a machine which uses but one folding bar, as described, the combination of the folding-plate with the folding bar, when so constructed and operating together that the distance between their adjacent edges can be increased or diminished at pleasure, for the purpose of forming both open and close locks or bends in sheet metal.

3,070.—The American Shoe Tip Company, Conn., assignees, by mesne assignments, of Newman Silverthorn.—*Boot and Shoe Tip.*—Patented November 29, 1859, No. 26,329; reissued September 2, 1862, No. 1,339; and again reissued August 4, 1868.

Claim.—A formed tip, substantially as described, as an article of manufacture.

3,071.—George Watt, Richmond, Va.—*Plow.*—Patented February 9, 1858, No. 19,321; improvement added August 2, 1859; reissued August 4, 1868.

Claim.—1. The combination, in a plow, of a landside, having an inward inclination from its base toward the mold board, and a neck, breast, or standard, having a diverse or outward inclination, substantially as set forth.

2. Constructing mold board and land side of cylindrical surfaces, intersecting along the cutting edge of the plow, in combination with the curved standard S, the whole being constructed substantially as and for the purposes hereinbefore set forth.

3. The combination of the eccentric roller *r*, beam B, notches *i*, and cuff *f*, substantially as set forth.

3,072.—Truman G. Bailey, Amenia, N. Y.—*Buckle.*—Patented July 4, 1865, No. 48,503; reissued August 11, 1868.

Claim.—1. The wedge C, and also the wedge D, with the tongue G attached, and forming a part thereof, each of said wedges separately, and also in combination with each other, when made in the form described and applied to a buckle frame, for the purpose of relieving, by compression, the strain upon the trace, substantially as above described.

2. The wedges C and D, with their inclined faces C^1 and D^1 and tongue or spur G, arranged relatively to the inclosing strap B^1, the buckle frame B, the strap E, and spring F, or each of their equivalents, substantially in the manner and for the purpose herein set forth.

3,073.—Charles Bender, New York, N. Y.—*Suspension Bridge.*—Patented December 10, 1867, No. 71,955; reissued August 11, 1868.

Claim.—1. The construction and arrangement of one or more yielding joints connecting the beams or trusses of stiffened suspension bridges, substantially as and for the purpose described.

2. The plates N, fitted together as shown in Fig. 2, and combined with the fulcrum bolts E of the yielding joints of the trusses, substantially as and for the purpose set forth.

3. The attachment of the ends of the cables or chains at or near the first or shore piers to the longitudinal beams or to the trusses of stiffened suspension bridges, substantially as and for the purpose described.

4. The method employed to reduce the side motion of a stiffened suspension bridge, by causing the longitudinal beams or trusses to bear against the several piers by means of projections L, as shown in Fig. 5, all constructed and arranged as herein described.

5. The arrangement of a connection, which is rigid in a horizontal direction, between each truss and one pier, while the connections of said truss with the remaining piers are free to accommodate themselves to the expansion and contraction of the beams or trusses, substantially as and for the purposes set forth.

6. The method of connecting the ends of the beams or trusses of stiffened suspension bridges, provided with yielding joints, to their respective piers, consisting of links *v*, all arranged and as for the purpose set forth.

3,074.—Andrew Christian, New York, N. Y.—*Children's Carriage.*—Patented April 24, 1866, No. 54,111; reissued August 11, 1868.

Claim.—Supporting the front end of a child's carriage upon two wheels, arranged between the sills of the carriage, substantially as herein shown and described.

3,075.—F. G. Floyd and E. A. Floyd, Macomb, Ill.—*Broadcast Sower.*—Patented April 2, 1867, No. 63,378; reissued August 11, 1868.

Claim.—1. The frame A, constructed as described, shaft B, disk C, when arranged in relation to each other as and for the purpose set forth.

2. The disk C, with projection *c*, in combination with the shaft B, the former being attached to the latter in the manner described.

3. The shaft B, with gear wheel *b*, shaft D, with gear wheel *d*, and standard E, the whole being combined and operated as set forth.

4. The slide F, constructed as described, in combination with pin *f* and holes *f'*, as and for the purpose set forth.

5. The revolving disk C, provided with the radial flanges *c'*, having their outer ends projecting beyond the periphery of the disk, and curved in the manner shown, substantially as set forth.

6. The combination of the frame A, hopper G, slide F, and revolving disk C, constructed as above set forth, all arranged for joint operation, as herein described.

7. The frame A, shaft B, with wheel *b*, shaft D, with wheel *d*, disk C, slide F, hopper G, and bag H, the whole being combined and operated in the manner set forth.

3,076.—Charles R. Hartman, Vincennes, Ind.—*Subsoil Plow.*—Patented April 14, 1868, No. 76,[illegible]; reissued August 11, 1868.

Claim.—1. A colter, constructed as described, and provided with the standard C and the rear projection *d*, as a new article of manufacture, substantially as and for the purpose described.

2. The combination, with the colter and its standard G, of the adjustable guide box *a*, substantially as and for the purpose described.

3. The combination with the hooks C and beam A, of a chain or other suitable bracing support, having an adjustable connection either with the hooks or beam, substantially as and for the purpose described.

3,077.—NIXON & CO., Alliance, Ohio, assignees of CHARLES O'BRYAN and HENRY KREPS.—*Plow.*—Patented August 20, 1861, No. 33,096; reissued August 11. 1868.

Claim.—1. The combination of the beam A, provided with the yoke B and handles C C, with shares D attached, and the braces E E, arranged as and for the purpose set forth.

2. Making the handles C and standards in one piece, and so pivoting or connecting the same to the yoke or bow B of the beam as to be rendered adjustable, substantially as and for the purpose set forth.

3. The combination of the beam A and bow B of one entire piece, and so arranged that one of the arms of said bow is longer than the other, and so attached to the handles or standards as to admit one of the shovels to be in advance of the other, substantially as and for the purpose described.

3,078.—RIPLEY & CO., Pittsburg, Pa., assignees of DANIEL C. RIPLEY, same place.—*Glass Lamp.*—(Division No. 1.) Patented January 7, 1868, No. 73,122; reissued August 11, 1868.

Claim.—A glass lamp, with two or more pressed handles, which are so formed and attached that they perform the double function of handles and braces between the base and the bulb or body of the lamp, substantially as described.

3,079.—JAMES D. SARVEN, Columbia, Tenn.—*Carriage Wheel.*—Patented June 9, 1857, No. 17,520; reissued August 11, 1868.

Claim.—1. A carriage wheel, constructed with a wooden hub, in which the spokes are arranged at the said hub so as to have a bearing surface or support between each other, so as to form a continuous body or band around the said hub, substantially in the manner and for the purpose set forth.

2. A carriage wheel, in which the hub is constructed by combining a wood center and a metallic band or bands, flange or flanges, arranged so that the said metallic band or flange forms an additional bearing or support for the spokes, when the bands or flanges upon the opposite sides of the spoke are connected together through or between the spokes, to unite the two flanges, and form, as it were, one metallic band, through which the spokes pass.

3,080.—JOHN JAY SQUIRE, New London, Conn.—*Fruit Jar.*—Patented September 26, 1865, No. 50,181; reissued August 11, 1868.

Claim.—1. Closing the vent hole D, and supply hole E of the cover of a jar, by means of a cap, F, substantially as described.

2. Holding the covers of jars or vessels in place by means of elastic bands or straps, or their equivalents, applied substantially as shown and described.

3,081.—TUCKER MANUFACTURING COMPANY, Boston, assignee, by mesne assignments, of HIRAM TUCKER, Newton, Mass.—*Spring Bed Bottom.*—Patented July 3, 1855, No. 13,188; improvement 165; dated June 9, 1857; reissued April 5, 1859, No. 683; again reissued August 6, 1861, No. 112; and again reissued August 11, 1868.

Claim.—1. The combination of a series of wooden slats or bars with a frame or box, by means of two stirrup or lifter springs for each slat, by which the latter is supported at or near the ends thereof substantially as set forth.

2. The combination of each of a series of wooden slats or bars with a frame or box, by means of coiled stirrup or lifter springs supporting the slats, and being coiled by weight imposed upon the slats, and uncoiling themselves as weight is removed from the slats, the combination being substantially such as described.

3. The combination of a series of wooden slats with a frame or box by means of two springs supporting each end of each slat, and acting by coiling and uncoiling, whereby each slat is not only supported, but also prevented from rolling, substantially as specified.

4. The combination of cylindrical rods or bars inclosed in the coils, with coiled springs supporting wooden slats in a bed bottom, substantially in the manner set forth.

5. The combination of each of a series of wooden slats with a bed bottom, by means of stirrup or lifter springs and a band loop, whereby each slat is supported at or near the end thereof, substantially in the manner specified.

6. The combination of a series of wooden slats with a frame, by means of lifting springs and tension springs, substantially as described.

7. A series of wooden slats, arranged longitudinally in a frame, in combination with the head and foot rails thereof, by means of springs, substantially in the manner and to produce the results specified.

8. A series of wooden slats, arranged longitudinally in a frame, in combination with the head and foot rails thereof, by means of springs, and in combination with each other, by means of a flexible band, this combination being substantially such as specified.

3,082.—RUFUS SPAULDING MERRILL and WILLIAM CARLETON, Boston, Mass., assignees of CHRISTIAN REICHMANN, Philadelphia, Pa.—*Lamp.*—Patented September 21, 1858; No. 21,576; reissued August 11, 1868.

Claim.—The combination of a flat wick tube with a dome or deflector, having a corresponding oblong opening or slot, under the arrangement substantially as shown and described, so that, while directly connected with each other, the said parts shall allow light to pass out, or be reflected from between them, as set forth.

2. The combination of a flat wick tube with a slotted dome or deflector and arms or frame, whereby the said dome is held on the wick tube in an elevated position in relation thereto, substantially as and for the purposes shown and described.

3. The combination of the deflector, and its supporting arms or frame and sleeve, with the wick tube, substantially as and for the purposes set forth.

4. A lamp burner, composed of two groups of elements, the first consisting of the base, with its wick tube and wick-adjusting rack and pinions, the second, of a chimney holder, deflector, and such other parts as may be needed for the proper combustion of the fluid, so as to procure an illuminating flame, the two groups being united by friction, and the latter, when in position in the burner, being supported by the former without the intervention of any mechanical device, whereby the two may be rigidly connected together, substantially as and for the purposes herein shown and set forth.

5. The combination, with a flat wick tube, of a correspondingly slotted, but elevated dome, provided with peripheral springs for holding the chimney in proper position, as set forth.

6. The combination, with the base and flat wick tube, of a chimney rest or holder, an elevated dome provided with peripheral springs, and a sleeve and frame or arms for holding said dome in position with respect to the wick tube, substantially as and for the purposes herein shown and described.

7. The combination, with the dome or deflector, of a series of arms projecting from the periphery of said deflector, and arranged as herein described, so as to constitute both the seat or rest for the lamp chimney and the springs by which the said chimney is steadied and held in position, substantially as set forth.

3,083.—THOMAS BLAKEWELL and JOHN LIPPINCOTT, Pittsburg, Pa., assignees of DANIEL W. COLBURN, Laomi, Ill.—*Ax.*—Patented July 9, 1867; No. 66,563; reissued August 18, 1868.

Claim.—1. Making that part of the edge of an ax which lies forward of the broadest part of the bit of a semicircular shape, or of a shape nearly semicircular, substantially as and for the purposes hereinbefore set forth.

2. Continuing the cutting edge of an ax around the swell of the bit on both ends of the ax, substantially as and for the purposes above set forth.

3. Making an ax with a poll of gradually-increasing width from the eye toward the bit, when combined with a bit having a curved cutting edge extending around and back of its broadest part on both ends of the poll, so that the poll may be reversible, and that the handle may be inserted at either end of the eye.

3,084.—J. W. DOTY, Lockport, N. Y.—*Harvester Pitman.*—(Division C.) Patented October 30, 1866, No. 59,192; reissued August 18, 1868.

Claim.—The combination of the bolt H, ratchet nut *e*, and pawl *p* with the conical or spherical wrist *m* and socket *n*, or their equivalents, for the purpose set forth.

3,085.—JOHN K. MAYO, New York, N. Y., for himself and ANDRE CUSHING and GEORGE B. CUSHING, St. John, New Brunswick, assignees of JOHN K. MAYO.—*Material for Various Structures.*—(Division A.) Patented December 26, 1865, No. 61,735; reissued August 18, 1868.

Claim.—A compound scale board, consisting of a plurality of thin sheets, scales, or layers of wood connected together with the grain in divers directions as a material for manufactures, and for the formation, lining, or covering of land or marine structures.

3,086.—JOHN K. MAYO, New York, N. Y., for himself, and ANDRE CUSHING and GEORGE B. CUSHING, St. John, New Brunswick, assignees of JOHN K. MAYO.—*Material to be Used in Constructing Bridges, Arches, Beams, Tunnels, and Other Works in Civil Engineering.* (Division B.) Patented December 26, 1865, No. 51,735; reissued August 18, 1868.

Claim—The employment or use of the compound scale board, hereinbefore described, in the formation of the specified or analogous structures in civil engineering.

3,087.—JOHN K. MAYO, New York, N. Y., for himself, and ANDRE CUSHING and GEORGE B. CUSHING, St. John, New Brunswick, assignees of JOHN K. MAYO.—*Construction of Ships, Boats, Buoys, and other Nautical and Marine Structures.* (Division C.) Patented December 26, 1865 No. 51,735; reissued August 18, 1868.

Claim.—The employment or use of the compound scale board, hereinbefore described, in the formation of the specified or analogous nautical structures.

3,088.—JOHN K. MAYO, New York, N. Y., for himself, and ANDRE CUSHING and GEORGE B. CUSHING, St. John, New Brunswick, assignees of JOHN K. MAYO.—*Construction and Finishing of Houses and other Buildings.*—(Division D.) Patented December 26, 1865, No. 51,735; reissued August 18, 1868.

Claim.—The employment or use of the compound scale board, hereinbefore described, in the construction and finishing of houses and other buildings, or parts thereof.

3,089.—JOHN K. MAYO, New York, N. Y., for himself, and ANDRE CUSHING and GEORGE B. CUSHING, St. John, New Brunswick, assignees of JOHN K. MAYO.—*House Decorations, Furniture, Fittings, and the Like.* (Division E.) Patented December 26, 1865, No. 51,735; reissued August 18, 1868.

Claim.—The employment or use of the compound scale board, hereinbefore described, in the formation of the specified or analogous structures or articles of house decoration, fitting, and furnishing.

3,090.—JOHN K. MAYO, New York, N. Y., for himself, and ANDRE CUSHING and GEORGE B. CUSHING, St. John, New Brunswick, assignees of JOHN K. MAYO.—*Construction of Boxes, Trunks, Buckets, Barrels, and other Containing Vessels.* (Division F.) Patented December 26, 1865, No. 51,735; reissued August 18, 1868.

Claim.—The employment or use of the compound scale board, hereinbefore described, in the formation of the specified or analogous receptacles, or parts thereof.

3,091.—JOHN K. MAYO, New York, N. Y., for himself, and ANDRE CUSHING and GEORGE B. CUSHING, St. John, New Brunswick, assignees of JOHN K. MAYO.—*Pipes, Tubes, Funnels, Faucets, &c.* (Division G.) Patented December 26, 1865, No. 51,735; reissued August 18, 1868.

Claim.—A conductor or vessel made of thin scale boards or laminæ of wood cemented together, with the grain crossed or diversified, substantially as and for the purpose herein set forth.

3,092.—JOHN K. MAYO, New York, N. Y., for himself, and ANDRE CUSHING and GEORGE B. CUSHING, St. John, New Brunswick, assignees of JOHN K. MAYO.—*Construction of Carriages, Cars, Coaches, and other Vehicles.* (Division H.) Patented December 26, 1865, No. 51,735; reissued August 18, 1868.

Claim.—The employment or use of the compound scale board, hereinbefore described, in the formation of the specified or analogous articles and structures.

3,093.—WILLIAM H. STEVENSON, Auburn, N. Y.—*Harvester.*—Patented March 3, 1868, No. 75,070; reissued August 18, 1868.

Claim.—1. The combination, with a dished driving spur wheel D, of a spur pinion E, bevel wheel H, and bevel pinion I, which will admit of the arrangement of the crank shaft J, substantially as and for the purposes specified.

2. The arrangement of the gear wheels D E H I, the wheel E, running loosely on a shaft F, and being provided with a clutching face *f* and shipping lever G, substantially as described.

3. The adjustable shifter holder and guide G¹, constructed in one piece, and attached to the main or draught frame by bolts passing through one or more slots in the shifting plate G², whereby the shifter fork may be adjusted to the groove in the spur pinion, substantially as described.

4. The combination of the adjusting lever T, linked connection L, and curved guide S, the latter working endwise in a guide box K, on the frame with the drag bar P, substantially in the manner shown and described.

3,094.—JAMES C. BETHEA, Blakely, Ga.—*Plow.*—Patented February 5, 1867, No. 61,796; reissued August 25, 1868.

Claim.—1. The post A, having in combination the front flange F and projection B, or any equivalent of this projection, which sustains, in front of the vertical part of the post next below it, the holding-down mechanism of the beam.

2. Making the connection of the plow beam to the post A, having the front flange F, by the stirrup D and wedge E, or equivalents of these two parts, the stirrup of which surrounds the beam and a portion of the metal below it, and has directly in rear of the lower end a portion of the post.

3. The post A, having the front flange F and projection B, or any equivalent of this projection, which, together with the beam, is surrounded by the stirrup D and drawn together by the wedge E, or equivalents of this stirrup and wedge, which hold the beam to the post, as these parts do, without weakening either one.

4. The post A, having the front flange F and the the front and rear projections B B, or any equivalent of the front projection, which, together with the beam, is surrounded by the stirrup D and drawn together by the wedge E, or equivalents of this stirrup and wedge, which hold the beam to the post in front, while the beam is so held to the rear flange as to prevent the parallelism of the land side of the beam and post being varied.

5. The combination of the post A, having the front flange F and projection B, and the stirrup D, wedge E, and land side G, with its cutting edge, or an equivalent combination of parts.

6. The post A, having the front and rear flanges F F and projections B B, and the beam C, connected to the projections with the stirrups D D and the wedges E E, or equivalents of these parts, for changing the plow from a right to a left-hand turning one.

7. The combination of the reversible landside G with the post A, having the flanges F F.

3,095.—Henry W. Holly, Brooklyn, N. Y., assignee of John W. Hoard, Providence, R. I.—*Marking Slates.*—Patented February 24, 1857, No. 16,687; reissued August 25, 1868.

Claim.—1. The use of liquid silex in the preparation or manufacture of artificial slates, tablets, blackboards, and other like articles for marking or writing upon.

2. The combination of an oxide as a drying, anti-deliquescent, and coloring substance, with liquid quartz or silex, as a menstruum in the manufacture of artificial slates, substantially as specified.

3. An artificial slate or tablet, formed by spreading liquid quartz or silex, either separate or mixed with other materials, on a suitable surface or body, of card or sheet form, and, prior to being dried, calendering or rolling the same under pressure, essentially as herein set forth.

3,096.—Emile Martin and Pierre Emile Martin, Paris, France.—*Process for Refining and Converting Cast Iron into Cast Steel and other Combinations of Iron and Carbon.*—Patented December 10, 1867, No. 72,061; reissued August 25, 1868.

Claim.—The process, substantially as herein described, for decarbonizing cast iron, in combination with the process of recharging the molten metal with the recarbonizing or "deoxygenating" material, substantially as and for the purpose specified.

3,097.—Don Carlos Matteson and Truman Pane Williamson, Stockton, Cal.—*Cultivator Teeth.*—Patented April 9, 1867, No. 63,647; reissued August 25, 1868.

Claim.—1. The double pointed adjustable bit A attached to the beveled foot of the curved standard C, substantially as and for the purpose specified.

2. The oblong blade or share D, in combination with the bit A, substantially as described, for the purpose specified.

3,098.—M. Richards and J. Vandegrift, Princeton, Ill.—*Plow.*—Patented February 5, 1867, No. 61,762; reissued August 25, 1868.

Claim.—1. Broadly, the beam C pivoted to the brace B, and arranged to turn, substantially as and for the purpose herein specified.

2. The combination of the beam C, support and brace B, landside A, and moldboard A′, as set forth.

3. The arm D, in combination with the beam C, plugs *h*, clamp F, and mold board A′, as described and set forth.

3,099.—Robert Dunbar, Buffalo, New York.—*Water Wheel.*—Patented July 30, 1867, No. 67,174; reissued August 25, 1868.

Claim.—1. A passage or communication formed between the chambers M and N, outside of the hydrostatic chamber G, substantially as and for the purpose set forth.

2. The rim F connected with and extending downwardly from the plate K, on a circle of less diameter than the hub of the wheel, so as to form, in combination with the plate K and stationary disk E, the lesser annular chamber G, and, in combination with the hub, the larger annular chamber J, for the purpose and substantially as described.

3,100.—John Haskins, Boston, Mass.—*Rubber Fabric.*—Patented July 30, 1867, No. 67,298; reissued August 25, 1868.

Claim.—The within-described article of perforated rubber as an article of manufacture, the same being used as and for the purpose set forth.

3,101.—George Place and Charles Place, New York, N. Y., assignees of Clark L. Hayes and Martin Newman.—*Circular-Saw Mill.*—Patented August 12, 1862, No. 36,150; reissued August 25, 1868.

Claim.—1. In a machine for edging and slitting lumber, where the saw or saws are made adjustable on the mandrel, the combination of said saw or saws with feed rollers, constructed and arranged to operate in the manner and for the purpose specified.

2. The construction of the saw mandrel and hub which moves upon it, as described.

3,102.—Henri L. Stuart, New York, assignee of John F. Boynton, Syracuse, N. Y.—*Steam Generator.* (Division B.) Patented September 10, 1867, No. 68,598; antedated July 19, 1867; reissued August 25, 1868.

Claim.—1. The perforated tube B within the boiler, or its equivalent, for equalizing the temperature of the steam in the boiler substantially as described.

2. In combination with a steam boiler, the automatic heater and feeder, when constructed, arranged, and operating substantially as described.

3,103.—Benoit Bloch, Soultz, France.—*Aniline Dye.*—Patented July 14, 1868, No. 79,942; reissued September 1, 1868.

Claim.—A dye composed of the ingredients herein named, and treated in the manner substantially as set forth.

3,104.—J. P. Champion, Phelps, N. Y.—*Apparatus for Raising and Securing the Legs of Horses to Shoe them.*—Patented November 5, 1867, No. 70,523; reissued September 1, 1868.

Claim.—The lever apparatus for raising and securing horses' legs, employed in connection with a suitable frame arranged and applied substantially as herein shown and described.

3,105.—George G. Larkin, West Amesbury, Mass.—*Carriage-Circle Coupling.*—Patented April 5, 1864, No. 42,199; reissued September 1, 1868.

Claim.—1. The lower circle J J K, formed with a depressed rear portion in combination with an upper circle, L, constructed and applied substantially as herein set forth.

2. In combination with the lower circle J J K and upper circle L, thus constructed and combined, the stop M, for the purpose specified.

3,106.—Morris Mattson, New York, N. Y.—*Enema Syringe.*—Patented April 4, 1854, No. 10,742; extended seven years; reissued September 1, 1868.

Claim.—1. The combination of the thumb or finger rest *d* with the barrel and piston for the purpose set forth.

2. The combination of the elastic or floating disk or valve *h′* with its seat and chamber arranged and operating substantially as described.

3. Placing the ejection or outlet valve of a syringe at or near the extremity of the discharge or injecting tube most distant from the pump barrel, or its equivalent, for the purposes set forth.

3,107.—Charles Mellinger, Cornwall, Pa.—*Furnace for Roasting Ores.*—Patented May 19, 1868, No. 78,113; reissued September 1, 1868.

Claim.—1. In combination with a desulphurizing furnace or oven for preparing iron ore for smelting, the sliding door or damper B, arranged and operated substantially as described.

2. In combination with a desulphurizing furnace for the purposes mentioned, the grated or perforated arch F, substantially as described.

3. The combination of the arch F, the chambers E and H, the apertures J and L, and the damper B, substantially as and for the purposes described.

4. A blast furnace, so constructed that the surplus heat or gas escaping from the same is utilized, thereby desulphurizing, preparing, or roasting the ore, preparatory to smelting, substantially as herein set forth.

3,108.—William Hartley Miller, Philadelphia, Pa., assignee of James L. Bates, Providence, R. I.—*Steam-engine Packing.*—Patented November 25, 1862, No. 36,667; reissued September 1, 1868.

Claim.—1. The use of a braided or woven fibrous covering, in combination with a filling for packing for the purposes above described.

2. The use of the fillet or strip of cork A or other filling, in combination with the covering *b* or its equivalent, substantially as shown and described.

3. The construction of packing substantially as herein set forth.

4. The construction of fibrous-braid coverings for packing substantially as shown.

3,109.—HENRY WHITALL, Woodbury, N. J.—*Machine for Grinding the Cutters of Mowing Machines.*—Patented May 14, 1867, No. 64,817; reissued September 1. 1868.

Claim.—1. A rotary grinding wheel, for grinding the inclined beveled edges of the cutters of harvesters and mowing machines, on their bars, in combination with a frame, supporting the grinding wheel and its shaft, and mechanism for holding the face of the stone, and cutters, adjusted to the desired or predetermined bevel, in contact, the combination and arrangement being such that the grinding wheel and either of the opposite inclined beveled edges of the cutters may be brought, when desired, together, and retained in contact, substantially as described, and for the purpose specified.

2. The combination, in a frame, of a rotary grinding wheel and an oscillating support, for changing the relative positions of the grinder and cutters, to operate on the opposite edges of the cutters, for the purpose set forth.

3. The combination, in a frame, of a rotary and traversing grinding wheel, and an oscillating support, for changing the relative positions of the grinder and cutters, to operate on the opposite edges of the cutters, for the purpose set forth.

4. A rotary and traversing grinding wheel, supported on a shaft, arranged angularly in the sliding frame, the position of the shaft in the frame being such that when the said sliding frame traverses parallel with the edge of the cutter, the mandrel will be parallel with the cutter-bar, substantially as and for the purpose described.

5. A rotary grinding wheel, supported on a traversing frame, and arranged to be adjusted in a horizontal plane, parallel with the faces of the cutter blades, substantially as and for the purpose described.

6. The combination of the posts B and B′, provided with the sleeves C and C′, of the bent frame D, jointed to the sleeves and the oscillating frame, substantially as and for the purpose described.

7. The combination, with the bent frame D, of the oscillating frame E, pivoted thereto, and provided with means for adjustment, substantially as and for the purpose described.

8. The combination, with the sliding and oscillating frame, of the driving shaft, grinder-carrying shaft, grinding wheel, and their operating mechanism, substantially as and for the purpose described.

9. The combination, with the machine, substantially as described, of the clamp P, when arranged for joint action with the same, substantially as and for the purpose set forth.

10. A grinding mechanism, substantially such as described, operating to grind the cutters while in the machine.

3,110.—JAMES A. WOODBURY, Boston, assignee of JOEL WHITNEY, Winchester, Mass.—*Planing Machine.*—Patented April 13, 1852, No. 8,881; extended seven years; reissued September 1, 1868.

Claim.—1. The method of connecting the movable feed roll to the stationary roll, when moving toward and from the same, in a constant plane, perpendicular to the board, by a duplicate system of similar gears at either end of the same, substantially as described.

2. The arrangement of mechanism by which the upper feed roll is allowed to yield to any inequalities in the board, and at the same time is drawn down upon its surface to which it has yielded in proportion to the resistance to its progress, substantially as described.

3. In combination with a pair of feed-rolls geared and driven from both of their ends, and the duplicate sets of intermediate gears working in and with them, the connecting of said intermediate or driving gears by substantial shafts extending clear across from one set to the opposite set, by which the lifting and driving are done at both ends of the rolls, and the twisting, bending, or straining of journals or bearings avoided, substantially as described.

4. The arrangement of the gears D, loosely, so as to turn upon their movable but non-rotating connecting shaft I, so that said shaft and gears may be free to accommodate themselves to the yielding feed roll, and avoid the necessity of movable journal boxes or bearings, substantially as represented, and for the purpose described.

3,111.—S. B. ROWLEY, Philadelphia, Pa., assignee of N. S. GILBERT.—*Fruit Jar.*—Patented December 17, 1861, No. 33,938; reissued September 1, 1868.

Claim.—1. A jar, having a shoulder on the neck, below the mouth, (a flanged cap, which overlaps the neck,) and a packing, which is compressed between the shoulder and the cap, substantially as set forth.

2. The combination of a cover, A, adapted to the mouth of a jar, and to a packing on an exterior shoulder below the mouth, with a bail, D, or its equivalent, arranged to have a screw-like action on the jar below the said shoulder, all substantially as described.

3,112.—J. J. FIELDS and A. H. KING, New York, N. Y., assignees by mesne assignments of HENRY W. JOSLIN.—*Manufacture of Rubber-Coated Leather.*—Patented November 6, 1866, No. 59,402; reissued September 8, 1868.

Claim.—1. Leather coated with India rubber or gutta percha, in the manner substantially as herein set forth.

2. Applying the rubber to the surface of the leather in a raw state, and letting it congeal on the same, as specified.

3,113.—F. G. FOWLER, Springfield, Ill.—*Propeller.*—Patented May 28, 1867, No. 65,202; reissued September 8, 1868.

Claim.—1. The blades *a″*, constructed, arranged, and operating substantially as and for the purposes herein shown and described.

2. The eccentric, *e*, with its band, and the rods *e′*, arranged and operating substantially in the manner and for the purposes set forth.

3. The removable eccentric *e*, applied to steering purposes, and arranged in the manner and for the purpose set forth.

4. The sleeve E, chain wheels *r* and *r″*, chain *r′* and shaft *s*, or their equivalents, when used substantially as and for the purpose described.

5. A propeller, constructed of the parts above described, arranged and operating as a combined steering wheel and propeller, substantially as set forth.

3,114.—DON CARLOS MATTESON, Stockton, Cal.—*Gang Plow.*—Patented June 22, 1858, No. 20,647; reissued September 8, 1868.

Claim.—The arrangement, as described, of the false beam N, goose neck G, axle *u*, lever *i*, catch L, and the system of plows attached to their frame, as set forth, the whole being constructed and operating substantially as and for the purposes specified.

3,115.—S. B. ROWLEY, Philadelphia, Pa., assignee of R. W. LEWIS.—*Sealing Preserve Cans.*—Patented February 12, 1856, No. 14,245; reissued September 8, 1868.

Claim.—1. A preserve can or jar having a plate intervening between the gum packing, and a cover, or its equivalent, for compressing the packing to its seat on the jar.

2. The plate or its equivalent, situated below the packing, and filling the throat of the jar, as set forth for the purpose specified.

3. Ribs H or recesses on the jar, in combination with notches or projections on the plate above the packing, for the purpose specified.

3,116.—J. S. Atterbury and T. B. Atterbury, Philadelphia, Pa.—*Manufacturing Glassware with Handles.*—Patented June 30, 1868, No. 79,298; reissued September 15, 1868.

Claim. 1. Producing handles for glass lamps and other glassware, by casting them in molds ready to be attached to such articles, substantially as described.

2. The manner, substantially as described, of attaching glass handles to lamps or other articles of glass, in the process of blowing such articles in a mold, substantially as described.

3. Guiding hot flexible glass, as it drops or descends from the "punty" or pipe of the operator, to the point of attachment on the bowl or other article, by means of a mold which shapes the handle.

4. Dropping hot flexible glass into a mold for the purpose of forming a handle or handles for the bowl of a lamp or other vessel.

5. A glass lamp, or other article in glass, having a molded or cast handle and a blown body, produced substantially as described.

3,117.—Berdan Fire-arms Manufacturing Company, New York City, assignee of Hiram Berdan.—*Breech-loader.*—Patented January 9, 1866, No. 51,991; reissued September 15, 1868.

Claim.—1. The employment, in a breech-loading fire-arm, of a device, so applied and operated as to press back the cartridge against the face of the breech preparatory to firing, substantially as and for the purpose herein described.

2. So applying and operating the cartridge shell refractor of a breech-loading fire-arm that it shall serve the purpose of pressing back the cartridge against the face of the breech preparatory to firing, substantially as herein described.

3. So arranging the detonating pin of a breech-loading fire-arm, that it shall strike the back of the cartridge opposite to where it is supported by a movable device which serves the purpose of pressing back the cartridge against the breech, substantially as herein set forth.

4. The elongation of the hole provided in the swinging breech, for the reception of the pin upon which it swings, whereby the breech has a direct support in the breech receiver at the time of firing, and yet is free to swing back loosely, to open the barrel for reloading, substantially as herein set forth.

5. The relative position and arrangement to each other of the hammer, firing pin, swinging breech, and line of bore, by which the line of bore is unobstructed and the loading facilitated when the hammer is at half-cock, substantially as herein described.

6. The combination with one main spring, of two or more stirrups, one or more connecting the tumbler or hammer, and the other connecting a brace for locking the breech when the hammer is down, substantially as herein set forth.

7. In combination with a swinging breech piece, the employment of a suitable projection on the lower or front side of the brace or tumbler, whereby the loading at full cock is prevented, substantially as and for the purpose herein specified.

8. So constructing and applying a brace to a swinging breech, for breech-loading fire-arms, that it swings on a tumbler shaft detached from the tumbler, but is attached to the mainspring in such a way as to give a greater motion to the brace than is given to the tumbler.

9. So combining a movable brace, which operates to lock the breech at the time of firing, a three-notched tumbler, and a swinging breech, in a breech-loading fire-arm, that while the hammer is locked by the sear in the first or safety notch, the breech is locked in a closed condition by the said brace, substantially as herein set forth.

10. The combination of the flanged breech receiver or lock frame A, the pins upon which the hammer, breech, and the sear work, and the cheek pieces of the stock, by which the pins are held in place, substantially as herein described and for the purpose herein set forth.

3,118.—Berdan Fire-arms Manufacturing Company, New York City, assignee of Hiram Berdan.—*Breech Loader.* (Division B.) Patented January 9, 1866, No. 51,991; reissued September 15, 1868.

Claim.—The recess *a*, provided in the hub or hinged portion of the breech piece, in such relation to the barrel or chamber as is herein described, for the purpose set forth.

3,119.—William Davis, Samuel H. Davis, and David W. Davis, Detroit, Mich., assignees of William Davis.—*Preserving Meats, Fruits, &c.*—Patented June 16, 1868, No. 78,932; reissued September 15, 1868.

Claim.—1. The construction of a car body, ship's hold, room, box, or chest, provided with compartments A, B, C, ice receptacle D, chimney E, and hatches G, when arranged and operating substantially as described, for the purpose set forth.

2. The goose-neck trap F, or equivalent, in combination with receptacle D and compartments A, B, C, when arranged substantially as and for the purposes set forth.

3. The receptacle D, for the freezing mixture, so constructed and arranged as to be pendent from the inner upper wall of chamber C, and allowing a free circulation underneath the receptacle, and on all sides, substantially as described.

4. The construction and relative arrangement of the ice receptacle D, with the chamber C, is frozen to the wall of receptacle D, substantially in the manner and by the means described.

3,120.—James S. Porter and Russel Porter, Waterford, N. Y.—*Alarm Lock.*—Patented March 5, 1867, No. 62,683; reissued December 15, 1868.

Claim.—1. The cam or stop P, which, by being properly set, offers an obstruction to the turning of the key, substantially as described.

2. The pistol C, hammer G, latch H, and trigger L, when all arranged and combined within the interior of a lock casting, provided with a cover *o* and plug F, substantially in the manner and for the purpose described.

3,121.—Charles H. Riggs, Windsor Locks, Conn.—*Planer Chuck.*—Patented May 19, 1868, No. 78,132; reissued September 15, 1868.

Claim.—1. In combination with the movable jaw B and slotted chuck bed *b*, the eccentric shaft D, with eye bolts E E and nuts G G, arranged toward the front of the jaw, being constructed with a back surface equally as high as the front, or surface next to the stock, substantially as herein shown, and for the purpose set forth.

2. The device for fastening the chuck to the base plate M, consisting of the plate K with annular groove, bed plate L, angle irons O, threaded pin B with nut and groove Q, in base plate M, all constructed and arranged in the manner described.

3. The arrangement of the round or dovetailed nuts R R, screws J J, stationary jaw C, and the movable jaw B, substantially as shown and set forth.

3,122.—Henry Shaw and William D. Leavitt, New Orleans, La.—*Grinding Plate for Grist Mill.*—Patented July 14, 1868, No. 79,865; reissued September 15, 1868.

Claim.—The combination and arrangement of the cast-iron grinding plate B, the unyielding non-conducting pap *r*, packing C, and back plate D, all constructed and secured together substantially in the manner and for the purpose herein described.

3,123.—Zalmon B. Wakeman, Rockford, Ill.—*Railway Rail and Splice.*—Patented May 26, 1868, No. 78,404; reissued September 15, 1868.

Claim.—1. The hollow shaft rail A, when the sides are curved in toward each other so as to receive and retain the block B, as and for the purposes set forth.

2. The combination of the hollow rails A with the connecting block B, provided with a removable bar or key *b*, substantially as herein set forth.

3,124.—John A. Bassett, Salem, Mass.—*Apparatus for Carbureting Air or Gases.*—Patented March 14, 1865, No. 46,771; reissued September 15, 1868.

Claim.—1. The general arrangement and construction of the apparatus, consisting of the several parts shown and described.

2. The carburation of air or gases by the use of perforated plates or cylinders, with the fibrous material partially immersed in the hydrocarbon liquid, substantially in the manner as set forth and shown.

3. The automatic regulation of the air to be admitted to the holder and carbureter by means of a valve connected with and operated by the holder, through the lever and cord, or their equivalents, when used for this purpose, as shown and specified.

4. A carbureting device placed in the gas-holder tank, in the manner as substantially described.

5. A carbureting device for enriching air or gases with the vapor of a volatile hydrocarbon, placed in a gas-holder tank, having a seat for the holder independent of the level of the hydrocarbon liquid.

6. The combination of a device for carbureting air or gases, using capillary materials, with the method of carbureting by forcing the air or gases through hydrocarbon.

7. The automatic reservoir for replenishing the hydrocarbon liquid in the carbureting chamber, in combination with a gasometer, substantially as shown and described.

8. The use of a mercury valve for controlling the admission of air to the carbureting chamber, as set forth and shown.

9. Forcing air or gas through hydrocarbon liquid, or through capillary materials charged with such liquid, within a gas holder, so as to carburet or enrich the same, substantially as described.

10. The combination of a gas holder, a vessel to contain hydrocarbon liquid within the gas holder, and an air or gas-forcing apparatus, substantially as described.

3,125.—GARRETT P. BERGEN, Brooklyn, assignee of R. W. POTTER, New York, N. Y.—*Picture Card Frame.*—Patented March 7, 1865, No. 46,699; reissued September 22, 1868.

Claim.—1. A card frame for a picture, formed with an opening embossed around its edges, substantially as set forth.

2. Cutting a hole and simultaneously embossing the border in a picture frame, substantially as specified.

3,126.—B. J. CAMP, Marion, Ohio.—*Scroll Saw.*—Patented February 18, 1868, No. 74,497; reissued September 22, 1868.

Claim.—1. Securing or clamping the lower end of the saw blade B to the slotted pin F, by means of the sleeve *a* and tenoned set-screw *b*, the tenon thereof being inserted into a hole in the saw, so that the saw is clamped between the shoulder of said set screw and side of the pin F, substantially as herein set forth.

2. The forked adjustable springs H and I, arranged, as described, one above and one below the saw table, for the purpose of obviating the danger of breaking the saw, at the same time as they act as guides for it, substantially as herein set forth.

3. The up-and-down adjustable guide bar G, carrying the bent spring H, constructed and arranged to operate substantially as herein set forth.

3,127.—JOSEPH DICK, Jr., Oshawa County, Ontario, and EUGENE GLEN, Rochester, N. Y., assignees, by mesne assignments of JOSEPH DICK, Jr.—*Harvester Rake.*—Patented October 9, 1866, No. 58,617; reissued September 22, 1868.

Claim.—1. The joint ball *g*, working within the pulley or case B, both constructed and operating, with reference to each other, substantially as shown and described, for the purpose of communicating power to and in combination with an automatic rake for harvesters.

2. The hanger A, the pulley or case B, and the joint ball *g*, all constructed and operating, with reference to each other, substantially as shown and described, for the purpose of communicating power to and in combination with an automatic rake for harvesters.

3. The employment of a continuously-rotating extensible or sliding tumbling shaft, in combination with a vibrating sweep rake, for operating the same, substantially as described.

4. The arrangement of the segments G and G′ upon the vertical sleeve *f*, and the segmental pinions C and C′ upon the horizontal driving shaft E of the raker, as shown, so as to constitute, collectively, an entire circle of gearing, as shown and described.

5. The combination of the detachable pulley T with the sleeve or ferrule S, having one or more locking pins, *c*, substantially as and for the purpose set forth.

6. The arrangement of the elevating lever L, ratchet O′, head Q, chain U, and pulley V, in combination with each other and the brace of the shoe, as and for the purpose set forth.

3,128.—WILLIAM GAGE, Buffalo, N. Y., and ANDREW WHITELEY, Springfield, Ohio, assignees of WILLIAM GAGE.—*Harvester.* (Division F.) Patented September 16, 1856, No. 15,735; reissued September 22, 1868.

Claim.—1. The harvester's cutting apparatus, having the shoe M, the finger bar N, and the narrow divider O, or their equivalents, constructed and combined, substantially as herein described, so that this cutting apparatus will have one axis of motion between said shoe and the frame of the machine, to which said shoe is connected, upon which the outer end of said cutting apparatus may rise or fall within the limit allowed it, with the undulations of the ground over which it is drawn, without affecting or being affected by the height of said axis or the vertical position of the cutter's driving wheel.

2. The combination of the herein described shoe M, finger bar N, and narrow divider O, or their equivalents, in the harvester's cutting apparatus, when one of these portions of said divider, which supports the crop while being cut, is of less width than the other, substantially as and for the purpose set forth.

3. The combination of the shoe M, finger bar N, and narrow divider O, or their equivalents, in the harvester's cutting apparatus, with the coupling frame F, or an equivalent thereof, to enable the axis at the inner end of this cutting apparatus to be raised or lowered in respect to the main frame, substantially as and for the purpose described.

4. The combination of the coupling frame F and the pivots I I, or their equivalents, with the main frame of the harvester, so as to have one portion or end of the hinge between these frames in front, and one in the rear of the axle of the cutter's driving wheel, substantially as, and to obtain the advantages described.

5. The combinations of the inward projections *l l*, and the plate G, or their equivalents, with the shoe M, finger bar N, and the narrow divider O, in the harvester's cutting apparatus, to limit the downward vibrations of the outer end of this cutting apparatus, substantially as described.

6. The combinations of the slots *m m*, the bolt *n*, the washers *o o*, and the screw nuts *p p*, or an equivalent arrangement of parts, with the shoe M, finger bar N, and narrow divider O, in the harvester's cutting apparatus, to hold up the inner end of this cutting apparatus, substantially as and for the purpose set forth.

7. The combination of the track clearer T, or its equivalent, with the shoe M, finger bar N, and narrow divider O, in the harvester's cutting apparatus, so as to separate the grass cut by this apparatus from that which is to remain uncut, substantially as described.

8. The combination of the carrying wheel P, or its equivalent, with the shoe M, finger bar N, and narrow divider O, in the harvester's cutting apparatus, so as to carry the divider in one of the ways named, substantially as and for the purpose specified.

3,129.—GEORGE GUENTHER, Chicago, Ill.—*Mode of Drying Glue.* (Division A.) Patented June 4, 1867, No. 65,377; reissued June 9, 1868, No. 2,971; again reissued September 22, 1868.

Claim.—1. Drying glue by wetting solid surfaces with the glue in a liquid state, and allowing it to dry thereon in thin flakes, as herein specified.

2. Facilitating the drying of glue in thin scales

or flakes on solid surfaces by circulating air in contact therewith, as herein specified.

3. In the production of scale glue on solid surfaces, the employment of artificial heat within the solid surfaces, or in the air, or both, as herein specified.

4. The mode of drying glue in thin scales, by revolving or rotating surfaces, having their temperatures raised either by steam or hot air, substantially as described.

5. Drying glue on thin revolving disks, as and for the purposes herein set forth.

3,130.—George Guenther, Chicago, Ill.—*Machine or Apparatus for Drying Glue.* (Division B.) Patented June 4, 1867, No. 65,377; reissued June 9, 1868, No. 2,971; again reissued September 22, 1868.

Claim 1.—The perforated base or air distributer E, arranged as represented relatively to the drying surfaces A, and to the current of air, artificially thrown thereon, for the purposes herein set forth.

2. The surfaces A and trough B, with operating means C, or their equivalents, whereby the surfaces A are immersed in the liquid glue and removed therefrom at will, substantially as and for the purposes herein set forth.

3,131.—Metropolitan Rotary Engine Company, New York, N. Y., assignees, by mesne assignments of Adolph Millochau, same place.—*Rotary Steam Engine.*—Patented November 10. 1863, No. 40,571; reissued September 22, 1868.

Claim.—The pipes *i*, *l*, *n*, and *o*, and valves or cocks *k*, *k'*, *m*, and *m'*, in combination with the ring *c*, and pistons acting in the steam-spaces *y* and *z*, substantially as specified.

3,132.—George W. Ray, Springfield, Mass.—*Manufacture of Paper Collars.*—Patented May 1, 1866, No. 54,404; reissued September 22, 1868.

Claim.—Paper, embossed and enameled upon either one or both sides, whether before or after its conversion into articles of wearing apparel, all substantially as herein described.

3,133.—Arcalous Wyckoff, assignee by mesne assignments of La Fayette Stevens, Elmira, N. Y.—*Boring Machine.*—Patented December 15, 1857, No. 18,872; reissued September 22, 1868.

Claim 1.—The oblique traversing rests O O, in combination with the screws *t t* and pinions *u u*, when arranged in relation to one another, and used in connection with the dog Q and chain P, for the purpose of adjusting the timber to the auger, and holding it firmly, substantially as set forth.

2. The combination of the shaft K, worm *l*, pinion J, and rack I', arranged to operate the traversing bed E, substantially as set forth.

3. An annular auger cutter head, the cutting lips of which project in the direction of its rotation, and are formed on a curved and oblique line, substantially as set forth.

4. The loose independent collar *f*, provided with knife edges *g g*, to keep it from turning, for the purpose of furnishing a bearing for the head of the auger while in operation.

5. The sharp annular spur *c*, for the purpose of centering and guiding the auger, and at the same time leaving a core of the material bored in the center of the auger, in the manner specified.

3,134.—J. L. Coles and D. H. Coles, New York, N. Y.—*Nutmeg Grater.*—Patented July 28, 1868, No. 80,456; reissued September 22, 1868.

Claim.—1. A box, A, containing a revolving carrier, D, having a series of chambers with spring followers, which press the articles to be grated against the stationary grating-surface E, which is combined with a receiver, F, all as shown and described.

2. The combination, with the cylindrical box A, of a series of carriers at angles to each other, so as to leave supplementary chambers, *b*, substantially as and for the purpose set forth.

3. The slots or openings, *g*, in front of the teeth, *f*, of the grating surface, said slots being formed by actually cutting or leaving out a portion of the metal, substantially as and for the purpose described.

3,135.—Albert Fuller, New York, N. Y.—*Faucet.* Division B. Patented August 30, 1859, No. 25,253; reissued September 22, 1868.

Claim 1.—An elastic plug-valve, encased in the above-described metallic shield, for the purposes set forth.

2. An elastic plug valve, encased in a metallic shield, as described, when the shield is constructed to present a valve face, which is transversely or laterally exterior to the plug, in combination with a valve seat or seats to both the elastic and metallic faces of the valve, substantially as shown and described.

3,136.—James La F. King and William W. Watson, Springfield, Ill., assignees of Watson King, same place.—*Horse Rake.*—Patented April 9, 1867, No. 63,729; reissued September 22, 1868.

Claim.—1. The extension of the crank arms *a* on each end of the rake head below the axle, in crank form, as applied to horse rakes, for the purposes herein shown and in the manner described.

2. Attaching the traces to the end of the crank or draught arms *a*, which are extended below the center of the wheels from each end of the rake head, to make these the point of draught, in the manner herein described and for the purposes set forth.

3. The forming a spring or brace on the butt end of the tooth, said brace being formed with or without a loop, for the purpose set forth and in the manner described.

4. Attaching the tooth H to the rake head *a*, by means of a straight or beveled mortise and key, for the purposes set forth and in the manner described.

5. Attaching the tooth H to the rake head *a*, by passing the loop over and around the head, for the purposes herein set forth and in the manner described.

6. The thimble or metal band *g*, as a means of securing and completing the brace or spring formed by the connection of the end of the tooth bent over with the main body of tooth, for the purposes herein set forth.

3,137.—Frederick Wittram, San Francisco, Cal.—*Anchor.*—Patented June 9, 1868, No. 78,852; reissued September 22, 1868.

Claim.—1. Openings made lengthwise in the shank of an anchor, through which arms or flukes move freely to either side, substantially as herein described.

2. The placing of two or more jointed arms or flukes at different portions of the shank's length, at or about at right angles to each other.

3,138.—John G. Baker, Philadelphia, Pa.—*Machine for Grinding Saws.*—Patented February 2, 1864, No. 41,419; reissued September 29, 1868.

Claim.—1. The combination, with a grindstone or grindstones, of feed rollers J, the axes of which are parallel, or nearly so, with those of the stones.

2. Two grindstones, arranged at an angle in respect to each other, and having traversing motion imparted to them, all substantially as and for the purpose herein set forth.

3. The combination of the expansion cranks G with the slotted traverse bar F.

4. The combination of the feed roller with the frame I.

5. The frame I, made in two halves, and carrying the feed rollers J, in combination with the springs *g*, or their equivalents.

3,139.—George Hadfield, Cincinnati, Ohio.—*Medical Vacuum Chamber.*—Patented November 6, 1866, No. 59,388; reissued September 29, 1868.

Claim.—1. The employment of hand support or rest, substantially as and for the purposes set forth.

2. The sealing cap F, substantially as and for the purposes set forth.

3,140.—George E. Hayes, Buffalo, N. Y.—*Vulcanizing Vessel.*—Patented March 5, 1861, No. 31,599; reissued September 29, 1868.

Claim.—1. A vulcanizing vessel or oven, having its opening and closing joint, for insertion and removal of the mold, at or near the bottom, by making it of two sections, the upper or inclosing one of which forms the body of the vessel, while its lower section constitutes a base thereto, substantially as specified.

2. So constructing a vulcanizing vessel, with a flattened bottom, as that the plaster mold, containing the rubber compound, shall be in contact with the inside of the lower part of the vessel, so that the heat from the lamp or other heater shall be applied directly to that part of the vessel upon which the mold lies, substantially as and for the purposes set forth.

3. A mercury chamber, formed in the upper section of the vulcanizing vessel, the same being constructed and arranged with the thermometer, essentially as described.

4. The open ring C, in combination with the bottom, A, band D, and cover E, substantially as specified.

3,141.—Albert H. Manchester, Providence, R. I., assignee of Thomas Goodrum, same place. —*Portable Book Clamp.*—Patented October 16, 1866, No. 58,940; reissued September 29, 1868.

Claim.—1. A portable book-package binder, having the following elements in combination: The clamps A A, a tightening cord *e*, and windlass C, provided with a ratchet plate and pawl, or equivalent holding device, substantially as described.

2. The compound handle B and windlass barrel C, in combination with the top binding strips A, substantially as described.

3,142.—Horace T. Love, New York, N. Y., assignee of William W. Grier and Robert H. Boyd. —*Drill Bit.*—Patented May 23, 1865, No. 47,812; reissued September 29, 1868.

Claim.—A rotating drill or drill bit, whose edges, of diamonds or other hard-cutting points, are separated at its forward end by a recess or notch, and are arranged with relation to the axial line of the tool and each other, substantially in the manner and for the purpose described.

3,143.—Christian Barry, Philadelphia, Pa.—*Machine for Making Tin Cans.*—Patented December 3, 1867, No. 71,680; reissued October 6, 1868.

Claim.—1. The mode of manufacturing cans, substantially as herein described.

2. The roll C, with beveled edge *f* and roll B, with flange edge *g*, operating together substantially as herein described, for the purpose specified.

3. The swage or die J, having bevel periphery *q* and swage or die K, having a correspondingly beveled periphery *r*, operating together substantially as described for the purpose specified.

4 The shoulder *s* on the swage or disk K, forming a gauge and support, substantially as herein described and represented.

3,144.—Jarvis Case, Lafayette, Ind., for himself and Newton Baldwin, administrator of William Baldwin, deceased, assignees of Jarvis Case.—*Seed Planter.*—Patented December 7, 1858, No. 22,228; reissued October 6, 1868.

Claim.—1. A corn-planter, consisting of a front and rear frame, when said frames are connected by a central bar, said connecting bar being either an extension of the driver's seat or an independent bar, substantially as described.

2. Pivoting the rear frame to the front one by means of the forward extension of the driver's seat, connected to the post F, or its equivalent, substantially as described.

3. The locking bar or catch K pivoted to the seat bar *c*, and arranged to engage under the projection *j*, or its equivalent, substantially as set forth.

4. The reversible marker, consisting of the rigid bar L, hinged to the front frame in such a manner that its outer end shall rest upon the ground without being raised therefrom or resting on the runner while the machine is in operation, and still be raised clear from the ground when the front part of the machine is elevated, substantially as described.

5. A runner for corn planters, having the hollow or recess in its upper edge for the marker, a seed duct, formed by cutting a channel in the side of the runner, and covering it with a plate, and also having the straight edge of the runner so inclined that its heel shall be the lowest point, substantially as and for the purposes set forth.

6. The combination of the rock shaft N, with the treadle or foot lever *f* applied thereto, with the seed slide *h*, arranged to operate substantially as described, for the purpose of enabling the driver to operate the seed slides with his foot, as set forth.

3,145.—Fleury Huot, New York, N. Y., assignee by mesne assignments of himself.—*Refining Petroleum.*—Patented March 19, 1867, No. 63,051; reissued October 6, 1868.

Claim.—1. The process, herein set forth, of purifying petroleum and other liquids by mixing with the same boneblack or other carbonaceous material, and then separating the said liquid from the carbonaceous substances by a centrifugal filter, substantially as and for the purposes set forth.

2. The centrifugal filter, formed of two thicknesses of cloth, with an intervening layer of filtering paper, as and for the purposes set forth.

3,146.—Joel Lee, Galesburg, Ill.—*Hydrocarbon Burner.*—Patented April 2, 1867; No. 63,400; reissued October 6, 1868.

Claim.—1. Packing the conducting tube with wood, in the manner and for the purpose set forth.

2. A gas generator made of a coiled tube, and so arranged that the gas or vapor passes through its center, substantially as set forth.

3,147.—John Lippincott, Thomas Bakewell, Benjamin P. Bakewell, and Benjamin Bakewell, Jr., Pittsburg, Pa., assignees of William J. Lippincott.—*Machine for Grinding and Polishing Saws.*—Patented October 24, 1865, No. 50,606; reissued October 6, 1868.

Claim.—A machine for grinding and polishing long saws, consisting of a grindstone supported on adjustable bearings, so as to be raised or lowered at pleasure in the manner described, and having a cylindrical support for the saw plate to rest upon as it is being ground, the axis of which is in the same vertical plane as that of the grindstone, and with one or more pairs of feed rollers having pressure screws, or their equivalent, so as to hold and guide the saw in its passage under the stone, such feed rollers being geared so as to have a positive and continuous motion on their axes in such direction as to feed the saw plate forward either with or against the motion of the revolving grindstone, substantially in the manner and for the purposes hereinbefore set forth.

3,148.—Jas. Selby, Peoria, Ill.—*Corn Planter.*—Patented August 30, 1684, No. 44,019; reissued October 6, 1868.

Claim.—1. The main frame, mounted on two wheels and having the runners pivoted at their front end to the front part of the main frame, substantially as described.

2. The levers H, connected to the hoppers or runners by the links *h*, and arranged to operate as described.

3. The hoppers F′, connected by one or more cross bars located above the main frame B, so as to permit the hoppers and runners of the machine to be raised or lowered without elevating the front part of the main frame, substantially as described.

4. The semicircular cut-offs *f*, constructed and arranged to operate substantially as described.

5. The adjustable plates I, arranged to support and regulate the position of the runners, substantially as set forth.

6. The combination of the pivoted scrapers O and the adjustable plates O′, when arranged to operate as described.

3,149.—Michael Sweeney, Wheeling, W. Va., assignor to Sweeney, Bell & Co.—*Lamp Chimney.*—Patented June 23, 1868, No. 79,277; reissued October 6, 1868.

Claim.—As an article of manufacture, a lamp chimney, constructed with the lens or lenses B, one or more, in its surface, substantially shown and described.

3,150.—Lewis H. Baker, Tarrytown, N. Y.—*Convertible Lounge.*—Patented June 23, 1868, No. 79,050; reissued October 6, 1868.

Claim.—1. The combination with a bedstead lounge, of an extension or folding washstand, constructed and arranged substantially as shown and described.

2. The forming of a receptacle *l*, in the part A of of the lounge with an opening *k*, in the seat portion *a*, for the purpose of stowing pillows when the device is not in use as a bedstead, substantially as shown and described.

3. The hinged part D depressed, and the seat part A, having its seat *a* raised, whereby a space is left between said parts for the reception of bed clothing, as herein shown and described.

3,151.—William K. Boyle, Bladensburg, Md.—*Manufacture of Artificial Stone.*—Patented September 15, 1868, No. 82,202; reissued October 6, 1868.

Claim.—1. The herein-described improvement in artificial stone by which an insoluble silicate of lime is formed by the double decomposition of the silicates of potassa or soda and nitrate of lime, substantially as herein set forth.

2. The herein-described method of forming artificial stone by the use of an alkaline silicate and nitrate of lime, when the latter salt is recovered, and the washings treated in the manner described, so as to utilize the acid element or recover the nitrates for the market.

3. The utilization of all the salts left in the residual liquors, as herein described, whereby a continuous formation of nitrate of potassa or soda is kept up.

3,152.—Guy Davis, Syracuse, N. Y.—*Oscillating Valve.*—Patented January 17, 1865, No. 45,919; reissued October 6, 1868.

Claim.—1. An oscillating valve suspended upon adjustable bearings, substantially as shown and described.

2. The steam chamber D, constructed substantially as shown and described.

3. The arrangement of the steam passages J, E, K, and G, substantially as shown and described.

4. The arrangement of the exhaust apparatus T, with reference to the apertures G G′, substantially as shown and described.

3,153.—Hugh W. Lafferty and Robert Lafferty, Gloucester, N. J.—*Centrifugal Machine for Draining Sugar.*—Patented April 21, 1868, No. 77,054; reissued October 6, 1868.

Claim.—1. In combination with the swinging revolving shaft S of a centrifugal draining machine, an elastic stay applied to said shaft, at a point intermediate between its flexible joint or bearings and its attached cylinder, substantially as herein set forth.

2. The combination of a fixed hollow shaft H S, with the suspending and driving shaft S of a centrifugal machine, to afford stay or support thereto, substantially as herein set forth.

3. The combination of an extended elastic ring or band D D′, with the outer upper end of a fixed auxiliary stay shaft H S, combined with the revolving shaft S of a centrifugal machine, to form a seat and stay for the same, substantially as herein specified.

4. The combination of the conical divided washer C′ O′, encircling the shaft S with a conical seat C O, in the end of and inclosing shaft H S, and with a hollow nut H N, working against said washer, substantially as herein set forth.

5. A friction brake B′ operating against the lower end of the driving suspending shaft S of a centrifugal machine, substantially as herein set forth.

6. The combination of the lower extended extremity of the driving and suspending shaft S of a centrifugal machine with the bottom of the casing thereof, substantially as herein set forth.

7. The combination of a waste cup *o*′, with the shaft or spindle S of a centrifugal machine, to prevent the passage of oil down into the basket or cylinder thereof, substantially as herein set forth.

3,154.—Edward Miller, Meriden, Conn., assignee of **Norman W. Pomeroy**.—*Lubricator.*—Patented September 23, 1856, No. 15,775; reissued October 6, 1868.

Claim.—A lubricator, the disk of which, forming the bottom thereof, is constructed so that the central part may be readily pressed inward, and returned to its original position when relieved from pressure, the said bottom being so attached to the cup as to be protected by the downward edge of the cup, substantially in the manner herein set forth.

3,155.—Amos Rank, Salem, Ohio.—*Harvester.*—Patented November 5, 1867, No. 70,614; reissued October 6, 1868.

Claim.—1. The combination substantially as set forth of a vibrating platform, with a scraper, hinged to the outer divider, which removes the discharged gavel out of the way of the team in cutting the succeeding swath.

2. The combination of a vibrating platform, composed of slats, supported at one end only, with a scraper, hinged to the outer divider, which clears the track for the next round.

3. The combination of a vibrating platform, connected with the main frame, through the medium of the finger beam only, with a scraper, hinged to the outer divider, which removes the discharged gavel out of the way of the team in cutting the succeeding swath.

4. The combination of a finger beam, with a flexible track clearer or scraper, having its forward end hinged to the finger beam, and its rear end suspended by a flexible connection from the main frame.

3,156.—Marvin Washburn & Co., Alton, Ill. assignees of **James L. Smith**.—*Sirup Filter.*—Patented April 3, 1866, No. 53,693; reissued October 6 1868.

Claim.—The filter herein described, composed of raw wool F, suspended between the funnel or other shaped sieve D and sieve B, in the skeleton hemispherical frame H, C, within a suitable case, A, for sirup, oil, liquors, and fluids, all substantially as specified.

3,157.—Ira Wood, Woodstock, Vt.—*Composition for Tanning.*—Patented August 18, 1868, No. 89,237; reissued October 6, 1868.

Claim.—1. A tanning liquid made of the leaves of the different varieties of the oak, or maple, or willow, beech trees, used separately, or combined with each other, or two, or more, or all, in equal or in any proportion, for the purpose and in the manner above set forth.

2. A tanning liquid, made of the leaves of the different varieties of the oak, or maple, or willow, or beech trees, used separately, or two or more, or all of them together, in combination with alum, Glauber's salts, and nitric acid, in about the proportions specified, and for the purpose and in the manner above set forth.

3,158.—James Donning, Bridgeport, Conn.—*Lamp Burner.*—Patented July 22, 1862, No. 35,925; reissued October 13, 1868.

Claim.—A deflector or cone, having a flame slot, in combination with a sliding support, the two being connected together, and removable from the wick tube, and an air space being provided between the sliding support and the side of the wick tube, substantially as specified.

3,159.—Henry Richardson, New York, assignee, by mesne assignments, of **Edwin M. Scott**, Auburn, N. Y.—*Machine for Grinding the Cutters of Mowing Machines.*—Patented July 30, 1867, No. 67,355; reissued October 13, 1868.

Claim.—1. In combination with a revolving grinding wheel or stone, on the end of a shaft, the vertically, or nearly so, swinging frame, for holding the reaper knife to be ground, so that it may be swung up to the stone, or back, to be examined by the operator, substantially as described.

2. In combination with the swing frame, the inclining of the clamping bar, so that the sections or edges to be ground may be brought in their entire length to the grinding surface of the stone, substantially as described.

3. The combination of the disk, slides, and thumb screw, as and for the purpose set forth.

4. The combination of the disk, slides, bolt, and lever, substantially as and for the purpose described and represented.

3,160.—John Swan, Baltimore, Md.—*Sleeping Car.*—Patented June 18, 1867, No. 65,693; reissued October 13, 1868.

Claim.—1. A series of state-rooms made crosswise of the car, and provided with a side passage, and independent ventilation, substantially as and for the purpose set forth.

2. The reservoir F, pipes H H, and basins J J, for supplying water to the state-rooms, substantially as specified.

3. The side passage C, when used in combination with a series of cross-berths or state-rooms, as and for the purpose set forth.

3,161.—Joseph J. Gest, Cincinnati, Ohio.—*Car Spring.*—Patented March 20, 1866, No. 53,291; reissued October 20, 1868.

Claim.—In combination with arched or elliptic springs, having reversed curves at or near their ends, a correspondingly curved or inclined block abutment or bearing, so that as the spring settles or yields under its load, it will practically become shorter and stronger, but still retain its elastic quality, and be firmly held in place and to the block or bearing, substantially as herein described and represented.

3,162.—Alford Lamb, Mary E. Layman, and William H. Morse, Jeffersonville, N. Y., assignees of Alford Lamb.—*Washing Machine.*—Patented February 25, 1868, No. 74,919; reissued October 20, 1868.

Claim.—1. The combination of the base, B, supported by springs, and a strip or strips of rubber, C, arranged as described.

2. The combination of the above with the fluted roller D, substantially as described.

3,163.—John G. Perry, Kingston, R. I., assignee by mesne assignments, of Carlos W. Glover Roxbury, Conn.—*Harvester Cutter.*—Patented July 15, 1856, No. 15,334; reissued October 20, 1868.

Claim.—1. The combination, with the guard fingers of the oscillating or rocking ledger blades or cutters, constructed with recesses in their upper sides, substantially as and for the purpose specified.

2. So arranging the ledger blades or cutters, constructed as described, within the guard fingers, that they may have a rocking or oscillating movement during the reciprocating movement of the sickle, substantially as herein set forth.

3. The attachment of the ledger blades to the guard fingers, by means of the trunnions *e* on the blades extending into the cavities *f* in the fingers, substantially as and for the purpose specified.

3,164.—J. H. Thomas and P. P. Mast, Springfield, Mass.—*Seed Planter.*—Patented July 27, 1858, No. 21,034; reissued October 20, 1868.

Claim.—1. The arms G^3, mounted upon the shaft G^2, within the hopper G, substantially as and for the purpose described.

2. The slide G^1, having the openings *b*, with the blocks or stops *c* fitting therein, and arranged to operate as described.

3. The combination of the slide G^1, and blocks or stops *c*, with the revolving arms G^3, all arranged to operate as herein set forth.

3,165.—Joseph W. Wattles, Canton, Mass.—*Ring for Ring and Traveler Spinning Machine.*—Patented March 17, 1868, No. 75,610; reissued October 20, 1868.

Claim.—1. The ring receiver, constructed substantially as described, that is to say, not only with a shank to fit the rail socket, and with a bore eccentric with the cylindrical outer surface of such shank, as described, but also so as to be capable of being sprung or contracted upon the shank of the ring, by the screw inserted in the rail, and employed to confine the receiver in the socket of the rail, as set forth.

2. The combination and arrangement of the single screw with the ring rail, and with the clamping receiver and ring, constructed as hereinbefore described, the whole being for the purpose set forth.

3,166.—John M. Wilson, Seguin, Texas.—*Cosmetic.*—Patented February 25, 1868, No. 74,871; reissued October 20, 1868.

Claim.—1. The chlorinated alkalies, or the alkaline chlorides, used as a cosmetical agent, in manner and for the purposes substantially as set forth.

2. The chlorinated alkalies, or the alkaline chlorides, in combination with any acidulous wash.

3. The chlorinated alkalies, or alkaline chlorides, in connection with an acidulous wash, made from either oxalic, tartaric, or citric acid, either separate or combined, substantially as described.

3,167.—John B. Stoner, Leopold Mendelson, and Theodore Cromelin, New York, N. Y., assignees of John B. Stoner.—*Ballasting Vessels.*—Patented February 4, 1868, No. 74,169; reissued October 20, 1868.

Claim.—1. A ballasting weight, L, applied on the free end of a swinging arm, in combination with a recess made in the hull of a vessel, to receive said weight and arm, and a tube, P, substantially as described.

2. The use of one or more weights, secured to stiff rods, and applied to a vessel in such manner that they can be lowered considerably below a vessel's keel, or raised and secured within recesses formed in the bottom of a vessel, substantially as described.

3. A temporary ballast, consisting of a weight secured to the lower ends of one or more rods, and adapted to fit into a socket formed in the vessel, and operated from the deck, said rods being suitably inclosed within a tube rising from said sockets, substantially as specified.

3,168.—James S. Goode and John W. Bookwalter, Springfield, Ohio, executors of the estate of James Leffel, deceased.—*Water Wheel.* (Division A.) Patented January 14, 1862, No. 34,150; reissued October 11, 1864, No. 1,791; again reissued October 27, 1868.

Claim.—1. A wheel having two series of buckets, both receiving the water horizontally, and one series discharging the water vertically, and the other toward the center, substantially as described.

2. The annular diaphragm D, constructed and arranged to operate in combination with the buckets above and below, substantially in the manner and for the purpose set forth.

3,169.—James S. Goode and John W. Bookwalter, Springfield, Ohio, executors of the estate of James Leffel, deceased.—*Water Wheel.* (Division B.) Patented January 14, 1862, No. 34,150; reissued October 11, 1864, No. 1,791; again reissued October 27, 1868.

Claim.—In combination with a water wheel having two series of buckets, an upper plate, covering the wheel, with a horizontal flange, and a lower cylinder and flange, and a series of chutes for directing the water to said buckets, substantially as described.

3,170.—James S. Goode and John W. Bookwalter, Springfield, Ohio, executors of the estate of James Leffel, deceased.—*Case for Water Wheels.* (Division A.) Patented January 14, 1862, No. 34,150; reissued October 11, 1864, No. 1,792; again reissued October 27, 1868.

Claim.—1. A case for a water wheel, composed substantially of a crown plate A, with a horizontal flange, *c*, projecting beyond the periphery of the wheel, a cylinder, R, with a correspondingly projecting flange, *e*, and a series of oscillating gates, placed intermediately between the flanges, substantially as described.

2. In combination with a case, substantially such as described, an upper and lower support for the water-wheel shaft, attached to the case, substantially as described.

3. The upper plate A, when constructed with the flange *c*, cut away to admit of the movement or oscillation of the gate plates, substantially as described.

4. The bolts that hold the crown plate and cylinder by their flanges, in proper position, in combination with the case, and the means for sustaining the wheel, substantially as described.

3,171.—James S. Goode and John W. Bookwalter, Springfield, Ohio, executors of the estate of James Leffel, deceased.—*Gate for Water Wheels.* (Division B.) Patented January 14, 1862, No. 34,150; reissued October 11, 1864, No. 1,792; again reissued October 27, 1868.

Claim.—1. The gates H, when constructed substantially as described, so arranged around the wheel as to form converging throats, and so pivoted that when closed there shall be an equilibrium of pressure on the opposite ends thereof, substantially as set forth.

2. Gates H, which have their faces from z'' to z', outwardly flaring, and their faces from z' to z, when closed, on a curve concentric with the wheel, and pivoted to the flanges *c* and *e*, at a point, *d*, in the middle of the latter faces, substantially as set forth.

3,172.—Charles E. Patric, Macedon, N.Y.—*Lifting Apparatus for Grain Drills.*—Patented December 17, 1867, No. 72,323; reissued October 27, 1868.

Claim.—1. The employment of the racks R and pinions *w*, in connection with the hand lever F and shaft H, for the purposes set forth, whether the lifting chains are made to wind upon the shaft or not.

2. The arrangement of the locking latch D with the shaft H, when it is also made to act as a support, substantially as and for the purposes set forth.

3. The arrangement of the guards G with the rack R and pinions *w*, substantially in the manner herein shown and described, and for the purposes set forth.

4. The combination of the shaft H, with the devices for raising the same, when constructed in such a manner that, by turning the shaft on its axis, it is caused to rise or fall, for the purpose set forth.

3,173.—Peter P. Runyon, Johnson Letson, George J. Janeway, and T. E. McDonald, New Brunswick, N. J., assignees by mesne assignments of David D. Stelle.—*Combined Planter, Harrow, and Cultivator.*—Patented July 16, 1867, No. 66,904; reissued October 27, 1868.

Claim.—1. The employment, in combination with the main frame and driving wheels, of a rotatory cultivator, (or harrow), arranged forward of the main axle, and in a vibratory frame hung on said axle, substantially as described, for the purposes set forth.

2. The employment, in combination with the oscillating frame, in which the cultivator is hung, of a lever, *u*, and retaining bar *j*, or the equivalents, for depressing the rear end of said frame, so arranged that it may be conveniently handled by the driver while in his seat, as described.

3. The combination of the rod *k*, spring *n*, and vibratory valve arm *m*, with the cam *i*, the whole arranged to operate as and for the purpose set forth.

4. The adjustable slides, and series of slots in tube *p*, for varying the charge of seed to be deposited each time, as and for the purposes set forth.

5. The adaptation to the same transverse cultivator shaft *g*, of different sets of removable harrows and hoes, as described.

3,174.—E. S. Torrey and J. Torrey, New York, N. Y., assignees of Washington L. Gilroy.—*Weather Strip.*—Patented February 4, 1868, No. 74,077; reissued October 27, 1868.

Claim.—1. The insertion of a flat elastic strip into a molding, such as above described, in an inclined position to its surface as herein set forth.

2. Affixing said elastic medium into the groove in the rigid molding by means of suitable cement, as and for the purposes specified.

3,175,—Paul Schmitt, New York, N. Y., assignee of Jane Quantin and H. A. Pintard, administrators of Alphonse Quantin, deceased.—*Method of Bottling Fluids under Gaseous Pressure.*—Patented March 4, 1856, No. 14,368; reissued October 27, 1868.

Claim.—1. The above described device for filling bottles or other vessels with ærated water and sirup, consisting of conduits or passages A and B, a sirup-measuring chamber, and a discharging nozzle, or their equivalents, so arranged that the water and sirup may be discharged from said nozzle common to both, substantially as shown and described.

2. The combination and arrangement of the sirup-measuring chamber, and a cock or valve for admitting the ærated water thereto, substantially as shown and described.

3. The arrangement of the sirup conduit and the water conduit, as a consequence of which the sirup is expelled from its conduit, and such sirup is mingled with the water at some distance from their common outlet, substantially as shown and described.

4. The combination and arrangement of a valve or cock for drawing the water, a vessel for receiving and dispensing the sirup, and the pipe or passage connecting the same, as a consequence of which the ejection of the sirup is accomplished by the manipulation of the valve or cock for drawing the water, substantially as shown and described.

5. The construction and arrangement of the vent-opening and closing device, and the water-drawing valve or cock, as a consequence of which they are both operated simultaneously by the movement of water-drawing valve, substantially as shown and described.

3,176.—George R. Chittenden, Chicago, Ill., and Charles A. Smith, Milwaukee, Wis., assignees of James MacGregor, Jr.—*Coffee Pot.*—Patented April 11, 1854, No. 10,752, extended seven years; reissued October 27, 1868.

Claim.—1. A tea or coffee pot when made with two receptacles, one for tea or coffee, and the other for water, substantially as described.

2. A tea or coffee pot so arranged that the heat shall be communicated to the tea or coffee through a water or liquid medium, substantially as described.

3,177.—Jacob Green, Norristown, Thomas H. Willson, Hiram Willson, and Charles R. Adams, Philadelphia, Pa., and Samuel Munn, Hackensack, N. J., assignees of Jacob Green.—*Melting and Smelting Furnace.* (Division A.)—Patented March 26, 1867, No. 63,240; reissued November 3, 1868.

Claim.—1. A furnace in which currents of air are introduced above the fire, and a mixture of air and steam is passed upward through the fire, substantially as and for the purpose described.

2. A furnace, in which the gases produced by the passage of mixed air and steam through, and of air above the fire, are maintained under a pressure greater than that of the external air.

3. A furnace, in which the gases are maintained under pressure, and in which openings are arranged at the points to which the heat is to be directed, substantially as and for the purpose described.

4. The combination with a furnace of blast pipes so arranged above the fuel as to direct the heated products of combustion to any desired part or parts of the furnace, substantially as set forth.

3,178,—Jacob Green, Norristown, Thomas H. Willson, Hiram Willson, and Charles R. Adams, Philadelphia, Pa., and Samuel Munn, Hackensack, N. J., assignees of Jacob Green.—*Furnace for Treating Iron, and for other purposes.* (Division B.)—Patented March 26, 1868, No. 63,240; reissued November 3, 1868.

Claim.—1. The combination, in a smelting furnace, of pipes through which a mixture of steam and air can be introduced below the fire, and currents of air among the products of combustion previous to the latter being brought into contact with the ore, for the purpose specified.

2. A chamber or chambers, H, through which the ore is admitted to the furnace, when the said chambers are arranged in respect to the bed and to the fire-place substantially as specified.

3. The fire place D, bed F, stack G, inclined passage H, with its openings *c c* and reservoir E, all constructed and arranged substantially as and for the purpose set forth.

4. The combination of the two fire-places D D, stacks G G, passages H H, beds F F, and the basin E, the whole being constructed and arranged substantially as specified.

3,179.—DON CARLOS MATTESON and TRUMAN PANK WILLIAMSON, Stockton, Cal.—*Plow.*—Patented March 12, 1868, No. 62,766; reissued November 3, 1868.

Claim.—The curved standard A, with the lug B and the offsets D and E substantially as and for the purpose described.

3,180.—JEFFERSON PARKER, Louisville, Ky.—*Machine for Slaughtering Hogs.*—Patented February 13, 1855, No. 12,395; reissued November 3, 1868.

Claim.—The combination of the shaft K, elevating fingers *d d*, scalding vessel A, and scraping bench B, for the purpose set forth.

3,181.—MICHAEL SWEENEY, JAMES E. MATHEWS, and THOMAS HARTLEY, Wheeling, W. Va.—*Glass Mold.*—Patented January 30, 1866, No. 52,338; reissued November 3, 1868.

Claim.—1. Molds, into which glass is to be pressed, made of hot-blast iron, and cast upon metallic chills, substantially as shown and described.

2. An enlargement, formed around the middle of the mold, in order to obtain the equalization of the heat in the mold while glass is being pressed therein, substantially as set forth.

3. The manner, substantially as above shown, of attaching handles to molds for glass.

3,182.—STEPHEN R. KROM, New York, N. Y.—*Machine for Separating Ores.*—Patented September 1, 1868; antedated August 5, 1868, No. 81,794; reissued November 3, 1868.

Claim.—1. Introducing the material upon the bed I in a thin stratum, close to the surface of the bed, substantially in the manner and for the purpose herein set forth.

2. Traversing the material across the perforated bed I, transversely to the length of the machine, that is to say, extending the bed I longitudinally of the length of the framework A, and causing the material to traverse across its narrowest dimensions, substantially as and for the purpose herein set forth.

3. In combination with a perforated separating bed, and a device for producing intermittent puffs to effect separation of the granular substance on the bed, a rotating or traveling delivery device, arranged to regulate the discharge from the passage which carries off the heavier grades or particles passed through the sifting or separating bed, substantially as specified.

4. So gearing or operating the device which effects separation by intermittent puffs, and the rotating or traveling device which regulates the discharge of sifted material, as that said devices are made to work at fixed relative velocities to each other during all variations in the general speed of the machine, essentially as and for the purpose or purposes herein set forth.

5. The roller L, arranged and operating as represented, relatively to the discharge passage J, for the purposes herein set forth.

6. The trip wheel C and lever F G, or their respective equivalents, arranged, relatively to the bellows D and to the perforated bed I and its connections, as and for the purposes herein set forth.

7. In combination with the perforated bed I and with means for introducing and removing the material, as specified, mounting the bellows D on a rocking shaft, S, and operating it by an adjustable vibrating motion, substantially as and for the purposes herein specified.

8. The gates N and K, so arranged as to allow the separate or simultaneous changes in the thickness and velocity of the strata on the ore bed I, substantially as and for the purposes herein set forth.

9. In combination, the ore bed I, with its feeding and discharging devices, the adjustable oscillating bellows D, the trip wheel C and its connections, and the means, H H^1 H^2, or their equivalents, for varying the rate of discharge through the passage J, all arranged for joint operation, substantially as and for the purposes herein set forth.

10. The within-described arrangement of the operating parts C F and their connections, at the end of the main framework A, so that they may operate by a direct connection through the rocking shaft S with the bellows D, and that the closed end of the frame A shall form one entire side of an inclosing case to protect the working mechanism, all as and for the purposes herein set forth.

3,183.—ELISHA M. ALLEN, New York, N. Y. assignee of GILES B. WILLIAMS.—*Apparatus for Stirring, Mixing, Heating, Cooling, and Evaporating Lard and other Substances.*—Patented February 5, 1867, No. 61,907; reissued November 10, 1868.

Claim.—The continuous flange C, secured to the shaft B by arms *ax*, leaving an opening, *bx*, between the flange and shaft, in combination with a receptacle, A, whose bottom is curved concentrically with said shaft, substantially as described, for the purpose specified.

3,184.—LAFAYETTE LOUIS, Boston, Mass.—*Piano with Melodeon and Tremolo Attachment.* (Division A.)—Patented June 10, 1862, No. 35,528; reissued November 10, 1868.

Claim.—1. The arrangement of a melodeon-tube board (including reeds and swell) above the keys and below the sounding board of a piano forte, in the manner and for the purposes and substantially as described.

2. So combining and arranging a melodeon-tube board with a piano forte that the performer can instantly and at pleasure disconnect the melodeon-tube board from the piano-forte keys, in the manner substantially as herein set forth.

3. The combination of a tremolo attachment with the melodeon.

4. In combination with a piano forte, a melodeon having a connection of the bellows with the tube board by means of a tube.

3,185.—LAFAYETTE LOUIS, Boston, Mass.—*Wind Musical Instrument.* (Division B.)—Patented June 10, 1868, No. 35,528; extended November 10, 1868.

Claim.—1. In combination with a rotary tremolo valve, a tremolo-actuating wheel, placed upon the tremolo-valve shaft, or directly connected therewith, so as to actuate the rotary tremolo valve, substantially as described.

2. In combination with a wind musical instrument, a rotary wind-actuated bellows, substantially as described.

3,186.—JOHN LOVATT, Newark, N. J.—*Skate.*—Patented May 29, 1860, No. 28,495; reissued November 10, 1868.

Claim.—1. The adjustable hooked clamps D D′, or their equivalents, for fastening skates, arranged to be tightened and adjusted by means of an adjusting screw.

2. Constructing a skate, having a supporting plate, with a projecting piece or lug to prevent the boot from slipping forward, and clamp fastenings adjusted by means of an adjusting screw.

3. The combination of the movable slotted blocks E E′, or their equivalents, with clamps D D′, and the adjustable screw G, arranged substantially as described, and for the purposes specified.

3,187.—EDWARD S. WINCHESTER, Boston, Mass.—*Tip for the Feet of Chair Legs.*—Patented November 5, 1867, No. 70,490; reissued November 10, 1868.

Claim.—An elastic foot or tip of rubber, or other material for the leg of a chair, having its means of attachment in an external rim made to embrace the lower portion of the leg or foot of a chair, substantially as described.

3,188.—Colby Brothers & Co., Waterbury. Vt., assignees, by mesne assignment, of Harvey Murch.—*Mop Head.*—Patented June 14, 1853, No. 9,781; extended seven years; reissued June 2, 1868, No. 2,957; again reissued November 10, 1868.

Claim.—1. The combination of a socketed cross head with a rigid binder, that is to say, one having rigid or inflexible ends connected directly to each other, substantially as and for the purpose specified.

2. The combination of a socketed cross head with a rigid binder, having its ends connected directly together, and a single fastening for holding the binder to the handle itself in such a position as to clamp rags, &c., substantially as and for the purposes set forth.

3. The combination of a socketed cross head. handle, and a metallic binder, having rigid or inflexible ends connected directly to each other, constructed and arranged in such manner that the rigid or inflexible ends will be allowed to move freely by a graduated movement up and down on or over the handle itself, or the socket thereon, and hold or aid in holding the cross head to the handle when the parts are in clamping position, substantially as set forth.

4. The combination of a metallic cross head with a handle and a rigid metallic binder, having inflexible ends connected directly with each other, constructed or arranged in such manner that the rigid or inflexible ends of the binder will be allowed to move freely up and down on the handle, or a metallic socket thereon, so as to hold or aid in holding the cross head to the handle when the parts are in clamping position, substantially as set forth.

5. The combination of a metallic cross head, socket, handle, and a metallic binder, having rigid or inflexible ends, connected directly together, the latter being constructed or arranged in such manner that the rigid or inflexible ends will be allowed to move freely up and down on or over the handle itself, or the socket thereon, and hold or aid in holding the cross head to the handle when the parts are in clamping position, substantially as set forth.

3,189.—William Gage, Buffalo, N. Y., and Andrew Whiteley, Springfield, Ohio, assignees of William Gage.—*Harvester.* (Division E.)—Patented September 16, 1856, No. 15,735; reissued November 10, 1868.

Claim.—1. The shoe M, or an equivalent thereof, which, when disconnected from the frame of the harvester, to which it is connected, leaves the finger bar of the cutting apparatus entirely disconnected from said frame, and which shoe has, in combination, the guide way *i*, the horizontal slot *k*, and the projections *l l*, fitted to receive the axial bolt *e*, or equivalents of these parts, for the purposes specified.

2. The combination of the shoe M, or an equivalent thereof, constructed with the guide way *i*, the horizontal slot *k*, and the projections *l l*, with the coupling frame F, or an equivalent thereof, which enables this shoe to be moved, in respect to the main frame and the plane of the cutter's driving wheel, substantially as first herein described for the purposes specified.

3. In combination with the main frame of the harvester and the shoe M, or an equivalent thereof, which is constructed with the guide way *i*, the horizontal slot *k*, and the projections *l l*, the coupling frame F, or an equivalent thereof, which has its inner end connected to said frame by the axis *g*, or an equivalent thereof, and its outer end connected to the shoe by the axis *e*, or an equivalent thereof, and having no other axis than these two between the main frame and shoe, for the purposes specified.

4. In combination with the main frame of a harvester, and with the shoe M, or an equivalent thereof, which is constructed with the guide way *i*, the horizontal slot *k*, and the projections *l l*, fitted to receive the axial bolt *e*, or equivalent of these parts, the skeleton coupling frame F, or an equivalent thereof, which has its inner end connected to the main frame by the axis *g*, or an equivalent thereof, and its outer end connected to the shoe by the axis *e*, or an equivalent thereof, and having no other axis than these two between the main frame and this shoe, for the purposes specified.

5. In combination with the main frame of a harvester, and with the shoe M, or an equivalent thereof, which is constructed with the guide way *i*, the horizontal slot *k*, and the projections *l l*, fitted to receive the axial bolt *e*, or equivalents of these parts, the skeleton coupling frame F, or an equivalent thereof, made of separate parts, for the purposes specified.

3,190.—Jacob O. Joyce, Dayton, Ohio.—*Rotary Pump.*—Patented March 23, 1858, No. 19,699; reissued November 10, 1868

Claim.—1. The exit valve chamber I, when located wholly within the curved cylinder A, and held in place by beads or projections fitting annular grooves of the curved cylinder, substantially as and for the purposes specified.

2. The centrally located shaft or bearing B, arm D, and the two arms E, provided, at their ends, with pistons or plungers, in combination with the annular chamber A, provided with the centrally interposed valve chamber I, so arranged that they can be operated by suitable levers or shafts located outside of the cylinder, substantially as and for the purposes specified.

3,191.—William M. Jones and D. W. Hall Horicon, Wis., assignees, by mesne assignments, of W. M. Jones and S. E. Tyler.—*Seeding Machine.*—Patented August 12, 1862, No. 36,159; reissued November 10, 1868.

Claim.—1. The cylinder I, with buckets *k* attached, secured to a rotating and sliding or longitudinally adjustable shaft, E, in connection with the head J, and semi-cylinder K, provided with an opening, *l*, all being arranged within a suitable box, D. and in such relation to a seed box or hopper, C, as to operate in the manner and for the purpose substantially as described.

3. The curved plate or gate L, placed or fitted within the semi-cylinder K, connected to the cylinder I, and arranged in relation with the opening *l*, of said semi-cylinder K and the buckets *k*, to operate substantially as and for the purpose specified.

3. The arrangement of the clutch F, collar *e*, pinion *f*, and shaft E, substantially as shown and described, for the combined purpose of permittin said shaft to be thrown in and out of gear with the wheel B^1, and also permitting said shaft to be adjusted longitudinally when desired.

4. The combination and arrangement of the cylinder I with buckets *k* arranged to traverse through the disk or head J, for the purpose of increasing or diminishing the rate of feeding or the length of the buckets, substantially as described.

5. The collar *e* and pinion *f*, arranged, in relation to the hub plate N and clutch F, substantially as and for the purpose specified.

3,192.—Luke Taylor, Springfield, Vt.—*Mop Head.*—Patented February 15, 1859, No. 22,990; reissued November 10, 1868.

Claim.—1. In a mop head in which the cross head or stationary jaw is attached permanently and immovably to the handle, operating the movable jaw or binder by means of a screw fitted to the handle, and having its screw thread on its exterior, in combination with a nut encompassing the screw, and connected with the movable jaw, so as to operate substantially in the manner as shown or described.

2. Operating the movable jaw by means of the loose screw collar C, revolving between the nut D and the handle A, substantially as described.

3,193.—John W. Cobb, Melrose, for himself, and Edwin A. Hill, assignee of John W. Cobb, Quincy, Mass.—*Machine for Filling Cylindrical Molds for Rubber Goods.*—Patented June 18, 1867, No. 65,794; reissued November 17, 1868.

Claim.—1. The combination of a molding cylinder, M, and a grinding roller, R, substantially as described, and mechanism for revolving the two at different speeds, as and for the purpose explained.

2. The combination of the pressure roller S, the molding cylinder M, and a grinding roller R, substantially as described, and mechanism for revolving the molding cylinder and grinding roller at different speeds, as and for the purpose specified, the pressure roller having applied to it mechanism for revolving it at the same speed with the molding cylinder.

3,194.—HENRY G. REED, GEORGE BRABROOK, and HENRY H. FISH, (trading as "REED & BARTON,") Taunton, Mass., assignees of ERNEST KAUFFMAN.—*Ice Pitcher.*—Patented April 6, 1858, No. 19,855; reissued November 17, 1868.

Claim.—1. An ice pitcher having an attachable and removable lining, and a continuous or unbroken outer wall and bottom, when so constructed that the lining can be attached or removed through the top of the pitcher.

2. The ice pitcher, having the inner portion or lining B, fitted to the outer portion or casing A, with screw threads, or their equivalents, which make a tight joint, but provide for its ready removal and renewal, and replacement or renewal, as set forth.

3,195.—E. P. RUSSELL, (for himself,) and PORTER TREMAIN, (assignee of E. P. RUSSELL,) Manlius, N. Y.—*Mode of Lighting Street Gas Burners.*—Patented October 29, 1867, No. 70,272; reissued November 17, 1868.

Claim.—A small supplemental burner, A, to be kept burning constantly, and the pipe leading thereto, when operating in connection with a main burner, substantially as and for the purposes set forth.

3,196.—WILLIAM J. WILCOX, New York, N. Y.—*Machine for Stirring Lard.*—Patented January 20, 1863, No. 37,469; reissued November 17, 1868.

Claim.—1. The employment or use, for the purpose of stirring lard, of perforated or slotted dashers E E′ attached to staves F F′, which are secured to reciprocating rods or bars C C′, moving in opposite directions, all constructed, combined, arranged, and operated substantially in the manner herein shown and described; and, also, the last above-mentioned parts, in combination with said tank, constructed, arranged, and operated substantially as above described.

2. The combination of two or more dashers, moving backward and forward in the tank, in opposite directions to each other, substantially as described and for the purpose set forth.

3,197.—WILLIAM M. JONES and D. W. HALL, Horicon, Wis., assignees by mesne assignments of W. M. JONES and S. E. TYLER.—*Seeding Machine.* (Division A.)—Patented August 12, 1862, No. 36,159; reissued November 17, 1868.

Claim.—1. The chamber or recess *n′* formed on the inside of the cap K, and located between the seed opening in front of the cap and the top of the cap, to allow the edges of the buckets or partitions to pass up under the cap without injuring the seed, substantially as described.

2. Forming and arranging the cap so that a space shall be left at the rear for the seed to begin to fall from the buckets as soon as they are turned far enough to cause the seed to roll or slide over their edges, substantially as described.

3,198.—WILLIAM A. KIRBY, Auburn, N. Y.—*Harvesting Machine.* (Division A.)—Patented September 2, 1856, No. 15,659; reissued March 15, 1859, No. 673; again reissued November 17, 1868.

Claim.—1. The combination of the single plate H with the main wheel, substantially as and for the purpose described.

2. The combination of the main wheel K, single plate H, and rim L, when connected together and operating in the manner and for the purpose set forth.

3. Placing a vibrating wheel on the outside of the main frame, or so that the outside of said frame does not bear on the outside of the wheel, in combination with the triangular-shaped frame on the inside of the wheel, substantially as described.

4. Hanging the seat to the plate H and to the standard S, in the manner and for the purpose set forth.

5. A hinged lever seat, and outside supporter therefor, in combination with a wheel having no outside frame or support, substantially as herein represented.

6. In a harvesting machine having no outside support to the driving wheel, attaching a support for the driver's seat to the outer end of the axle of said wheel, substantially as described.

7. In a harvesting machine having its frame in two parts, and hinged together around the box containing the pinion shaft at one point, the plate, segment, and holding mechanism at another point, for sustaining and holding the frame at any desired height, substantially as described.

3,199.—WILLIAM A. KIRBY, Auburn, N. Y.—*Harvesting Machine.* (Division B.)—Patented September 2, 1856, No. 15,659; reissued March 15, 1859, No. 673; again reissued November 17, 1868.

Claim.—1. In a harvesting machine, with its frame wholly on one side of the driving wheel, and the driving wheel having no outside support, a foot support for the driver on the side of the wheel opposite the frame, substantially as described.

2. In a harvesting machine with a frame wholly on one side of the driving wheel, and said driving wheel having no outside support, the making of the frame in two parts, one of which supports the driving wheel and a portion of the gearing, and the other part carries the other portion of the gearing, and forming a projection on one part of the frame around the pinion shaft, and a corresponding opening in the other part, which will pass over and around said projection, thus forming a joint, the center of which is coincident with the center of the pinion shaft, for the purpose of holding their gearing in position longitudinally, substantially as described.

3. In a harvesting machine having its frame in two parts, one of which supports the driving wheel and a portion of the gearing, and the other part carries the other part or portion of the gearing, and jointed together by the projection on one and the opening in the other, as described, the use of the lug, flange, or guide *a* on one part of the frame, and a corresponding recess, *n*, on the other part thereof, in which said lug, flange, or guide works, for the purpose of holding the two parts, with their gearing, in position laterally, so as to prevent motion to either side, substantially as described.

3,200.—JOSEPH MOORE, San Francisco, Cal.—*Frictional Pawl.*—Patented May 7, 1867, No. 64,554; reissued November 17, 1868.

Claim.—As an improvement in hoisting apparatus, a pulley, which shall be, on the one hand, under the control of a brake bearing upon its outer surface, and, on the other hand, connected with the shaft by the pawl and ratchet device, or its equivalent, within the pulley, substantially in the manner and for the purposes set forth.

3,201.—NARCISSE PIGEON, Brooklyn, N. Y.—*Manufacture of Starch Sugar.*—Patented April 23, 1867, No. 64,139; reissued November 17, 1868

Claim.—1. The within-described process of manufacturing a pure sirup, and crystallizable sugar sirup, from prepared fecula, cellulose, or other similar matter, by freeing it from salts, empyreumatic oils, &c., substantially as described, and by treating the matter so as to convert the whole dextrine, cellulose, &c., into crystallizable sugar sirup, substantially in the manner above described.

2. The within-described process of manufacturing a hard crystallized sugar from fecula, or other similar substances, substantially as herein set forth.

3. The above-described part of my process, which consists in freeing the sirup of any acid, by the double neutralization, substantially in the manner above described.

3,202.—Benj. B. Savary, Boston, and Frederick O. Raymond, Haverhill, Mass., assignees by mesne assignments of Isaac F. A. A. Lynch.—*Weather Strip for Doors and Windows.*—Patented September 19, 1865, No. 50,016; reissued November 17, 1868.

Claim.—1. A weather strip, composed of two strips or pieces of wood, and an interposed projecting strip of vulcanized rubber, or equivalent lasting material, united by tacks or otherwise, substantially as herein set forth.

2. The employment, with a weather strip of otherwise ordinary or suitable construction, of vulcanized rubber, held in and arranged to project from face of weather strip in contact with the door or other part to which said strip is affixed, substantially as and for the purposes herein set forth.

3. The improved weather strip, as made with the strip of elastic material or India-rubber *c c* to project in opposite directions from the two faces of the divided holder or molding *a b*, substantially in the manner shown and described.

4. The combination, with the elastic strip projecting from the rear face of the molding, as described, of the rebate *d* made in the molding, and arranged with relation to the said elastic strip substantially as specified.

3,203.—Samuel Shepherd and Joseph Greeley, Nashua, N. H., assignees by mesne assignments of Samuel Shepherd and Ammi M. George.—*Machine for Polishing Enameled Paper.*—Patented July 17, 1868, No. 56,457; reissued November 17, 1868.

Claim.—1. The combination of a rotary polishing device with an endless carrying device, moving at a lower velocity than the polishing device, and supporting table, bed, or ways to the carrying device, substantially as herein set forth, for the purpose specified.

2. The combination, with an endless carrying device to the paper or other material to be operated on, of a polishing device, arranged to reciprocate across the line or plane of feed, substantially as specified.

3. Providing an elastic bearing for the paper or material under the rotary polishing device, by making either the endless carrying device or support upon which it rests elastic, substantially as herein set forth.

4. Giving the rotary polishing device a reciprocating movement transversely to the feed, as produced by the endless carrying device, simultaneously with its rotary motion, substantially as herein set forth, for the purpose specified.

5. The pressing plate T, applied in relation with the rotary polishing device and endless carrying device, and support or ways to the latter, substantially as herein set forth, for the purpose specified.

3,204.—George Asmus, New York, N. Y., assignee of F. W. Lürmann.—*Blast Furnace.*—Patented November 5, 1867, No. 70,447; reissued November 24, 1868.

Claim.—1. A blast furnace with a closed breast where the slag is discharged through an opening or openings cooled by water, substantially as set forth.

2. The slag discharge piece or cinder block D, constructed and arranged substantially as described.

3. The cinder block D in combination with the plate C, to which it is attached, substantially as described.

4. The shape of the discharge opening or openings of the cinder block D being made flaring at its ends, and of diminished diameter in the middle or central part, substantially as described.

5. The combining of the slag discharge piece or cinder block with a series of water channels or pipes, substantially as and for the purpose above set forth.

6. Combining with the metallic plate C a series of water channels or pipes, substantially as and for the purpose set forth.

7. The method of controlling the discharge of slag from blast furnaces by regulating the temperature of the slag discharge piece or cinder block, substantially as described.

3,205.—Azro Buzzell, West Fairlee, Vt.—*Carriage Spring.*—Patented September 15, 1868, No. 82,082; reissued November 24, 1868.

Claim.—The improved arrangement of the three springs A B C, as described, without any connection, extending from or about from the middle of one spring B to or about to that of the spring C, the whole being as shown in the drawings.

3,206.—Lewis S. Chichester, George H. Nichols, and Clark W. Mills, Brooklyn, N. Y., assignees by mesne assignments of Francis Taggart, Lewis S. Chichester, and Clark W. Mills.—*Grain Elevator.*—Patented June 27, 1865, No. 48,495; antedated June 12, 1865; reissued November 24, 1868.

Claim.—1. A floating elevator, formed by two vessels or floats, connected together, and leaving a space for a boat or barge, in combination with an elevating apparatus.

2. An elevator, *d*, fitted to be raised or lowered, in combination with the floats *a a*, and platform connecting said floats and supporting the elevator, substantially as set forth.

3. A grain elevator, fitted upon a float, and arranged so that the axis of the elevator drum is at right angles, or nearly so, to the float, in order that the elevator may act longitudinally of the vessel to be discharged, substantially as specified.

3,207.—Benjamin P. Crandall, New York, N. Y.—*Velocipede.*—Patented July 7, 1868, No. 79,553; reissued November 24, 1868.

Claim.—1 The combination, with the operating lever J, of a tubular support, K R, and the independent screw L, substantially as described.

2. As an improvement in the mode of operating the steering apparatus of velocipedes, the pivoted rods E, in combination with the yoke F and the steering wheels D, substantially as described.

3. As a new article of manufacture, the detachable cast metallic plates N, when applied to the spokes of the wheels, for the purpose described.

4. As an improvement in the patent granted to Crandall and Conover, dated April 2, 1861, the connecting rods M, bent at both ends, in combination with the wheels B, substantially as described.

3,208.—Duncan McKenzie, Brooklyn, N. Y.—*Wooden Pavement.*—Patented July 7, 1868, No. 79,674; reissued November 24, 1868.

Claim.—The wooden pavement, constructed, as described, of the blocks A, secured together by means of the beveled strips attached to the opposite sides of said blocks, so as to form either a single or double dovetail or lock, substantially as herein set forth.

3,209.—Paul A. Oliver, New York, N. Y.—*Machine for the Manufacture of Gunpowder.*—Patented April 7, 1868, No. 76,510; reissued November 24, 1868.

Claim.—1. In the manufacture of gunpowder, the employment of one or more pairs of rollers, substantially as herein described.

2. The combination with the said rollers of a pair of toothed rollers, substantially as herein described.

3. As an improved article of manufacture, a machine for making gunpowder, consisting of a series of rollers, operating substantially as described, so as to deliver the ingredients from one pair of rollers to the next pair, and so on, as herein set forth.

3,210.—J. H. Thomas and P. P. Mast, Springfield, Ohio.—*Seed Planter.*—Patented July 27, 1868, No. 21,034; reissued November 24, 1868.

Claim.—1. The combination of a grass-seed sower with a grain seeder, in such a manner as to distribute the grass seed behind the tubes or hoes of the grain seeder, substantially as described.

2. The combination of the grain hopper G and the grass-seed hopper H, when constructed and arranged to operate substantially as and for the purpose set forth.

3. The combined hoppers G and H, having their ends, at each side of the machine, formed of a sin-

gle plate, substantially as and for the purposes herein described.

3,211.—Charles F. Brown, Warren, R. I.—*Breech-loading Cannon.*—Patented September 18, 1868, No. 30,045; reissued November 24, 1868.

Claim.—1. Exploding the cartridge of a breech-loading fire arm by means of a reciprocating plunger held within the hollow breech pin, said plunger being detained by means of a lever, released by means of a cam actuating said lever, and forced forward by means of a spring held in the breech pin, substantially as set forth.

2. Locating and exploding a cartridge in a breech-loading fire-arm by the action of one rotating shaft, I, and by means of an eccentric, K, and cam *u*, mounted on said shaft, substantially as specified, the shaft being arranged transversely through the body of the gun, as set forth.

3. The arrangement and combination with each other of the barrel A, breech pin B, plunger C, spring *i*, lever L, cam *u*, eccentric K, and shaft I, all made and operating substantially as herein shown and described.

4. The wheel J, applied, in combination with the eccentric K, or its equivalent, for the purpose of producing the rotation of said eccentric to effect the firing of the ordnance during the motion of the gun carriage, as specified.

3,212.—J. H. Guild, Rupert, Vt.—*Float Valve.*—Patented May 14, 1867, No. 64,663; reissued November 24, 1868.

Claim.—1. The arrangement of the fulcrum of the clamping lever *e* in such manner as that, on disconnecting the float from gear with said lever, the latter drops, to effect closure of the tube, substantially as shown and described.

2. The arrangement, in the perforated vessel A, of the float B, having the perforated or notched vertical rod *b* engaging with the pivoted oscillating lever *c*, connected by the link *d* to the lever *e*, pivoted to the opposite side of the vessel in such a manner that, as the float B is elevated by the water, the projection *f*, upon said lever *e*, presses against the elastic pipe C, effectually closing the same, substantially as described, and for the purpose specified.

3,213.—Daniel Strock, Chambersburg, Pa.—*Horse Rake.*—Patented September 11, 1860, No. 30,010; reissued November 24, 1868.

Claim.—1. The combination of the rake head and straining frame, when arranged and operating substantially as described, for the purpose set forth.

2. The employment of the rubber or other suitable springs L, adjustable rods *l*, tightening nuts l^1 straps l^2, and quadrant levers I, for holding the rake teeth, and regulating their tension, substantially as and for the purpose described.

3. The combination, with the rake head G and the rake teeth, of the quadrant levers I, substantially as and for the purpose described.

3,214.—Jotham S. Conant, Hackensack, N. J., assignee, by mesne assignments, of himself.—*Sewing Machine.*—Patented January 16, 1855, No. 12,233; reissued November 24, 1868.

Claim.—An endless rotary cloth feeder, substantially such as herein described, in combination with a reciprocating eye-pointed piercing needle.

3,215.—Luke Taylor, Springfield, Vt.—*Mop Head.*—Patented February 15, 1859, No. 22,990; reissued November 10, 1868, No. 3,192; again reissued November 24, 1868.

Claim.—1. In a mop head in which the cross head or stationary jaw is attached permanently and immovably to the handle, operating the movable jaw or binder by means of a tubular screw or socket fitted on the handle, and having its screw thread on its exterior, in combination with a nut encompassing the screw, and connected with the movable jaw, so as to operate substantially in the manner as shown or described.

2. Operating the movable jaw by means of the loose screw collar C, revolving between the nut D and the handle A, substantially as described.

3,216.—R. B. Anderson, Oneida, Ill.—*Mode of Securing Buckles and Rings to Harness.*—Patented June 23, 1868, No. 79,180; reissued December 1, 1868.

Claim.—Securing buckles, rings, and snap hooks to leather straps by means of a tapering metallic box, B, secured by pegs or teats, *a a*, or their equivalents, whereby the ends of the strap are inclosed, as specified.

3,217.—Eickemeyer Hat-blocking Machine Company, Yonkers, N. Y., assignee of Rudolph Eickemeyer.—*Machine for Stretching Hat Bodies.*—Patented February 28, 1865, No. 46,553; reissued December 1, 1868.

Claim.—1. In a machine for stretching hat bodies, a skeleton or ribbed and recessed former, substantially such as is herein described.

2. The combination and arrangement of the crown and tip supporting ribs with the upper series of stretching devices, substantially as described, operating to stretch the tip and side crown of the hat body between them, substantially in the manner hereinbefore set forth.

3. The combination and arrangement of the brim-supporting ribs with the lower series of stretching devices, substantially as described, operating to stretch the brim of the hat body between them, substantially in the manner set forth.

4. In combination with the supporting ribs of the skeleton former, the stretching devices, operating as hereinbefore set forth, to stretch the hat-body between them at one operation, as required for blocking, substantially as described.

5. The clamping ring, in combination with the ribs of the skeleton or ribbed former, operating to hold the hat body thereon during the operation of stretching, substantially as described.

6. The combination, in a machine for stretching hats, of the skeleton or ribbed and recessed former, a clamping ring, and a system of stretching arms or rollers, the whole combined and operating substantially as described.

7. Making the stretching devices for the tip or brim adjustable radially, with relation to each other, so as to vary the degree of stretching of either tip or brim, substantially as described.

3,218.—Henry W. Fuller, Brooklyn, N. Y., assignee, by mesne assignments, of Israel M. Rose.—*Tuck-creasing Attachment for Sewing Machine.*—Patented September 22, 1868, No. 40,084; reissued December 1, 1868.

Claim.—1. The mechanism, substantially such as herein described, for forming a ridge or ridges on fabrics, to be afterward folded in the line of such ridges.

2. The method of nipping or pinching the fabric, to form ridges or creases thereon, as aforesaid, by means of jaws, opened and closed at intervals, to seize and pinch the fabric when at rest, and then release it as the same is moved along intermittently by a suitable feeding mechanism, as set forth.

3. The combination, with the jaws arranged as aforesaid, for action on a fabric, of a bed plate or plates to support the fabric, receiving and resisting the impingement of the jaw or jaws thereon, substantially as specified.

4. A pinching mechanism, substantially as set forth, and in which the jaws are brought down in contact with and made to impinge upon the fabric while yet open, and are closed by the resistance then offered to the further descent of the jaws, substantially as described.

5. The combination of the creasing device or devices of a tuck marker with a jointed lever, substantially as and for the purposes set forth.

6. A tuck-creasing mechanism, substantially such as described, having its upper and lower parts connected, and together adjustable, as to its relation with the needle of a sewing machine, and operated by the sewing machine, substantially as set forth.

7. The spring G, for carrying the upper half of the creasing device away from the cloth after each creasing action, when relieved by the needle arm, substantially as set forth.

8. The combination, with a tuck marker, having upper and under parts connected and together, ad-

justable as specified, of the lever and spring, substantially as and for the purposes set forth.

3,219.—Adam R. Rose, Phillipsburg, N. J., assignee of Ann Morgan, administratrix of the estate of Mirick Morgan, deceased.—*Horse Rake.* —Patented August 24, 1858, No. 21,268; reissued December 1, 1868.

Claim.—1. In a two-wheeled wire-tooth hay rake, having a stationary axle, with teeth separately hinged, the combination of a spring to each tooth, to assist in holding it to the ground, and attached to the rake head by the same bolt which attaches the tooth, at a point between and within the periphery of the wheels, and a lever, operated by the driver while riding on the seat, for raising and lowering the teeth.

2. In combination with a two-wheel wire-tooth hay rake, the teeth of which are each separately and independently hinged against backward strain at a point between and within the periphery of the wheels, a device, operated by the attendant while riding on the seat, for raising the teeth, and stationary cleaner rods for holding the hay down in the upward movement of the teeth.

3. Hinging the teeth independently to cast-iron plates or heads, which are, in turn, connected to a common rocking head or shaft, operated by the attendant, for raising the teeth, while riding on the seat.

4. In combination with a two-wheel wire-tooth hay rake, having a stationary axle, with the teeth separately and independently hinged to a rake head or support which is hinged or pivoted between and within the periphery of the wheels, a device, operated by the attendant while riding on the seat, for raising the teeth out of the gathered hay.

5. In a two-wheeled wire-tooth hay rake, having a stationary axle, the combination of teeth hinged separately between and within the periphery of the wheels, and a stop to each tooth, to prevent it from falling below a certain point, and for holding it while being raised by the operator while riding on the seat.

6. The combination, in a two-wheeled wire-tooth hay rake with a stationary axle, of a support for the teeth, between and within the periphery of the wheels, that will admit of an upward and downward motion to each tooth, without the movement of the head that supports them against backward strain, and a stop for limiting its downward motion, and for enabling the attendant to raise the teeth from the ground by means of a device operated while riding on the seat.

7. Independently-hinged wire teeth, each provided with a sustaining-spring applied thereto, and united to the rake shaft or roller by a single screw bolt, in such manner that each tooth can be taken off by removing a single burr that holds it in place.

8. In combination with a two-wheel wire-tooth hay rake, the teeth being supported against their backward strain between and within the periphery of the wheels, a device, operated by the attendant while riding on his seat, for locking the teeth to the ground, so as to prevent the teeth from rising over the accumulated hay while in operation, and a device for cleaning the teeth of the gathered hay in their upward motion.

9. In combination with a two-wheel wire-tooth hay rake with stationary axle, having the teeth separately hinged to a rake head, between and within the periphery of the wheels, a hand lever, attached to said head, and operated by the attendant, for raising the teeth, while riding on the seat.

10. In combination with a two-wheel wire-tooth hay rake, the teeth being supported against their backward strain between and within a periphery of the wheels, a device, operated by the attendant while riding on the seat, for raising the teeth, with stationary cleaner rods, supported at the inner end only, for holding the hay down while the teeth have their upward movement.

11. Supporting the stationary elastic wire cleaner rods of a two-wheel wire-tooth hay rake, between and within the periphery of the wheels, for the purpose of holding the hay and straw down, with a device for raising the teeth, operated by the attendant while riding on the seat.

3,220.—Nathan H. Spafford, Boston, Mass., assignee by mesne assignments of George Edward Burt.—*Machine for Cleaning and Assorting Bristles.* (Division A.)—Patented February 7, 1854, No. 10,498; extended seven years; reissued December 1, 1868.

Claim.—1. A machine for combing bristles, combining in its construction the following elements, viz., a comb, a clamp for holding the bristles while subjected to the action of the comb, and suitable mechanism for passing the comb through the bristles, and for combing the same, substantially as set forth.

2. In combination with the comb, a movable clamping apparatus, by which the bristles are brought into proper position to be acted upon by the combs.

3. The combination of the movable combs T and U with the clamping belts E and L, F and M, combined and operating substantially as described.

4. In combination with the dragging and conveying mechanism, the double brush belts, arranged to act as conveyers, substantially as set forth.

5. A machine for dragging and assorting bristles, combining in its construction the following groups of elements, viz., mechanism for combing the bristles, a conveying mechanism, for carrying the bristles after being subjected to the action of the comb, and mechanism for successively taking up the bristles of different lengths, substantially as described.

6. A conveyer so arranged as to clamp the bristles between two surfaces, for holding them in such a manner that one end of the bristles may project therefrom, in combination with an assorting mechanism, so arranged in relation thereto, that the bristles shall be separated and taken out successively, according to their lengths, substantially in the manner set forth.

7. The spring board p^1, and hammer r^1, combined and arranged to operate substantially in the manner and for the purpose specified.

8. The combination of the combs u^2 v^2, with the grooved delivering rollers, arranged to operate substantially in the manner and for the purpose specified.

3,221.—Nathan H. Spafford, Boston, Mass., assignee by mesne assignments of George Edward Burt.—*Machine for Cleaning and Assorting Bristles.* (Division B.)—Patented February 7, 1854, No. 10,498; extended seven years; reissued December 1, 1868.

Claim.—1. The method of applying combs or rakes by giving motion to the combing or raking apparatus, by means of the crank *k*, rocker shaft *h*, or their equivalents, so combined and operated as to give a curvilinear movement to the teeth, substantially as above described.

2. The staff *g*, carried near its center upon the rotating crank shaft *k*, and connected to the main frame, near one end of the staff, by any mechanism admitting both the rotating and back and forward motion, simultaneously, so constructed and arranged as to allow the crank to revolve freely and carry the combs or rake T upon the operating end of the staff *g*, all arranged and operating substantially as described and set forth.

3. The combination of the staff *g*, attached, as above described, at one end, to the frame C, the box 2, the crank *k*, and the comb or rake T, when combined to operate substantially as described.

4. Connecting the comb or rake T to the main frame with three movable junctions or joints, constructed and arranged to allow the staff to assume freely any angle caused by the revolutions of the crank, substantially as described and set forth.

5. The arm *h*, or its equivalent, when attached to the main frame, and so constructed and arranged as to hold in position the upper end of the staff *g*, and admit the staff to play freely in all the various angles of the same, caused by the revolutions of the crank *k*, substantially as described.

6. The combs or rakes T and U, composed of any number of teeth, and attached to staves actuated

by crank shafts, and held in position by mechanism so arranged that, by revolving the cranks, there shall be imparted to the forks a curvilinear motion, substantially as described.

7. The cranks *k* and *l*, in such relative position with each other that they will cause the combs or rakes that are attached to them to act alternately, substantially as described and set forth.

8. Supporting or sustaining the combs or rakes upon fulcra which move in the arc of a circle, said rakes having also a rocking or back and forward motion upon said moving fulcra, substantially as described and for the purpose set forth.

3,222.—THE BARRONS PATENT STEEL MANUFACTURING COMPANY, New York, N. Y., assignees of JOHN F. BOYNTON.—*Method of Converting Iron into Steel.*—Patented July 16, 1868, No. 66,785; reissued December 1, 1868.

Claim.—1. In carrying the above-described method into effect, the use of gas surcharged with carbon by being passed through a carbonizing vessel, as above described, and mixing or combining the gas so produced with hydrocarbon vapors, by any known means of producing that result.

2. In carrying the above-described method into effect, the use of other gases hereinbefore mentioned, when charged with hydrocarbon vapors.

3. In carrying the above-described method into effect, the use of atmospheric air charged with hydrocarbon vapors, by any known means of producing that result.

4. In carrying the above-described method into effect, the heating of heavy hydrocarbons, to cause their vapors more readily to mix or combine with the gases or air, and be carried forward therewith.

5. Melting iron or the nitro-carbonized compound, after it has been converted into steel by the above-described method, and thereby converting it into cast steel, as described.

6. In carrying the above-described method into effect, the use of hydrocarbon vapors without admixture with gas or air, as and for the purpose set forth.

7. In carrying into effect the method, herein described, of converting iron into steel, coating a portion of any piece of iron with a wash, as described, to prevent the portion so coated from being converted into steel.

8. Converting the oxides of iron directly into steel by one heating, by passing carbureted or carbonized hydrogen gas over and through the same when in a highly-heated state, according to the method or process herein described.

3,223.—MATTHEW H. FOSTER and HUBERT C. HART, Unionville, Conn.—*Machine for Making Nuts.*—Patented May 5, 1868, No. 77,476; reissued December 8, 1868.

Claim.—1. The combination of the sliding bed B with the mechanism for cutting, the mechanism for forming, and the mechanism for punching and swaging, substantially as described.

2. The arrangement of the formers *f f'*, the blocks *k' k3*, the set *t*, the die *x*, and the punch *p*, constructed and operated as herein described.

3. The peculiar arrangement of the cams *a b c d e s s' s''* F, by which the several parts of the machine are made to operate at the proper time, substantially as herein set forth.

4. The improved nut machine, consisting of mechanism constructed, combined, and arranged substantially as herein set forth.

3,224.—FRANCIS BOYLSTON, New York, N. Y.—*Children's Carriage.*—Patented October 6, 1868, No. 82,683; reissued December 8, 1868.

Claim.—1. The combination and arrangement of the fixed axle A, having two revolving wheels thereon, and sills or supports B B, when the same are attached to the front part of a children's carriage or perambulator, substantially in the manner herein shown and set forth.

2. Attaching the fixed axle A to the supports B B by means of the brackets C C, and secured by the screws *a a*, or their equivalents, the whole of the parts being made and combined with a children's carriage or perambulator, substantially in the manner herein shown and described.

3. The combination and arrangement of the fixed axle A, having thereon two loose wheels D D, brackets C C, and sills or supports B B, the whole being made and combined, with relation to each other and to a children's carriage or perambulator, substantially as and in the manner herein shown and set forth.

3,225.—EDMON L. MIX, Rochester, N. Y., and the MONUMENTAL AUTOMATIC GAS MACHINE COMPANY, Baltimore, Md., assignees by mesne assignments of HUGH L. MCAVOY.—*Apparatus for Carbureting Air.*—Patented February 7, 1865, No. 46,302; reissued December 8, 1868.

Claim.—1. An apparatus for manufacturing air gas and enriching other gas, in which the carbonaceous matter is inclosed within an air-forcing apparatus, consisting of a gravitating air holder and water receptacle, substantially as described.

2. Manufacturing air gas by the described mode of using a holder C to contain air, receive the carbonaceous matter as it rises from the oil in the form of vapor, and force the gas into a pipe, wherein it is conducted off, as explained.

3. The plate E^2, employed in connection with the pan E, to cause the air to pass to the pipe B, in contact with the oil, and in a state of compressure, substantially as described.

4. The sealing device, consisting of the cup F, cylinders G G', and a body of liquid between the latter, substantially as described.

5. An apparatus for carbureting air, in which the vessel holding the hydrocarbon liquid is contained within the gasometer, in contact with the water in the cistern thereof, substantially as and for the purposes set forth.

3,226.—ISAAC E. PALMER, Hackensack, N. J.—*Tackle Block.*—Patented November 1, 1859, No. 25,978; reissued September 1863, No. 1,534; again reissued April 11, 1865, No. 1,932; and again reissued December 8, 1868.

Claim.—The construction of a tackle block and pulley, whereby the rope or fall, when desired, may be clamped between a portion of the pulley and a portion of, or surface connected with, the block, substantially as herein described, by simply leading it in a direction oblique or lateral to the plane of revolution of the pulley, without tying, or the use of dogs or movable stops, or any other means of fastening.

3,227.—WINCHESTER ARMS COMPANY, New Haven, Conn., assignees by mesne assignments of B. TYLER HENRY, same place.—*Magazine Fire-arm.*—Patented October 16, 1860, No. 30,446; reissued December 8, 1868.

Claim.—1. In combination with the hollow breech pin, the spring catch *m*, on the breech pin, and the piston, arranged for central or rim fire, or both, substantially as and for the purpose set forth.

2. In combination with the carrier block E and the spring catch *m*, placed on top of the breech pin L, the so forming of the top of the said carrier block, near the rear end, as shown at d^3, Fig. 4, as to strike the cartridge forward of the center, and thus raising the forward end of the cartridge, while the rear end is held down by the spring catch, tripping it over and freeing it from the spring, and ejecting it from the gun, substantially as described.

3,228.—HENRY BETTS, Norwalk, Conn.—*Manufacture of Paper Stock.*—Patented August 1, 1865, No. 49,069; reissued December 15, 1868.

Claim.—The application of the fibers of the stalks, and also of the root of the plant, known as sedge, to the manufacture of fine white or colored paper, whether the same be used in combination with other ingredients, or separate, as herein set forth.

3,229.—CHARLES CLAPP, Ithaca, N. Y., assignee of CALVIN COLE, same place.—*Sash Stop.*—Patented May 7, 1867, No. 64,492; reissued December 15, 1868.

Claim.—1. The combination of the friction wheel *b*, having a limited sliding movement, with the friction bearing or surface *c* and the sustaining cord *d* and tension plate *e*, substantially as herein described, for the purpose specified.

2. The combination of the friction wheel *b*, sustaining cord *d*, and tension plate *e*, substantially as set forth.

3. The combination and arrangement of the case *a*, containing the friction surface *c* and wheel *b*, and the cord *d*, fast at one of its ends to the window frame and the plate *e*, with the device for varying its tension at the other, as shown and described.

3,230.—Maurice Fitzgibbons, New York, N. Y.—*Material for the Manufacture of Boxes and other Articles.*—Patented November 3, 1868, No. 83,770; reissued December 15, 1868.

Claim.—A fabric composed of external laminæ of wood and an intermediate flexible fabric, substantially as described.

3,231.—John Mays and Eliphalet W. Bliss, Brooklyn, N. Y.—*Die Press.*—Patented January 28, 1868, No. 73,823; reissued December 15, 1868.

Claim.—1. So arranging the mandrel or slide, in combination with adjustable gibs, that either end of the mandrel can be separately adjusted in every direction, substantially as set forth.

2. The solid boxes E E, each holding and guiding one end of the mandrel, in combination with the sliding head D and the gibs *a a*, substantially as described.

3. The arrangement of the lever I between the boxes E E, in combination with the mandrel, substantially as set forth.

3,232.—John B. Stoner, Leopold Mendelson, and Theodore Crommelin, New York, N. Y., assignees of John B. Stoner.—*Life-preserving Apparatus.*—Patented February 4, 1868, No. 74,168; reissued December 15, 1868.

Claim.—1. A life-preserving apparatus, consisting of a swimming suit and a floating provision chest, substantially as described.

2. An elastic tubular head band, applied to the head dress of a swimming suit, substantially in the manner described.

3. Providing a water-proof suit with a chin flap C, substantially as described.

4. The combination of head bands B D E F, and elastic cuffs *a′*, with a water-proof flexible suit of the description herein set forth, and made in one piece, with openings for the face and hands, substantially as described.

5. The combination of arm propellers M, or their equivalents, a float I, ballasting shoes K, and a water-proof covering A, constructed substantially as described, for the purpose set forth.

6. The flexible propellers M, adapted for being applied to the arms, and constructed substantially as described.

7. The hinged ballasting shoes K, when constructed and arranged substantially as described.

3,233.—Robert Poole, Baltimore, Md.—*Machine for Rubbing and Mixing Paints, Chemicals, Fertilizers, &c.*—Patented May 28, 1867, No. 65,268; reissued December 15, 1868.

Claim.—1. A pan or other suitable holding vessel, revolving around its support, and a series of rubbers or mixers in said pan or other vessel revolving around their, and a different central, support, so that the combined movements of the receptacle, and of the rubbers or mixers, shall be in lines substantially such as shown and represented, and for the purpose specified.

2. In combination with the revolving pan or other vessel, and rubbers or mixers, a scraper or guide, for removing the material operated upon out of the path of the rubbers or mixers, when desired, substantially as described.

3. In combination with the revolving pan or other vessel, and the revolving rubbers or mixers, and guide or scraper, a discharge opening for removing the substance from the pan, by simply drawing the plug and continuing the motion of the machine, substantially as described.

3,234.—A. E. Taylor, New Britain, Conn.—*Bell Attachment.*—Patented October 23, 1860, No. 30,509; reissued December 15, 1868.

Claim.—1. The combination of the bell, bell hammer, handle, turning shaft, and cam pin, substantially as before set forth.

2. The combination of the bell handle, turning shaft, cam pin, or stud *j*, one or more, forked lever, and hammer-lever arms projecting in opposite directions from their fulcra, substantially as before set forth.

3,235.—John L. Whiting, Boston, Mass.—*Brush.*—Patented August 4, 1863, No. 39,439; reissued December 15, 1868.

Claim.—1. The wedge as forming a part of or being in connection with the handle, as set forth.

2. The wedge and handle thus combined and constructed with the shoulder, the whole being substantially as specified.

3,236.—Holland C. Babcock, Cincinnati, Ohio, assignor to himself and Marshall Jewell, Hartford, Conn.—*Belt Lacing.*—Patented November 12, 1867, No. 70,775; reissued December 22, 1868.

Claim.—1. Belt lacings with a hardened or metallic tip or point, as a new article of manufacture.

2. As a new manufacture or commodity, belt thongs in coil or package, substantially as described.

3,237.—Friedrich Edward Hoffmann, Berlin, Prussia.—*Circular Kiln.*—Patented June 13, 1865, No. 48,244; reissued December 22, 1868.

Claim.—1. The continuous kiln or gallery A, made in sections 1, 2, 3, &c., the several sections having separate communication with the main smoke flue D, in combination with the movable partition B, fitted to go between the adjoining sections, substantially as and for the purpose described.

2. The combination of the continuous gallery A, composed of successive chambers or sections 1, 2, 3, &c., the flues C and dampers *f*, the main flue D, the movable partition B, and the fuel-supply apertures *b* in the top of the kiln, substantially as described and shown.

3. The cavities or depressions *c* in the bottoms of the kiln chambers or sections 1, 2, 3, &c., in combination with the fuel-supply apertures *b*, substantially as described.

3,238.—Amasa C. Kasson and Nelson C. Gridley, Milwaukee, Wis., assignees of A. C. Kasson.—*Tea and Coffee Pot.*—Patented April 28, 1868, No. 77,291; reissued December 22, 1868.

Claim.—1. A tea or coffee pot, when made with two chambers—one for the tea or coffee, and the other for water for generating steam, substantially as described.

2. A tea or coffee pot, so arranged that the heat shall be communicated to the tea or coffee by means of steam, substantially as described.

3. A tea or coffee pot, so arranged that the tea or coffee shall be steeped or cooked without boiling, filtering, and evaporation by means of the heat of steam, substantially as described.

4. A tea or coffee pot, consisting of an upper chamber for the tea or coffee, and a lower chamber B for water for generating steam, with an outer central tube C attached, and cover D with tube E, whistle F, and hood I, all constructed and arranged substantially as described.

5. In combination with the water and steam chamber B and central tube C, the cover D, with hood I and tube E, when constructed and arranged substantially as herein described.

6. The cover D with the tube E and conical deflecting tube or hood I, attached substantially as described.

3,239.—Osborne Macdaniel, New York, N. Y.—*Process for Cleaning Wool and other Fibers.* (Division A.)—Patented November 19, 1867, No. 71,191; reissued December 22, 1868.

Claim.—1. The employment and use of petroleum benzole and naphtha, or either of them, for the purpose of cleaning wool or other fibrous substance, substantially as herein described.

2. The combination of a steam-tight washing

machine, A, with a still, C, and a condensing coil, F, constructed, arranged, and operating substantially as and for the purposes herein described

3,240.—OSBORNE MACDANIEL, New York, N.Y.—*Process for Cleaning Woolen and other Fabrics.* (Division B.)—Patented November 19, 1867, No. 71,191; reissued December 22, 1868.

Claim.—The employment and use of petroleum benzole and naphtha, or either of them, for the purpose of cleaning woolen and other fabrics, substantially as herein described.

3,241.—JACOB G. REIFF, Lancaster, Pa.—*Carriage Spring.*—Patented October 8, 1867, No. 69,588; reissued December 22, 1868.

Claim.—Elliptic and other similar springs, when constructed and arranged as described, for the purpose set forth: that is, when the number of leaves or plates is increased and their thickness diminished, for the purpose of gaining greater elasticity under the same weight, substantially in the manner described, for the purpose set forth.

3,242.—MARK L. ROBERTS, Mount Union, Ohio.—*Knitting Machine.*—Patented February 12, 1864, No. 31,404; reissued December 22, 1868.

Claim.—1. The vertically-sliding presser G and cylindrical needle carrier B, when combined and arranged so that the presser works in contact with the front face of the cylindrical carrier, substantially as and for the purpose described.

2. In combination with the above, and the reciprocating carrier D, the spring-looped needles C, when provided with the right-angled supporting and carrying shank *k*, substantially as and for the purpose described.

3,243.—T. B. STEWART, Wethersfield, Conn.—*Railroad Car Axle Box.*—Patented November 19, 1867, No. 71,241; reissued December 22, 1868.

Claim.—1. The combination and arrangement of the oblong tube B on the box, and the tube C on the wheel, with or without the flanges *a* and *b*, substantially as shown and described.

2. The crescent-shaped saddles *f*, having tenons *g g g* upon their outer surfaces, and cavities *h h h* on their inner surfaces, arranged substantially as shown.

3,244.—ROBERT BAXTER, French Camp, Cal.—*Gang Plow.*—Patented August 6, 1867, No. 67,483; reissued December 29, 1868.

Claim.—A standard for the support of the mold board, or other like part of a plow, formed in one piece with a projecting head, for the attachment of the beam, substantially as described.

3,245.—FRANCIS E. BOYD and P. SHELTON TYLER, Boston, Mass.—*Breech-loading Fire-arm.*—Patented January 21, 1868, No. 73,494; reissued December 29, 1868.

Claim.—1. A breech piece, having lips upon its upper part, in combination with clamps attached to the barrels, and projecting backward over the breech piece, substantially as and for the purpose specified.

2 The combination of the clamps *g g*, whether attached to the barrels or breech piece, and the curved and cam projections on which they clamp, with the bearing plate *d* and plate or disk *e*, constructed and operating substantially as and for the purpose set forth.

3. Two clamps, *g g*, whether attached to the barrels or breech piece, in combination with two cam projections, on which they clamp, and with two barrels, arranged to turn upon a suitable spindle, the whole being arranged so that the barrels can be thrown either to the right or to the left, all substantially as described.

4. The plate or washer *e*, formed as described, and attached to the spindle *c*, in combination with the raised or cam-shaped surface of the bearing plate *d*, as set forth.

3,246.—GEORGE CROMPTON, Worcester, Mass., assignee by mesne assignments of JOHN SHINN.—*Loom.*—Patented April 30, 1861, No. 32,236; reissued December 29, 1868.

Claim.—1. The combination of the following elements, viz., heddle leaves, cords, pulleys, blades or rods, and jacks, or pieces capable of motion in two directions, the combination being substantially as described.

2. The combination of the following elements, viz., heddle leaves, cords, pulleys, rods or blades, jacks, and a pattern mechanism, the combination being substantially such as specified.

3. In combination with a depresser, having an oscillating and sliding motion, and positively depressing leaves of heddles, an elevator, elevating leaves of heddles, and having also an oscillating and sliding motion, the combination being substantially such as set forth.

4. The relative arrangement of leaves of heddles within a loom frame, as described, and elevators and depressers, having the characteristic motions specified, at one side of the loom frame, the arrangement being substantially such as described.

5. An elevator and a depresser, both having the characteristic motions specified, in combination with jacks, the depresser, and elevator, and jacks operating as specified, so that the jacks are either positively depressed or lifted by the motion of the lifter and depresser, the combination being as described.

6. A double-throw crank, or two cranks on the same revolving shaft, in combination with a lifter and depresser having characteristic motions, as specified, by means of connecting rods, the combination being substantially as described.

7. A depresser having characteristic motions, as specified, in combination with a row or series of jacks, when the acting part of the depresser is an edge, or long narrow surface, and all the jacks are so arranged that they may be acted upon by that surface, the jacks having motion derived from the pattern chain, in planes perpendicular, or nearly so, to that plane in which the depresser moves, the combination being substantially as described.

8. An elevator, having characteristic motions, as specified, in combination with a row or series of jacks, when the jacks are so arranged that their motions, derived from the pattern chain, are in planes perpendicular, or nearly so, to that in which the elevator moves, the combination being substantially as described.

9. Jacks with upper and lower edges, one suitable to be acted upon by an elevator, and the other by a depresser, so shaped, and pivoted upon blades, substantially as described, that their inclined projecting edges shall move the needles backward, as specified.

3,247.—JOEL F. FALES, Walpole, Mass.—*Machine for Sewing Carpet Linings.*—Patented February 11, 1868, No. 74,328; reissued December 29, 1868.

Claim.—1. The combination, with the mechanism for moving the material forward continuously, of a reciprocating swinging frame H, carrying the sewing mechanism, the needle entering and moving forward with the fabric, and moving back over the fabric when out, substantially as set forth.

2. The swinging frame H, carrying the sewing mechanism, when operating in connection with the bed plate *i*, and with a continuous feeding mechanism for the fabric, substantially as specified.

3. The yielding presser feet O O, arranged in the swinging reciprocating frame H, and operating substantially as herein shown and described.

4. The combination of the guide rolls B B^2, smoothing plate H′, a sewing mechanism, and feed-rolls C C′, all arranged and operating substantially as set forth.

5. In combination with a carpet-lining machine, constructed as described, the sewing devices, smoothing plate H, wheels E F, and hammer *d*, all arranged and operating as described, for the purpose specified.

3,248.—AUGUSTA P. STILES, Rochester, N. Y., assignee by mesne assignments of DAVID L. STILES.—*Cooking Stove.*—Patented February 24, 1863, No. 37,778; reissued December 29, 1868.

Claim.—1. The flue plates *b b* and *dd*, conjointly at the bottom, but diverging toward the outer corners at the top of the oven, so that the heated air and products of combustion, in equal columns, are concentrated at those corners as it rises, in combination with the interior flue plates *f f* and movable division plates *b b*, in elevated oven stoves, for the purpose of equalizing the heat throughout the same, substantially as set forth.

2. Introducing air into the oven is not broadly claimed, nor is an air-heating chamber, but the arrangement, with reference to the fire chamber A and flue space C, of an air-heating chamber or chambers, *m*, directly back of said fire space, and underlying the flue space C, and connected by the tubes *i k*, or equivalent, with the bottom of the oven, substantially as and for the purposes herein set forth.

3. In combination with the chamber or chambers *m*, and elevated oven B, the upright internal tube *i*, and external pendent thimble *k*, attached respectively to the top plate of the chamber and bottom plate of the oven, and forming a communication between the same, substantially as and for the purposes set forth.

3,249.—The First National Refined Iron and Steel Manufacturing Company, New York, N. Y., assignee of John Absterdam, same place. —*Process for Refining Iron and Steel.*—Patented January 23, 1866, No. 52,121; reissued December 29, 1868.

Claim.—1. The within-described process of manufacturing iron and steel, by creating and maintaining a vacuum or partial vacuum within the interior of a furnace or pot containing melted iron or steel, substantially as set forth.

2. Fusing the metal and supplying the air for the combustion of the fuel, by a current or currents of air, produced by creating and maintaining a vacuum or partial vacuum within the furnace, pot, or retort containing the metal.

3. Vaporizing, dilating, or burning up the impurities and carbon contained in the metal, by means of a current or currents of air, produced by the creation and maintenance of a vacuum or partial vacuum within the furnace, pot, or retort containing the metal to be fused.

4. The conversion of molten crude iron or of remelted pig or finery iron into steel or into malleable iron, by means of current or currents of air, produced by creating and maintaining a vacuum or partial vacuum in the interior of the furnace, pot, or retort containing said melted metal.

Ex. J. M.